Pacific Studies Series

Executive Summary

Toward a New Pacific Regionalism

An Asian Development Bank—Commonwealth Secretariat
Joint Report to the Pacific Islands Forum Secretariat

ADB

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Preface

This report was prepared for the Pacific Islands Forum Secretariat (PIFS) in Suva, Fiji Islands. The report is one output of an Asian Development Bank (ADB) technical assistance project (TA 6226 REG): "Developing and Implementing the Pacific Plan for Strengthening Regional Cooperation and Integration." The Commonwealth Secretariat provided parallel funding to the Project.

The lead author of the report was Dr. Roman Grynberg, Deputy Director of Trade and Regional Cooperation at the Commonwealth Secretariat. He was assisted by Michael Hyndman, a cost-benefit analyst contracted by ADB, and Sacha Silva, an economist contracted by the Commonwealth Secretariat. Consultants from PIFS and the Pacific region provided valuable inputs for the report. Bill Costello was the ADB task manager.

The report is published in three volumes. Volume 1 is the Executive Summary. Volume 2 is the main report. Volume 3 contains the working papers commissioned for the report—a series of independent studies assessing potential benefits and costs of implementing a variety of possible regional initiatives. A list of the working papers is at Appendix 1. Volume 3 has not been printed in hard copy. It is available on the websites of ADB (www.adb.org) and at www.pacificplan.org.

This report analyzes issues and possibilities for a new Pacific regionalism, in the context of the commitment of Pacific Island leaders to create the Pacific Plan for Strengthening Regional Cooperation and Integration. It argues that good governance and economic growth are the highest priorities of the four key goals of the Forum. It highlights the challenge of Pacific Plan initiatives generating large benefits in a region facing small economies of scale and high diseconomies due to isolation, and discusses the importance of Australia and New Zealand markets for generating larger economic benefits from regionalism. The report discusses different objectives for regionalism (including provision of services and market integration), and notes that varied approaches and subregional groupings will be appropriate for meeting different objectives. Initial assessments of possible regional initiatives are presented under the proposed four pillars of the Pacific Plan. Among other benefits, those initiatives would contribute to strengthening economic management and accountability; to lowering cost and more effective regional transport and communications markets; and to creating regional employment opportunities. The report also discusses the likely barriers to the creation of a new Pacific regionalism. It suggests a binding instrument based on mutual obligation and involving trade, aid, and governance commitments. This agreement would reinforce the vision of Pacific leaders, and allow all Forum members to benefit from a new Pacific regionalism, resulting in significant gains for the people of the Pacific.

This Asian Development Bank (ADB) and the Commonwealth Secretariat report was prepared for the Pacific Islands Forum Secretariat in support of an ongoing Forum process for a new Pacific regionalism. This process includes the 2004 Auckland Declaration and leaders' decision to develop and implement the Pacific Plan for Strengthening Regional Cooperation and Integration ("the Pacific Plan"). Inputs to the Pacific Plan formulation process have provided a number of options for Pacific regionalism, and several potentially beneficial regional initiatives. Nonetheless, the Pacific Plan process itself has not included a rigorous economic analysis. Such analysis is vital given the constraints on resources, time, and political capital in the region. This report seeks, therefore, to provide a strong analytical foundation upon which Forum leaders can prioritize and sequence regional initiatives.

What are the challenges facing the Pacific region?

The analytical foundation for a new Pacific regionalism begins with an assessment of the challenges facing the region. The Pacific Plan should address the most significant challenges facing the region in a way that adds value to existing national and regional capacities. Many Forum Island countries (FICs) face serious challenges in providing for their people the four key goals of the Forum:

- economic growth,
- sustainable development,
- good governance, and
- security.

This study estimates that poor governance in Papua New Guinea (PNG), Fiji Islands, Solomon Islands, and Nauru has resulted in nearly United States dollars (US)$75 billion in forgone income in those countries since independence. This study argues that *an appropriate approach to addressing the four pillars for the Pacific Plan is to consider good governance and the creation of economic growth the highest priorities and necessary prerequisites for achieving the Forum's security and sustainable development objectives*. Regionalism can help FICs address governance challenges by providing specialized expertise not available locally. It can also help by providing suitable, impartial advice or management of governance challenges.

Some—but certainly not all—of FICs' economic difficulties in facing outstanding challenges can be linked to smallness. The human capacity constraint confronting FICs is becoming increasingly important as modern requirements of business and government become more complex. Faced with policy and capacity constraints in a globalizing world, FIC governments are experiencing difficulties in meeting their two essential sovereign functions:

- formulating and enforcing effective and appropriate national policies; and
- providing essential services such as health, education, and policing.

The "effective sovereignty" of FICs—their ability to effectively carry out chosen policies—is being eroded. The Pacific Plan can reverse this trend and reinforce the "effective sovereignty" of FIC governments by increasing FIC access to high quality services, including policy and technical services, through delegating more specialized functions and by broadening economic opportunities.

Club theory and some principles for successful regionalism

When assessing Pacific regionalism, the economic theory of clubs contains important lessons. Club theory has been applied to a wide range of contexts, including military alliances, international organizations, and cross-border infrastructure and services. Clubs—groupings of agents, firms, or countries—have different characteristics that make them amenable to different groupings. Yet any collective endeavor or club must satisfy two basic conditions.

- A club must be self-sustaining.
- A club must provide a large enough pool of net benefits for each of its members.

The success or failure of a club depends on its benefits exceeding its costs. Economies of scale—the reduction in unit cost resulting from pooling productive capacities—are offset by the costs of collective action. These costs effectively limit the size and scope of a club. In the Pacific, adding more remote countries entails higher diseconomies of isolation—the high cost of shipping goods, services, information, and people to increasingly remote countries

across the region. From this tension between scale benefits and distance costs of collective action, the "optimal club" (in this case, a group of countries), can be derived. The composition of the "optimal club" may vary significantly according to the issue or service under consideration.

The diseconomies of isolation are particularly high in the Pacific. Only regional initiatives with large-scale benefits will be sustainable. Often subregional initiatives will produce more viable "clubs." Four principles for Pacific regionalism, based on lessons from club theory, are highlighted in the box below.

The Lessons of Club Theory for Pacific Regionalism

- Intervene regionally only where there are significant economies of scale. Avoid interventions where there are significant costs associated with isolation.
- Intervene regionally only where the market cannot provide the good or service, and where there are significant net benefits over and above national provision.
- Subregional provision may prove optimal in the face of high isolation costs.
- Specific initiatives are essential in many cases to assure services are provided to the smallest and poorest states. (Explicit subsidies for commercial provision of services are an example.)

The report's examination of the history of selected Pacific island "clubs" is instructive. Historically, the strongest association arrangements have been based on the movement of people. *It is the movement of people that taps into the pool of economic benefits provided by a club, often through employment and remittances.*

In the Pacific (as elsewhere), there will inevitably be a tendency to favor marginalist, incremental approaches. Yet overcoming the inevitable "speed bumps" on the road to intergovernmental cooperation requires strong economic momentum. A political strategy based on the harvest of early practical benefits is essential. Early "wins" will need to be of sufficiently large magnitude to attract interest and serve as the basis of future interventions.

What are the mechanisms for Pacific regionalism?

There are three ways in which countries of the region can work together. Each balances economies of scale and diseconomies of isolation in a different way.

- *Regional cooperation* comprises dialogue and agreement between governments (e.g., Forum ministerial meetings, declarations, treaties). Implementation of agreements remains at the national level. Benefits include consensus building and information sharing. If cooperation is binding rather than voluntary, it can also strengthen policy coordination and implementation. Costs include setting up and maintaining the cooperative mechanisms themselves, and the cost of moving people around the region for meetings and conferences. These latter costs increase as more isolated countries are involved.
- *Regional provision of services* is defined as the merging of national services at the regional level (e.g., the University of the South Pacific). The benefits include a higher level of services at less total cost, with fewer facilities, greater efficiency, and a higher degree of shared knowledge. The primary cost—much like the cost of cooperation—involves moving goods, services, and people over large distances in the Pacific. The box at next page summarizes key findings from retrospective cost-benefit analyses of important regional service providers in the Pacific (the University of the South Pacific, Forum Line, Air Pacific, and the Forum Fisheries Agency) and in other regions (Air Afrique and bulk procurement of pharmaceuticals in eight regions).
- *Regional market integration* is defined as lowering barriers for goods, services, and people between countries, including nontariff barriers such as nontransparent standards, restrictions on foreign investment or operations, and restrictive visa requirements. The benefits include a larger market for Pacific firms, with more production at a lower cost, more choice for Pacific consumers, and more economic opportunities for Pacific workers. Costs include the adjustment costs for Pacific companies subject to increased competitive pressures. Present or planned market integration arrangements in the Pacific include a free trade agreement among FICs Pacific Island Countries Trade Agreement (PICTA), a closer economic relations agreement among all Forum members Pacific Agreement for Closer Economic Relations (PACER), and an economic partnership agreement (EPA) between the FICs and the European Union.

Key Lessons from Retrospective Cost–Benefit Analysis of Regional Service Providers

Regional bodies should only *operate when market or national public sector agencies cannot effectively deliver the service.* FIC shareholders in the regional service provider (usually governments) should not undermine the regional provider by establishing competing national services or relying heavily on extra-regional services.

Clear *governance arrangements* and *shareholder expectations* are essential to ensuring national support and viable regional operations. Governance arrangements should promote national ownership of the regional provider but also agreement among all shareholders on common objectives and strategic choices. Political interference and unrealistic expectations must not be allowed to detract from agreed objectives and overall financial health.

For commercially oriented regional activities, clarity of *commercial objectives* and *service expectations* is critical to success. As necessary, the balance between these objectives should be explicitly addressed. Funding mechanisms for any non-commercial service should be clarified, and the limitations of minority shareholdings need to be spelled out. Professional business management is essential.

External support—whether from donors or member governments—is crucial. For public service providers, capacity weaknesses in many FICs mean that simply aggregating existing national-level resources will create weak and undercapitalized regional service providers. Full cost recovery may be possible in the most successful regional operations with a revenue stream, but only in the medium or longer term.

Where is the greatest potential for benefits from Pacific regionalism?

The region already has many shared institutions. Some provide services at the regional level, but most are geared toward regional cooperation, such as intergovernmental dialogue. Voluntary dialogue and coordination, while beneficial, brings a high opportunity cost. Continuing to direct scarce donor funds into greater regional cooperation is arguably at variance with the lessons of club theory, which show that successful clubs must bring large net benefits. Analyses and case studies from both within and outside the Pacific suggest that Pacific regionalism must move beyond regional cooperation in a range of fields if significant benefits are to be achieved.

In the Pacific and elsewhere, *the largest benefits have come from focusing on the type of regionalism that addresses their fundamental challenges*. For countries in West Africa and South America facing challenges to democratic traditions, for example, strong and binding regional cooperation has brought big benefits. For Caribbean countries facing constraints on their capacity, increased regional provision of goods and services brings big benefits. For countries in Europe facing high barriers between their markets, regional market integration has brought big benefits.

A Pacific regionalism that speaks to Pacific needs must focus on easing capacity constraints for governments through increased regional provision of services, and on creating economic opportunity for Pacific citizens through increased regional market integration. The report suggests that weak governance capacity has imposed perhaps the largest economic burden on citizens of many FICs. Similarly, a carefully constructed policy of providing temporary market access to labor markets of all Forum members would create very substantial economic benefits for all parties. A key conclusion of the study is that for both service provision and market integration, *to create the necessary pool of benefits and an optimal Pacific "club," Australia and New Zealand must become meaningful partners with FICs.*

What regional initiatives would be most beneficial?

The report studies a number of regional initiatives that were considered likely to yield high benefits. Preliminary but forward-looking cost-benefit analyses are summarized in the report for a number of regional initiatives that previous literature has pointed to having potential for a "big win," and

that merited further analysis. The initiatives recommended are grouped under each of the four key goals of the Forum (and proposed pillars of the Pacific Plan). These examples, however, are by no means a definitive or exhaustive list of possible initiatives.

Good Governance

No single solution exists for weak governance. However, many FICs face critical weaknesses in the key area of economic management, which is an essential requirement for good governance. The costs of a package of four strategic economic management initiatives have thus been assessed.

- *A regional economic and statistical technical assistance* for such areas as macroeconomics, tax policy and administration, financial sector supervision, microeconomics, and statistics. This would entail strengthening and supplementing the functions currently performed by the Pacific Financial Technical Assistance Centre (PFTAC), while enhancing FIC ownership of the Facility, at an estimated annual cost of F$8 million.
- *Regional capacity to assist customs officials* in collecting revenue, with an estimated annual cost of Fiji dollars (F$)1 million.
- *A regional ombudsman*, with power to assess the merits of citizens' complaints about administrative acts and decisions of government agencies, including alleged violations of the Forum Eight Principles of Accountability, and to recommend remedial action. Advice of the ombudsman would not be legally binding. Annual cost estimated at F$500,000.
- *A regional panel of auditors*, which would strengthen audit capacity in three phases, would have an initial additional cost of F$2.3 million per annum:
    1. training and common standards;
    2. creation of an offices of auditor-general (OAG) federation, and funding of regional training programs; and
    3. creation of a regional panel of auditors that could audit national and Pacific regional agencies.

The offsetting benefits of these four critical interventions would be a reduction of the potential costs of continued poor economic governance to Pacific islanders. For PNG, Solomon Islands, and Fiji Islands, the potential of these benefits is estimated to be US$8 billion (discounted over a 10-year period).

Economic Growth

The report analyzes the welfare impacts of *increasing labor market access between Forum members*. The impact is modeled on Australia and New Zealand (ANZ) increasing their quotas for temporary movement of persons by an amount equal to 1% of their respective labor forces. The quotas would be filled on a temporary basis by FIC workers. The analysis found that increasing the temporary movement of both skilled and unskilled labor from FICs to ANZ would yield very large total welfare benefits (about US$1.6 billion over 3 years) and large benefits for the temporary FIC migrants (US$1.3 billion) and ANZ residents (US$300 million). There would, however, be considerable cost in welfare lost by FIC citizens at home (almost US$490 million) due to losses in skilled labor.

In order to reap the benefits of temporary labor migration while avoiding FIC welfare losses, it is proposed that Forum members ensure as far as possible that labor flows from FICs to ANZ are both *additional*—there is adequate FIC capacity to both train and replace migrating labor—and *temporary*—FIC migrant workers return home with higher skills. This is particularly critical if labor mobility includes skilled labor. Liberalizing unskilled labor only yields a slight gain for FIC citizens at home (US$22 million) at a cost of a slightly reduced overall benefit for FIC migrants (US$775 million), as compared to a scenario where skilled labor mobility is also included. Substantial attention to skills formation in FICs should therefore be central to a plan to generate the maximum benefits for all Forum members from enhanced labor market access.

The report also assesses the costs and benefits of

- the *creation of a pacific aviation safety office*, which would have important security benefits for the region, reduce the risk and costs of catastrophic incidents, as well as yield administrative cost savings of approximately US$570,000 over 20 years;
- the *creation of a joint purchasing facility for petroleum products*, with a calculated benefit of US$145 million over a 15-year period;
- *enhanced transparency and harmonization of terms and conditions of access arrangements for fisheries*—while no quantification is made of costs and benefits, the report suggests that a review of existing fisheries access arrangements, further development of the Western Central Pacific Tuna Commission (WCPTC), and the creation of an open, audited register of bilateral fisheries access arrangements of all FICs, would substantially improve public economic benefits from fisheries;

- *liberalization of telecommunication markets*, with benefits calculated at US$286 million over a 5-year period, and costs of market-friendly regulation calculated at less than 1% of revenues; and
- *a regional nurse training facility*, both for domestic and export purposes, with a calculated 6.0 ratio of benefits to costs. A nurse's extra income over 10 years is estimated to have a net present value of F$200,000, while tuition costs would be F$33,100.

Sustainable Development

The report assesses the costs and benefits of the following.

- *A regional sports institute*. Cost is estimated at US$30–50 million over 5–10 years. Benefits include the potential positive impact on health indicators in the Pacific—estimates in some regions suggest such benefits are three times the costs—and remittances from internationally successful athletes.
- *A regional statistical office*. Costs are estimated at US$13–15 million per annum for a comprehensive office, and $5.5 million yearly for a specialist office. The yield would be the significant but unquantifiable economic benefits of more reliable statistics and management of statistical outcomes.
- *A regional body to protect intellectual property rights*, with a calculated net benefit of nearly US$1 million per year.

Security

The report provides an assessment of the costs and benefits of *a regional training facility to supply civilian police training for international peacekeeping*. The facility would train policemen for countries in the region as well as for a Pacific contingent of policemen for peacekeeping missions undertaken by the international community. The initial one-time cost of the facility would be about US$17 million, with recurrent costs of about US$8 million per year. The Pacific Islands Chiefs of Police Secretariat estimated that the facility would yield private benefits in the form of remittances home totaling about US$3 million annually, as well as additional and potentially much greater public security and training benefits for FICs.

Can barriers to change be overcome?

Potential benefits of the above initiatives under the Pacific Plan are large. The benefits of addressing the problems of governance dwarf by a considerable order of magnitude the benefits from any other activity considered above. Similarly, permitting temporary access to all FIC labor markets would create very substantial economic benefits for all parties—provided labor movement is both temporary and additional to the existing FIC labor force. However, agreement on any of the above regional initiatives will have to overcome considerable opposition. For both good governance and labor liberalization initiatives, the benefits will be shared by many. The few losers, however, are often well organized, vocal, and in a position to effectively oppose reforms.

To manage the change and establish a Pacific Plan it is necessary to devise a mechanism that allows all Forum members to move away from present suboptimal positions to positions where all parties are better off. This may be best achieved through mutual obligation, based on a legal instrument that links the key elements of the proposal. This approach would see negotiation of an agreement where all Forum members would make commitments toward good governance. In return, a renewable 5–10-year aid and trade agreement would be provided. *An aid, trade, and governance approach would reinforce the Auckland Declaration vision of Forum leaders and constitute the longer-term framework for the Pacific Plan:*

- *Aid commitments* are needed to create adequate scale and sustainability of initiatives to meet the Forum's goals. It is not necessarily the volume of development assistance, but its stability, continuity, and predictability that are of considerable value to Pacific island states. A stable and continuous supply of well-focused aid will help FICs address poor governance and create an environment supportive of economic growth. This report proposes that significant and guaranteed bilateral aid flows be supplemented with specific additional resources for agreed Pacific Plan initiatives. Overall aid flows to FICs (with equal burden sharing) from Australia and New Zealand amounting to 0.08% of each country's gross domestic product (GDP)—with at least 25% of this budget allocated to regional initiatives—would be realistic goals based on recent trends in aid from the two countries.
- *Trade commitments* should center on a package of opportunities for gainful employment for trained FIC nationals through training and temporary movement arrangements throughout the region. These arrangements will no doubt have strong impacts on output and population size in the islands, in some cases further exacerbating capacity constraints. Yet the

current situation—severely restricted access of unskilled FIC labor to Australia and New Zealand combined with relatively unrestricted and permanent movement of skilled labor—is a worst-case scenario from the viewpoint of FIC welfare outcomes. A managed trade and development approach to migration is needed, with adequate resources for training facilities. Otherwise, labor flows will simply continue to deplete scarce existing capacity in FICs.

- *Governance commitments* should ensure that Forum members endeavor to make both domestic and regional governance standards a vital part of domestic economic life. Given the resource requirements of good governance, however, FICs should avoid making legally bound commitments to good governance without clear means of financing the obligations and bound commitments from development partners to provide acceptable levels of technical assistance.

How can changes in Pacific regionalism be initiated?

To increase the chances of success, the Pacific Plan should follow a two-track negotiating process. The first track should comprise a range of concrete measures that build confidence in the process, as well as confidence in an emerging partnership that will be mutually beneficial to FICs and Australia and New Zealand. The interventions must not be seen as random projects of unclear economic benefit. The interventions should be consistent with and an integral part of a second, negotiating track.

A selection of the highest yielding initiatives assessed in this report could, if implemented as first-step, confidence-building measures, provide the necessary momentum for the longer-term vision of the Pacific Plan, for example:

1. **governance**: The "package" of four governance initiatives—the economics/statistics technical assistance facility, the ombudsman, assistance to customs, and a regional panel of auditors;
2. **economic growth**: Harmonized terms and conditions for fisheries access arrangements, and the establishment of a regional nursing school;
3. **security**: A regional police training institute; and
4. **sustainable development**: A regional sports institute.

In order for a credible process to emerge from the current dialogue, there is a need to combine short-term, confidence-building measures with a

decision to negotiate a contractual arrangement between all Forum members that encompasses all four pillars of the Pacific Plan. *Consequently, at the Leaders' meeting in October 2005, this report recommends that Forum leaders agree to full feasibility studies on the first-step, confidence-building measures listed above, and to commencement of negotiation of a Pacific Plan/Pacific Agreement for Closer Economic Relations (PACER) agreement.*

In order to provide stronger legal backing to the Pacific Plan, the current process should be merged with an expanded PACER. Some FICs are in the process of (or are about to begin) negotiating and implementing trade agreements on several fronts.

- the Pacific Island Countries Trade Agreement (PICTA),
- the Economic Partnership Agreement (EPA) with the European Union,
- the World Trade Organization (WTO) Doha Development Round, and
- PACER Negotiations, which are due to begin in 2011 but could be triggered by EPA negotiations between May and October 2006.

The objectives of PACER are to

- "…establish a framework for the gradual trade and economic integration of the economies of the Forum members in a way that is fully supportive of sustainable development"; and
- "…provide economic and technical assistance to the Forum Island Countries in order to assist them in implementing trade liberalisation and economic integration."

Thus the stated objectives of PACER, though not identical, are similar to the four pillars of the Pacific Plan.

Without a multifaceted trade and development agreement—one with sufficient scope and pool of potential benefits to offer mutually advantageous terms to all parties—there is a considerable risk that the PACER negotiations based on a goods-only agreement will be unsuccessful. Given the magnitude of FIC imports from Australia and New Zealand, a goods agreement with Australia and New Zealand is likely to impose higher

adjustment costs on FICs than the EPA. Similarly, Japan—the second- or third-largest source of imports for many FICs—would be the only major donor to the region with exports subject to any residual import duties remaining in FICs following EPA and a goods agreement under PACER. FICs should consider whether such a situation is sustainable.

How can a new Pacific regionalism be sustained and deepened?

If the Forum is to endorse the timetable proposed above, *an expanded resource commitment to the Forum Secretariat will be needed to allow the Secretariat to implement both the feasibility studies and the negotiations.* While a major European Commission (EC)-style expansion would be unfeasible and possibly counterproductive, the action plan and timetable proposed above would place great strain on the Secretariat's current capacity. Pursuit of the proposed timetable without expanded resources could jeopardize a beneficial outcome for the entire Forum membership.

A key consideration in creating a deeper Pacific regionalism is addressing the "democratic deficit." The recent experience of the European Union Constitution and its rejection by two founding states provides a sober warning to the Pacific. While regional bodies in the Pacific are by no means as powerful as the EC, the process of negotiating a substantial treaty arrangement would heighten the perception that many of the region's bodies are potentially open to capture by donor interests, or by the international bureaucracy that manages them. When creating a new, deeper regionalism, the Forum must provide a check to ensure that structures emerging are democratic.

Creating a permanent sitting body that oversees the range of the Forum's activities and acts as a strong mechanism for regional organization accountability to member states might be a first step toward a more representative arrangement. This would involve all Forum members having a permanent representative based in Suva; the costs and benefits of such a body need to be assessed. However, increased oversight and perhaps a "political track" will become necessary as Pacific regionalism deepens and broadens.

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Contents

Acronyms and Abbreviations

ACP	-	African, Caribbean, and Pacific
ADB	-	Asian Development Bank
AIDS	-	acquired immunodeficiency syndrome
APEC	-	Asia-Pacific Economic Cooperation
AusAID	-	Australian Agency for International Development
BPOA	-	Barbados Programme of Action
CAA	-	civil aviation authority
CAP	-	Common Agriculture Policy
CER	-	Closer Economic Relations (agreement between Australia and New Zealand)
CPI	-	Transparency International Corruptions Perceptions Index
CRA	-	country risk assessment
CROP	-	Council of Regional Organisations in the Pacific
DWFN	-	distant water fishing nation
EC	-	European Commission
ECOWAS	-	Economic Community of West African States
EEZ	-	exclusive economic zone
EFIC	-	Export Finance Insurance Corporation
EIB	-	European Investment Bank
EPA	-	Economic Partnership Agreement
EPG	-	Eminent Persons' Group
ESCAP	-	United Nations Economic and Social Commission for Asia and the Pacific
EU	-	European Union
FDI	-	foreign direct investment
FEMM	-	Forum Economic Ministers Meeting
FFA	-	Forum Fisheries Agency
FIC	-	Forum island country
FSM	-	Federated States of Micronesia
FTA	-	free trade agreement

FY	-	fiscal year
GDP	-	gross domestic product
GNP	-	gross national product
HDI	-	UNDP Human Development Index
HIV	-	human immunodeficiency virus
HPI	-	UNDP Human Poverty Index
ICT	-	information and communication technology
IMF	-	International Monetary Fund
IPR	-	intellectual property rights
ITU	-	International Telecommunications Union
LDC	-	least developed country
MDG	-	Millennium Development Goal
MERCOSUR	-	Mercado Común del Sur
MFN	-	most favored nation
MSG	-	Melanesian Spearhead Group
NAFTA	-	North American Free Trade Agreement
NGO	-	nongovernment organization
NSO	-	national statistics office
OAG	-	Offices of Auditor-General
OECD	-	Organisation for Economic Co-operation and Development
ONOC	-	Oceania National Olympic Committees
PACER	-	Pacific Agreement on Closer Economic Relations
PASO	-	Pacific Aviation Safety Office
PFL	-	Pacific Forum Line
PFTAC	-	Pacific Financial Technical Assistance Centre
PIASA	-	Pacific Islands Air Services Agreement
PIC	-	Pacific island country
PICP	-	Pacific Island Chiefs of Police
PICTA	-	Pacific Island Countries Trade Agreement
PIF	-	Pacific Islands Forum
PIFS	-	Pacific Islands Forum Secretariat
PIPA	-	Pacific Islands Producers Association
PNG	-	Papua New Guinea
PPTF	-	Pacific Plan Task Force
PREP	-	Pacific Regional Environment Programme
RAMSI	-	Regional Assistance Mission to Solomon Islands
SME	-	Single Market Economy
SOE	-	state-owned enterprise
SOPAC	-	South Pacific Applied Geoscience Commission

SPARTECA	-	South Pacific Regional Trade and Economic Cooperation Agreement
SPASAI	-	South Pacific Association of Supreme Audit Institutions
SPC	-	Secretariat of the Pacific Community
SPREP	-	South Pacific Regional Environmental Programme
TA	-	technical assistance
TRIPS	-	Trade Related Aspects of Intellectual Property Rights
UN	-	United Nations
UNDP	-	United Nations Development Programme
US	-	United States
USP	-	University of South Pacific
WBI	-	World Bank Institute
WCPTC	-	Western Central Pacific Tuna Commission
WTO	-	World Trade Organization

Preface

This report was prepared for the Pacific Islands Forum Secretariat (PIFS) in Suva, Fiji Islands. The report is one output of an Asian Development Bank (ADB) technical assistance project (TA 6226 REG): "Developing and Implementing the Pacific Plan for Strengthening Regional Cooperation and Integration." The Commonwealth Secretariat provided parallel funding to the project.

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Foreword

FROM THE ASIAN DEVELOPMENT BANK

Regional cooperation and integration has much to offer the small island economies of the Pacific, given their well-known con straints of remoteness, size, and narrow resource bases. The Pacific is therefore the home of some of the earliest and most long-standing regional organizations in Asia and the Pacific, with the fore-runner of the Secretariat of the Pacific Community established in 1947 and the first meeting of leaders of the (now) Pacific Islands Forum in 1971. Yet the Pacific has a mixed track record on regional cooperation, and for a range of reasons has not experienced the deepening of cooperation and integration that has been evident recently in many other regions.

The decision in 2004 by Forum Leaders to reinvigorate Pacific regionalism and to develop a Pacific Plan for Strengthening Regional Cooperation and Integration was warmly welcomed by the Asian Development Bank (ADB). For ADB, it was natural to see how we could help this important initiative. Thirteen of ADB's developing member countries are also members of the Forum (as are two other regional ADB members—Australia and New Zealand). ADB's Charter calls for special attention to the needs of smaller developing member countries, and to regional cooperation. Importantly, we recognize in the vision of the Forum leaders an opportunity for our developing member countries to better address some of their most important development challenges.

In discussions with the Pacific Islands Forum Secretariat it was agreed that ADB and the Commonwealth Secretariat could make a valuable contribution by strengthening the framework for economic analysis on a new Pacific regionalism, thereby identifying possible Pacific Plan initiatives with significant potential benefits for the people of the region. This report, which was prepared in response to this initiative, provides valuable insights

into the reasons why some regional initiatives have worked better than others, where the largest benefits may lie in pursuing strengthened regional cooperation and integration, and why different approaches should be applied to tackling different regional challenges. The report also proposes an approach to addressing the political economy issues inherent in delivering positive outcomes through Pacific regionalism.

The report takes an independent, long-run view of Pacific regional issues and possibilities. It is intended to serve as a background "think piece" in consideration of priorities for the Pacific Plan. Our objective is that the report should be relevant to Pacific Islands Forum leaders as they negotiate the first Pacific Plan in 2005, while also providing a valuable reference point for anyone interested in this topic 5 or 10 years from now.

The report is based on an extensive body of working papers commissioned by a high quality project team. ADB endorses the key messages in this report. However, with a very large and diverse topic to address and finite time and resources, the analysis contained in this report is necessarily general in places and the assessments of possible regional initiatives preliminary in nature. I therefore hope that, like the Pacific Plan itself, this report represents only the beginning of a longer term journey in support of a new Pacific regionalism—a regionalism that better serves the needs and aspirations of the people of the Pacific.

Philip Erquiaga
Director General, Pacific Department
Asian Development Bank

FROM THE COMMONWEALTH SECRETARIAT

The experience of regionalism in the past half century shows us that the process of sharing institutions, resources, and markets between sovereign states is a complex one. We also know that it can be positive but not necessarily always successful. Usually, the major challenges to address on the path to regionalism have been the need for a clear strategic vision, including a clear idea of where the benefits accrue and an understanding of how to manage the costs. Of equal if not greater importance is that the strategic vision is genuinely and fully shared by all stakeholders.

The decision in 2004 by the leaders of the Pacific Islands Forum to develop a "Pacific Plan for Strengthening Regional Cooperation and Integration" was a step toward creating a new and shared strategic vision for Pacific regionalism. To assist the development of the Pacific Plan and to ensure that its recommendations grew out of a strong analytical foundation, the Pacific Islands Forum Secretariat requested the assistance of the Commonwealth Secretariat and the Asian Development Bank.

The involvement of the Commonwealth grows out of a long-standing relationship with the Forum membership. Eleven of the 16 Forum members are also part of the Commonwealth family. The Commonwealth has long supported Forum countries to address their policy challenges in an increasingly complex and globalized world. The Commonwealth is actively engaged with the Forum membership in a range of areas from building economic capacity, especially through trade, to the strengthening of strong, democratic, and just societies. Democracy and development are the twin pillars on which the Commonwealth's work in the Pacific is based.

This report grew out of the efforts of a joint ADB–Commonwealth project team. It surveys the challenges and opportunities facing the Forum membership. It looks to economic theory to highlight lessons for regionalism in the Pacific. It demonstrates that benefits can be secured by the Forum membership from closer cooperation and integration, and proposes ways in which the inevitable costs can be offset. It provides insights from other regions, while showing that the experiences of other regions, however successful they may be, cannot also be introduced in the Pacific region without careful consideration of its own unique history, diversity, and geography.

This report also provides one foundation among others on which to build further discussion of the future of the Pacific region, including ways in which changes toward a regional approach can create benefits for the Pacific Islands Forum membership.

It is to be hoped, therefore, that this report will achieve the goal we set ourselves as authors of contributing significantly to the development and implementation of the Pacific Plan as a blueprint for successful regionalism in the Pacific in the years ahead.

Don McKinnon
Commonwealth Secretary-General

Executive Summary

This report analyzes issues and possibilities for a new Pacific regionalism, in the context of the commitment of Pacific Island leaders to create the Pacific Plan for Strengthening Regional Cooperation and Integration. It argues that good governance and economic growth are the highest priorities of the four key goals of the Forum. It highlights the challenge of Pacific Plan initiatives generating large benefits in a region facing small economies of scale and high diseconomies due to isolation, and discusses the importance of Australia and New Zealand markets for generating larger economic benefits from regionalism. The report discusses different objectives for regionalism (including provision of services and market integration), and notes that varied approaches and subregional groupings will be appropriate for meeting different objectives. Initial assessments of possible regional initiatives are presented under the proposed four pillars of the Pacific Plan. Among other benefits, those initiatives would contribute to strengthening economic management and accountability; to lowering cost and more effective regional transport and communications markets; and to creating regional employment opportunities. The report also discusses the likely barriers to the creation of a new Pacific regionalism. It suggests a binding instrument based on mutual obligation and involving trade, aid, and governance commitments. This agreement would reinforce the vision of Pacific leaders, and allow all Forum members to benefit from a new Pacific regionalism, resulting in significant gains for the people of the Pacific.

This Asian Development Bank (ADB) and the Commonwealth Secretariat report was prepared for the Pacific Islands Forum Secretariat in support of an ongoing Forum process for a new Pacific regionalism. This process includes the 2004 Auckland Declaration and leaders' decision to develop and implement the Pacific Plan for Strengthening Regional Cooperation and Integration ("the Pacific Plan"). Inputs to the Pacific Plan formulation process have provided a number of options for Pacific regionalism, and several potentially beneficial regional initiatives. Nonetheless, the Pacific Plan process itself has not included a rigorous economic analysis. Such analysis is vital given the constraints on resources, time, and political capital in the region. This report seeks, therefore, to provide a strong analytical foundation upon which Forum leaders can prioritize and sequence regional initiatives.

What are the challenges facing the Pacific region?

The analytical foundation for a new Pacific regionalism begins with an assessment of the challenges facing the region. The Pacific Plan should address the most significant challenges facing the region in a way that adds value to existing national and regional capacities. Many Forum Island countries (FICs) face serious challenges in providing for their people the four key goals of the Forum:

- economic growth,
- sustainable development,
- good governance, and
- security.

This study estimates that poor governance in Papua New Guinea (PNG), Fiji Islands, Solomon Islands, and Nauru has resulted in nearly United States dollars (US$)75 billion in forgone income in those countries since independence. This study argues that *an appropriate approach to addressing the four pillars for the Pacific Plan is to consider good governance and the creation of economic growth the highest priorities and necessary prerequisites for achieving the Forum's security and sustainable development objectives*. Regionalism can help FICs address governance challenges by providing specialized expertise not available locally. It can also help by providing suitable, impartial advice or management of governance challenges.

Some—but certainly not all—of FICs' economic difficulties in facing outstanding challenges can be linked to smallness. The human capacity constraint confronting FICs is becoming increasingly important as modern requirements of business and government become more complex. Faced with policy and capacity constraints in a globalizing world, FIC governments are experiencing difficulties in meeting their two essential sovereign functions:

- formulating and enforcing effective and appropriate national policies; and
- providing essential services such as health, education, and policing.

The "effective sovereignty" of FICs—their ability to effectively carry out chosen policies, is being eroded. The Pacific Plan can reverse this trend and reinforce the "effective sovereignty" of FIC governments by increasing FIC access to high quality services, including policy and technical services, through delegating more specialized functions and by broadening economic opportunities.

Club theory and some principles for successful regionalism

When assessing Pacific regionalism, the economic theory of clubs contains important lessons. Club theory has been applied to a wide range of contexts, including military alliances, international organizations, and cross-border infrastructure and services. Clubs—groupings of agents, firms, or countries—have different characteristics that make them amenable to different groupings. Yet any collective endeavor or club must satisfy two basic conditions.

- A club must be self-sustaining.
- A club must provide a large enough pool of net benefits for each of its members.

The success or failure of a club depends on its benefits exceeding its costs. Economies of scale—the reduction in unit cost resulting from pooling productive capacities—are offset by the costs of collective action. These costs effectively limit the size and scope of a club. In the Pacific, adding more remote countries entails higher diseconomies of isolation—the high cost of shipping goods, services, information, and people to increasingly remote countries across the region. From this tension between scale benefits and distance costs of collective action, the "optimal club" (in this case, a group of countries), can be derived. The composition of the "optimal club" may vary significantly according to the issue or service under consideration.

The diseconomies of isolation are particularly high in the Pacific. Only regional initiatives with large-scale benefits will be sustainable. Often subregional initiatives will produce more viable "clubs." Four principles for Pacific regionalism, based on lessons from club theory, are highlighted in the box on next page.

The Lessons of Club Theory for Pacific Regionalism

- Intervene regionally only where there are significant economies of scale. Avoid interventions where there are significant costs associated with isolation.
- Intervene regionally only where the market cannot provide the good or service, and where there are significant net benefits over and above national provision.
- Subregional provision may prove optimal in the face of high isolation costs.
- Specific initiatives are essential in many cases to assure services are provided to the smallest and poorest states. (Explicit subsidies for commercial provision of services are an example.)

The report's examination of the history of selected Pacific island "clubs" is instructive. Historically, the strongest association arrangements have been based on the movement of people. *It is the movement of people that taps into the pool of economic benefits provided by a club, often through employment and remittances.*

In the Pacific (as elsewhere), there will inevitably be a tendency to favor marginalist, incremental approaches. Yet overcoming the inevitable "speed bumps" on the road to intergovernmental cooperation requires strong economic momentum. A political strategy based on the harvest of early practical benefits is essential. Early "wins" will need to be of sufficiently large magnitude to attract interest and serve as the basis of future interventions.

What are the mechanisms for Pacific regionalism?

There are three ways in which countries of the region can work together. Each balances economies of scale and diseconomies of isolation in a different way.

- *Regional cooperation* comprises dialogue and agreement between governments (e.g., Forum ministerial meetings, declarations, treaties). Implementation of agreements remains at the national level. Benefits

include consensus building and information sharing. If cooperation is binding rather than voluntary, it can also strengthen policy coordination and implementation. Costs include setting up and maintaining the cooperative mechanisms themselves, and the cost of moving people around the region for meetings and conferences. These latter costs increase as more isolated countries are involved.

- *Regional provision of services* is defined as the merging of national services at the regional level (e.g., the University of the South Pacific). The benefits include a higher level of services at less total cost, with fewer facilities, greater efficiency, and a higher degree of shared knowledge. The primary cost—much like the cost of cooperation—involves moving goods, services, and people over large distances in the Pacific. The box at next page summarizes key findings from retrospective cost-benefit analyses of important regional service providers in the Pacific (the University of the South Pacific, Forum Line, Air Pacific, and the Forum Fisheries Agency) and in other regions (Air Afrique and bulk procurement of pharmaceuticals in eight regions).
- *Regional market integration* is defined as lowering barriers for goods, services, and people between countries, including nontariff barriers such as nontransparent standards, restrictions on foreign investment or operations, and restrictive visa requirements. The benefits include a larger market for Pacific firms, with more production at a lower cost, more choice for Pacific consumers, and more economic opportunities for Pacific workers. Costs include the adjustment costs for Pacific companies subject to increased competitive pressures. Present or planned market integration arrangements in the Pacific include a free trade agreement among FICs (Pacific Island Countries Trade Agreement [PICTA]), a closer economic relations agreement among all Forum members (Pacific Agreement for Closer Economic Relations [PACER]), and an economic partnership agreement (EPA) between the FICs and the European Union.

Key Lessons from Retrospective Cost–Benefit Analysis of Regional Service Providers

Regional bodies should only *operate when market or national public sector agencies cannot effectively deliver the service.* FIC shareholders in the regional service provider (usually governments) should not undermine the regional provider by establishing competing national services or relying heavily on extra-regional services.

Clear *governance arrangements* and *shareholder expectations* are essential to ensuring national support and viable regional operations. Governance arrangements should promote national ownership of the regional provider but also agreement among all shareholders on common objectives and strategic choices. Political interference and unrealistic expectations must not be allowed to detract from agreed objectives and overall financial health.

For commercially oriented regional activities, clarity of *commercial objectives* and *service expectations* is critical to success. As necessary, the balance between these objectives should be explicitly addressed. Funding mechanisms for any non-commercial service should be clarified, and the limitations of minority shareholdings need to be spelled out. Professional business management is essential.

External support—whether from donors or member governments—is crucial. For public service providers, capacity weaknesses in many FICs mean that simply aggregating existing national-level resources will create weak and undercapitalized regional service providers. Full cost recovery may be possible in the most successful regional operations with a revenue stream, but only in the medium or longer term.

Where is the greatest potential for benefits from Pacific regionalism?

The region already has many shared institutions. Some provide services at the regional level, but most are geared toward regional cooperation, such as intergovernmental dialogue. Voluntary dialogue and coordination, while beneficial, brings a high opportunity cost. Continuing to direct scarce donor funds into greater regional cooperation is arguably at variance with the lessons of club theory, which show that successful clubs must bring large net benefits. Analyses and case studies from both within and outside the Pacific suggest that Pacific regionalism must move beyond regional cooperation in a range of fields if significant benefits are to be achieved.

In the Pacific and elsewhere, *the largest benefits have come from focusing on the type of regionalism that addresses their fundamental challenges*. For countries in West Africa and South America facing challenges to democratic traditions, for example, strong and binding regional cooperation has brought big benefits. For Caribbean countries facing constraints on their capacity, increased regional provision of goods and services brings big benefits. For countries in Europe facing high barriers between their markets, regional market integration has brought big benefits.

A Pacific regionalism that speaks to Pacific needs must focus on easing capacity constraints for governments through increased regional provision of services, and on creating economic opportunity for Pacific citizens through increased regional market integration. The report suggests that weak governance capacity has imposed perhaps the largest economic burden on citizens of many FICs. Similarly, a carefully constructed policy of providing temporary market access to labor markets of all Forum members would create very substantial economic benefits for all parties. A key conclusion of the study is that for both service provision and market integration, *to create the necessary pool of benefits and an optimal Pacific "club," Australia and New Zealand must become meaningful partners with FICs.*

What regional initiatives would be most beneficial?

The report studies a number of regional initiatives that were considered likely to yield high benefits. Preliminary but forward-looking cost-benefit analyses are summarized in the report for a number of regional initiatives that previous literature has pointed to having potential for a "big win," and that merited further analysis. The initiatives recommended are grouped under each of the four key goals of the Forum (and proposed pillars of the Pacific Plan). These examples, however, are by no means a definitive or exhaustive list of possible initiatives.

Good Governance

No single solution exists for weak governance. However, many FICs face critical weaknesses in the key area of economic management, which is an essential requirement for good governance. The costs of a package of four strategic economic management initiatives have thus been assessed.

- *A regional economic and statistical technical assistance* facility for such areas as macroeconomics, tax policy and administration, financial sector supervision, microeconomics, and statistics. This would entail strengthening and supplementing the functions currently performed by the Pacific Financial Technical Assistance Centre (PFTAC), while enhancing FIC ownership of the facility, at an estimated annual cost of Fiji dollars (F$)8 million.
- *Regional capacity to assist customs officials* in collecting revenue, with an estimated annual cost of F$1 million.
- *A regional ombudsman*, with power to assess the merits of citizens' complaints about administrative acts and decisions of government agencies, including alleged violations of the Forum Eight Principles of Accountability, and to recommend remedial action. Advice of the ombudsman would not be legally binding. Annual cost estimated at F$500,000.
- *A regional panel of auditors*, which would strengthen audit capacity in three phases, would have an initial additional cost of F$2.3 million per annum:
    1. training and common standards;
    2. creation of an offices of auditor-general (OAG) federation, and funding of regional training programs; and
    3. creation of a regional panel of auditors that could audit national and Pacific regional agencies.

The offsetting benefits of these four critical interventions would be a reduction of the potential costs of continued poor economic governance to Pacific islanders. For PNG, Solomon Islands, and Fiji Islands, the potential of these benefits is estimated to be US$8 billion (discounted over a 10-year period).

Economic Growth

The report analyzes the welfare impacts of *increasing labor market access between Forum members*. The impact is modeled on Australia and New Zealand (ANZ) increasing their quotas for temporary movement of persons by an amount equal to 1% of their respective labor forces. The quotas would be filled on a temporary basis by FIC workers. The analysis found that increasing the temporary movement of both skilled and unskilled labor from FICs to ANZ would yield very large total welfare benefits (about US$1.6 billion over 3 years) and large benefits for the temporary FIC migrants (US$1.3 billion) and ANZ residents (US$300 million). There would, however, be considerable cost in welfare lost by FIC citizens at home (almost US$490 million) due to losses in skilled labor.

In order to reap the benefits of temporary labor migration while avoiding FIC welfare losses, it is proposed that Forum members ensure as far as possible that labor flows from FICs to ANZ are both *additional*—there is adequate FIC capacity to both train and replace migrating labor—and *temporary*—FIC migrant workers return home with higher skills. This is particularly critical if labor mobility includes skilled labor. Liberalizing unskilled labor only yields a slight gain for FIC citizens at home (US$22 million) at a cost of a slightly reduced overall benefit for FIC migrants (US$775 million), as compared to a scenario where skilled labor mobility is also included. Substantial attention to skills formation in FICs should therefore be central to a plan to generate the maximum benefits for all Forum members from enhanced labor market access.

The report also assesses the costs and benefits of

- the *creation of a pacific aviation safety office*, which would have important security benefits for the region, reduce the risk and costs of catastrophic incidents, as well as yield administrative cost savings of approximately US$570,000 over 20 years;
- the *creation of a joint purchasing facility for petroleum products*, with a calculated benefit of US$145 million over a 15-year period;
- *enhanced transparency and harmonization of terms and conditions of access*

arrangements for fisheries—while no quantification is made of costs and benefits, the report suggests that a review of existing fisheries access arrangements, further development of the Western Central Pacific Tuna Commission (WCPTC), and the creation of an open, audited register of bilateral fisheries access arrangements of all FICs, would substantially improve public economic benefits from fisheries;

- *liberalization of telecommunication markets*, with benefits calculated at US$286 million over a 5-year period, and costs of market-friendly regulation calculated at less than 1% of revenues; and
- *a regional nurse training facility*, both for domestic and export purposes, with a calculated 6.0 ratio of benefits to costs. A nurse's extra income over 10 years is estimated to have a net present value of F$200,000, while tuition costs would be F$33,100.

Sustainable Development

The report assesses the costs and benefits of the following.

- *A regional sports institute*. Cost is estimated at US$30–50 million over 5–10 years. Benefits include the potential positive impact on health indicators in the Pacific—estimates in some regions suggest such benefits are three times the costs—and remittances from internationally successful athletes.
- *A regional statistical office*. Costs are estimated at US$13–15 million per annum for a comprehensive office, and $5.5 million yearly for a specialist office. The yield would be the significant but unquantifiable economic benefits of more reliable statistics and management of statistical outcomes.
- *A regional body to protect intellectual property rights*, with a calculated net benefit of nearly US$1 million per year.

Security

The report provides an assessment of the costs and benefits of a *regional training facility to supply civilian police training for international* peacekeeping. The facility would train policemen for countries in the region as well as for a Pacific contingent of policemen for peacekeeping missions undertaken by the international community. The initial one-time cost of the facility would be about US$17 million, with recurrent costs of about US$8 million per year. The Pacific Islands Chiefs of Police Secretariat estimated that the facility would yield private benefits in the form of remittances home totaling about US$3 million annually, as well as additional and potentially much greater public security and training benefits for FICs.

Can barriers to change be overcome?

Potential benefits of the above initiatives under the Pacific Plan are large. The benefits of addressing the problems of governance dwarf by a considerable order of magnitude the benefits from any other activity considered above. Similarly, permitting temporary access to all FIC labor markets would create very substantial economic benefits for all parties—provided labor movement is both temporary and additional to the existing FIC labor force. However, agreement on any of the above regional initiatives will have to overcome considerable opposition. For both good governance and labor liberalization initiatives, the benefits will be shared by many. The few losers, however, are often well organized, vocal, and in a position to effectively oppose reforms.

To manage the change and establish a Pacific Plan it is necessary to devise a mechanism that allows all Forum members to move away from present suboptimal positions to positions where all parties are better off. This may be best achieved through mutual obligation, based on a legal instrument that links the key elements of the proposal. This approach would see negotiation of an agreement where all Forum members would make commitments toward good governance. In return, a renewable 5–10-year aid and trade agreement would be provided. *An aid, trade, and governance approach would reinforce the Auckland Declaration vision of Forum leaders and constitute the longer-term framework for the Pacific Plan:*

- *Aid commitments* are needed to create adequate scale and sustainability of initiatives to meet the Forum's goals. It is not necessarily the volume of development assistance, but its stability, continuity, and predictability that are of considerable value to Pacific island states. A stable and continuous supply of well-focused aid will help FICs address poor governance and create an environment supportive of economic growth. This report proposes that significant and guaranteed bilateral aid flows be supplemented with specific additional resources for agreed Pacific Plan initiatives. Overall aid flows to FICs (with equal burden sharing) from Australia and New Zealand amounting to 0.08% of each country's gross domestic product (GDP)—with at least 25% of this budget allocated to regional initiatives—would be realistic goals based on recent trends in aid from the two countries.
- *Trade commitments* should center on a package of opportunities for gainful employment for trained FIC nationals through training and temporary movement arrangements throughout the region. These arrangements will no doubt have strong impacts on output and population size in the islands, in some cases further exacerbating capacity constraints. Yet the

current situation—severely restricted access of unskilled FIC labor to Australia and New Zealand combined with relatively unrestricted and permanent movement of skilled labor—is a worst-case scenario from the viewpoint of FIC welfare outcomes. A managed trade and development approach to migration is needed, with adequate resources for training facilities. Otherwise, labor flows will simply continue to deplete scarce existing capacity in FICs.

- *Governance commitments* should ensure that Forum members endeavor to make both domestic and regional governance standards a vital part of domestic economic life. Given the resource requirements of good governance, however, FICs should avoid making legally bound commitments to good governance without clear means of financing the obligations and bound commitments from development partners to provide acceptable levels of technical assistance.

How can changes in Pacific regionalism be initiated?

To increase the chances of success, the Pacific Plan should follow a two-track negotiating process. The first track should comprise a range of concrete measures that build confidence in the process, as well as confidence in an emerging partnership that will be mutually beneficial to FICs and Australia and New Zealand. The interventions must not be seen as random projects of unclear economic benefit. The interventions should be consistent with and an integral part of a second, negotiating track.

A selection of the highest yielding initiatives assessed in this report could, if implemented as first-step, confidence-building measures, provide the necessary momentum for the longer-term vision of the Pacific Plan, for example:

- **governance**: The "package" of four governance initiatives—i.e., the economics/statistics technical assistance facility, the ombudsman, assistance to customs, and a regional panel of auditors;
- **economic growth**: Harmonized terms and conditions for fisheries access arrangements, and the establishment of a regional nursing school;
- **security**: A regional police training institute; and
- **sustainable development**: A regional sports institute.

In order for a credible process to emerge from the current dialogue, there is a need to combine short-term, confidence-building measures with a

decision to negotiate a contractual arrangement between all Forum members that encompasses all four pillars of the Pacific Plan. *Consequently, at the Leaders' meeting in October 2005, this report recommends that Forum leaders agree to full feasibility studies on the first-step, confidence-building measures listed above, and to commencement of negotiation of a Pacific Agreement for Closer Economic Relations (PACER).*

In order to provide stronger legal backing to the Pacific Plan, the current process should be merged with an expanded PACER. Some FICs are in the process of (or are about to begin) negotiating and implementing trade agreements on several fronts:

- the Pacific Island Countries Trade Agreement (PICTA),
- the Economic Partnership Agreement (EPA) with the European Union,
- the World Trade Organization (WTO) Doha Development Round, and
- PACER Negotiations, which are due to begin in 2011 but could be triggered by EPA negotiations between May and October 2006.

The objectives of PACER are to

- "…establish a framework for the gradual trade and economic integration of the economies of the Forum members in a way that is fully supportive of sustainable development;" and
- "…provide economic and technical assistance to the Forum Island Countries in order to assist them in implementing trade liberalisation and economic integration."

Thus the stated objectives of PACER, though not identical, are similar to the four pillars of the Pacific Plan.

Without a multifaceted trade and development agreement—one with sufficient scope and pool of potential benefits to offer mutually advantageous terms to all parties—there is a considerable risk that the PACER negotiations based on a goods-only agreement will be unsuccessful. Given the magnitude of FIC imports from Australia and New Zealand, a goods agreement with Australia and New Zealand is likely to impose higher adjustment costs on FICs than the EPA. Similarly, Japan—the second- or third-largest source of imports for many FICs—would be the only major donor to the region with exports subject to any residual import duties remaining in FICs following EPA and a goods agreement under PACER. FICs should consider whether such a situation is sustainable.

How can a new Pacific regionalism be sustained and deepened?

If the Forum is to endorse the timetable proposed above, *an expanded resource commitment to the Forum Secretariat will be needed to allow the Secretariat to implement both the feasibility studies and the negotiations.* While a major European Commission (EC)-style expansion would be unfeasible and possibly counterproductive, the action plan and timetable proposed above would place great strain on the Secretariat's current capacity. Pursuit of the proposed timetable without expanded resources could jeopardize a beneficial outcome for the entire Forum membership.

A key consideration in creating a deeper Pacific regionalism is addressing the "democratic deficit." The recent experience of the European Union Constitution and its rejection by two founding states provides a sober warning to the Pacific. While regional bodies in the Pacific are by no means as powerful as the EC, the process of negotiating a substantial treaty arrangement would heighten the perception that many of the region's bodies are potentially open to capture by donor interests, or by the international bureaucracy that manages them. When creating a new, deeper regionalism, the Forum must provide a check to ensure that structures emerging are democratic.

Creating a permanent sitting body that oversees the range of the Forum's activities and acts as a strong mechanism for regional organization accountability to member states might be a first step toward a more representative arrangement. This would involve all Forum members having a permanent representative based in Suva; the costs and benefits of such a body need to be assessed. However, increased oversight and perhaps a "political track" will become necessary as Pacific regionalism deepens and broadens.

CHAPTER 1

The Basis for the ADB–Commonwealth Study

The Origins of the Pacific Plan

Calls for Change

The decision by Pacific Islands Forum leaders in 2004 to create a Pacific Plan for Strengthening Regional Cooperation and Integration, commonly referred to as The Pacific Plan, originated from two interrelated trends in the Pacific. One is the long history of political support for closer regionalism. The second, more recent in origin, is a growing unease among the Pacific Islands Forum (PIF) membership about the condition of certain countries in the region, and the ability of the Forum—as currently constituted—to take necessary corrective action.

The idea of a closer cooperation and integration among Forum members is not new. While the Forum thus far lacks the legal mandate for economic or political integration (such as the "ever-closer union" provided by the European Union's founding Treaty of Rome), various observers were calling for greater shared sovereignty in the region well before it became a source of concern for donors and governments. Mike Moore, former prime minister of New Zealand, proposed an economic and political community for the South Pacific as early as 1982. A key feature of his proposal was a Pacific Parliament. The Government of New Zealand subsequently commissioned *Towards a Pacific Community*. That 1990 report proposed further discussion of the development of a "community of countries working together to meet the needs and concerns of the region."

Such proposals have tended to originate more in the developed Forum members than in the newly independent Pacific island countries, where there is often a reluctance to see erosion of newly acquired sovereignty. Country leaders, however, have also provided major impetus for stronger regional institutions. Early in the history of the Forum the most pressing issues for the countries were political ones, particularly the larger questions of decolonization, and the more immediate concerns of nuclear testing. Closer cooperation was called for to face these common challenges.

In 1965, Ratu Sir Kamisese Mara of the Fiji Islands led a major push from country representatives to give the existing South Pacific Conference more relevance beyond its existing "advisory" capacity. Mara was also the driving force behind the creation in 1965 of the first indigenously formed "islands only" regional organization—the Pacific Islands Producers Association (PIPA). Formed by Fiji Islands, Tonga, and Western Samoa outside of the domain of the Secretariat of the Pacific Community (SPC), PIPA provided a unified front for negotiating the prices of common agricultural products for export.

From the creation of the SPC at the 1947 "South Seas" conference to the first meeting of the South Pacific Forum[1] in 1971, proposals for a common market, for shared institutions, and even for a common currency among Forum members, have been part of the regional policy dialogue on both sides of the divide posed by membership (or not) in the Organisation for Economic Co-operation and Development (OECD).

Calls for closer Pacific regionalism has acquired a new sense of urgency over the past decade. There has been a growing perception among members of the Forum and in the international community—especially donors—that long-run trends in development indicators were increasingly negative, and that regional action was urgently required. As early as 1993, reports began to express pessimism over the state of affairs in the region. Unsustainable population growth, malnutrition, high unemployment, low economic growth, and increased violence and crime were among the concerns highlighted in these reports.[2] Conflicts in Bougainville and Solomon Islands, and increasing lawlessness in Papua New Guinea (PNG) prompted several observers, from 2000 onwards, to renew calls for stronger regional institutions to help cure the "serious illness" that the islands were facing, in the words of former PNG Prime Minister Sir Julius Chan. These issues will be explored in further depth in the following chapter.

Notable among these reports was a 2003 report by the Australian Foreign Affairs, Defense and Trade References Parliamentary Committee, entitled *A Pacific Engaged: Australia's Relations with Papua New Guinea and the Island States of the South-West Pacific*.[3] In that report, the Committee proposed "the idea of a Pacific economic and political community which recognizes and values the cultural diversity in the region, and the independent nations within it, and takes into account different levels of growth, is worthy of future research, analysis, and debate." As Peebles (2004) notes, this recommendation was the first time that a group of Australian politicians from all parties acknowledged that closer integration with Pacific states could not only form a meaningful part of Australia's future, but also be a vehicle for addressing the region's challenges.

The Road to the Auckland Summit

In August 2003, the PIF heads of government met at Government House in Auckland for the 34th annual Forum leaders' meeting. Among a number of declarations addressing such things as tax competition, the Millennium Development Goals, and liberalization of air services, they agreed that

> …the serious challenges, both old and new, facing the countries of the region warranted serious and careful examination of the pooling of scarce regional resources to strengthen national capabilities. Ideas and proposals being put forward by the Leaders… should be pursued with urgency and with the goal of producing practical outcomes as soon as possible.[4]

To begin the process of tackling these "serious challenges," the Forum leaders agreed to carry out a review of the Forum, conducted by an eminent persons' group (EPG). The EPG was chaired by Sir Julius Chan, former prime minister of Papua New Guinea, and included a number of prominent Pacific leaders and diplomats.[5] Review findings were further discussed by an EPG "reflection group," chaired by Helen Clark, Prime Minister of New Zealand.

The final EPG report[6] was circulated in April 2004. It recognized both the "difficulties" facing the Forum membership, and the stake that all Forum members—from the Small Island States subgrouping to Australia and New Zealand—had in overcoming them as "political partners and equal members" of the Forum. In addition to responding to measures to bring greater clarity, efficiency, and direction to the workings of the Forum,[7] the report proposed a leaders' vision for the Forum that sought to launch a stronger "Pacific Way."

> Leaders believe the Pacific can, should and will be a region of peace, harmony, security and economic prosperity, so that all its people can lead free and worthwhile lives. We treasure the diversity of the Pacific and seek a future in which its cultures and traditions are valued, honoured and developed. We seek a Pacific region that is respected for the quality of its governance, the sustainable management of its resources, the full observance of democratic values, and its defence and promotion of human rights.

To bring this vision into fruition, the EPG report called for a "Pacific Plan" that would serve as a road map for closer regional cooperation between the Forum members. The EPG cautioned that the Pacific Plan could not be seen merely as a "Forum Plan," but one that involved the entire Pacific community through consultation and ownership. The ambition and clarity of the EPG mandate bears repeating in full.

> We propose to Leaders the endorsement of the Pacific Plan to create stronger and deeper links between the countries of the region. The Plan should identify existing areas of inter-country cooperation, including their strengths and weakness. It should then seek to provide clear recommendations to Leaders on a sequence and priorities for intensified regional cooperation. It should identify the sectors and shared concerns where the region might make the most useful gains from sharing resources and aligning policies. Above all, the Plan should be a vehicle for placing the "big idea" of Pacific inter-dependence squarely at the front of the regional political agenda…
>
> We ask Leaders not only to endorse the concept of the Pacific Plan, but also to be bold and innovative in pursuing it. Greater sharing of resources is the first step. We hope that Leaders will be prepared to go further, to consider regional integration that runs deeper than that established already under regional trade arrangements.

The EPG members sought a Pacific Plan that was not only "based on comprehensive research and analysis" but also on "[thought] outside the boundaries of current political and economic realities" and "engaged with the biggest issues facing [the Pacific] region." The EPG report sought to launch a process of consultation and deliberation rather than propose a blueprint for closer regionalism. Nonetheless it provided 32 recommendations for the transformation of the Forum. Among the recommendations most

relevant to the Pacific Plan was the defining of the Forum's key goals as

- economic growth,
- sustainable development,
- governance, and
- security.

These key goals are expected to become the four "pillars" of the Pacific Plan.

At the Special Leaders' Retreat in Auckland on 6 April 2004, Forum Leaders endorsed the EPG report's vision for the Forum and its recommendations in the 2004 Auckland Declaration. The subsequent annual Leaders' Meeting, in Apia, Samoa, in August 2004, approved the terms of reference for a Pacific Plan Task Force (comprised of senior Forum government officials and members of key regional organizations). The first of several task force meetings quickly followed. A "Core Group" of leaders was also created to oversee the Pacific Plan process, comprising the immediate past, present, and future chairs of the Forum in consultation with the Forum Secretary-General.

After the Auckland Summit—Expectations and Results

Buoyed by claims that the Pacific Plan was the most important initiative in the Forum's 33-year history and "a landmark along the path to a more cohesive Pacific area,"[8] the reaction to the Auckland Declaration was positive, if slightly guarded. The explicit recognition of democratic values and the defense and promotion of human rights were seen by observers such as Peebles (2004) as commendable. These were issues the Forum had previously avoided addressing. The mandate for a blueprint for closer regionalism—rather than simply the issuing of another mission statement for the Forum[9]—raised expectations. The full support of "dialogue partners" (donors and members of the international community) for the Pacific Plan had a similar effect.

The product of the initial process was a draft Pacific Plan, which was dated December 2004.[10] It provided a large number of regional initiatives to serve as the basis for further discussion and, most importantly, to draw ideas at the country level during country consultations conducted by the Pacific Islands Forum Secretariat. Building momentum by identifying and acting on "early wins" was a key idea of this draft. Recognizing the constraints on resources and political will for regionalism, the working draft divided possible initiatives into a three-tier timeline: early practical benefits, medium-term benefits, and long-term benefits.

This initial draft, however, was perceived by many (including the authors of this report) as falling short of the EPG and Auckland mandate in two important respects. First, the "guiding principles" and "prioritization criteria"[11] of the initial draft did not provide clear and unambiguous criteria for determining which of the many possible regional initiatives should be included in the Pacific Plan. Nor did it spell out an appropriate sequencing.

Second, the inclusion of existing or ongoing initiatives along with several ministerial agreements that had been signed but not yet implemented—with no analysis of why implementation was lagging—seemed to run counter to the EPG exhortation that Pacific Plan initiatives go beyond those already agreed and established under previous arrangements.

The ADB–Commonwealth Study

This study by the Asian Development Bank (ADB) and the Commonwealth Secretariat is intended to help strengthen the analytic foundations for the Pacific Plan process. It will summarize the vast literature on regionalism, development, and cooperation to draw out useful lessons from economic theory for the Forum membership. Guided by its terms of reference, it will aim to do the following.

> Increase participation [and] ownership in regional collective action… Assist, in particular, the Pacific Plan Task Force (PPTF) and member states increase their appreciation of regionalism, including issues related to the costs and benefits of Pacific regional cooperation and integration… Enhance the capacity of the members of the PPTF and the Forum Secretariat to recommend a Pacific Plan underpinned by a clear rationale, including an analytical framework for cost-benefit analysis of regional programs… and facilitate the inclusion of the Pacific Plan resolutions on regional initiatives in the [Pacific island countries,] PICs' national development strategies."[12]

The study takes an independent, long-term view of Pacific regional issues and possibilities. It has been prepared parallel to, but independent of, the Pacific Plan process. It is intended to serve as a separate "think piece" on Pacific regionalism for Pacific leaders and peoples, but one that directly informs decision making on the form and content of the Pacific Plan. Most importantly, it hopes to provide a clear basis for Forum stakeholders to answer three important questions.

1. **Why does the region need a new Pacific Plan?** Even a cursory familiarity with the Pacific region reveals a large number of regional initiatives, institutions, funds, and strategies already in existence. Furthermore, national governments, in conjunction with donor countries, have long been tackling the challenges of the region—in many cases for decades. If the Pacific Plan indeed means "more questions than answers"[13] to the citizens of the region, why divert scarce resources into a new initiative?

2. **What should be in such a Plan?** Any large-scale regional agreement among 16 countries of varying levels of development could potentially include hundreds of different initiatives. However, resources—human, physical, financial, and political—are limited. Resistance to greater sharing of sovereignty is widespread among the newly independent countries of the region, and is certainly not limited to the Pacific. What initiatives would cement, in the minds of Forum stakeholders, the rationale for greater regionalism?

3. **How should the Plan be sequenced?** It has often been said that "implementation is everything." The Forum experience is no exception. Many potentially useful initiatives agreed at the ministerial level founder at the implementation stage. The Pacific Plan working draft provides three columns for sequencing: early, medium, and long-term. But where should different initiatives be placed? How can Pacific Plan initiatives build on one another, rather than risking a chaotic and fragmented process? How does the Pacific Plan process relate to the many other agreements and negotiating tracks that Forum countries are currently engaged in?

Chapter 2 assesses the challenges that the region is facing—a diagnosis of the "serious illness" alluded to by Sir Julius Chan. Chapter 3 explores a subset of economic thought called "club theory," which provides a "first pass" filter for what initiatives should be contained in a high-profile strategy such as the Pacific Plan, and what initiatives are best left for the other opportunities. It will show how regionalism, like many other decisions in economics, is a consideration of economic, political, and social costs versus benefits.

Chapter 4 will expand on the ideas of club theory, and explore in further detail the possible approaches to regional action. It will show how different approaches to regionalism yield different costs and benefits, and how the Pacific region—and others outside Forum membership—have used these

approaches with varying levels of success. Chapter 5 will marry the diagnosis of Chapter 2 and the economic framework of chapters 3 and 4 to suggest a number of regional interventions that fit the mandate given by the EPG report and the Auckland Declaration. Chapter 6 will conclude by addressing the important question of how the Pacific Plan can be sequenced to achieve both maximum benefit and maximum sustainability.

The list of working papers and studies commissioned for this report may be seen in Appendix 1.

ENDNOTES

1 The 16 members of the Pacific Islands Forum are: Australia, Cook Islands, Federated States of Micronesia, Fiji Islands, Kiribati, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu.

2 Cole, R.V., ed. *Pacific 2010: Challenging the Future*. National Centre for Development Studies. Canberra: Australia National University.

3 This section draws from a summary in Peebles (2004).

4 Pacific Islands Forum Secretariat. 2003. Communiqué.

5 In addition to Sir Julius Chan, the EPG included Bob Cotton (former Australia high commissioner to New Zealand and special envoy to Papua New Guinea), Dr. Langi Kavaliku (prochancellor of the University of the South Pacific and a former deputy prime minister of Tonga), Teburoro Tito (former president of Kiribati), and Maiava Iulai Toma (Samoa ombudsman and former ambassador to the United Nations).

6 Eminent Persons' Group. 2004. *Charting the New Pacific Voyage: Eminent Persons' Group Review of the Pacific Islands Forum*. Suva: Pacific Islands Forum Secretariat.

7 Oxford Analytica. 2004. Doubts Frustrate Forum's Integration Efforts. *Daily Brief* (April). Available: www.oxan.com.

8 See Pacific Islands Forum Leaders Approve Plan on Greater Cooperation, *Xinhuanet*. Available: http://news.xinhuanet.com/english/2004-04/07/content_1406202.htm. PM Not Worried by Aussie, NZ Moves. AAP. Available: http://www.thenational.com.pg/0407/nation3.htm.

9 Peebles (2004) notes that the 26th South Pacific Forum in 1995 in Madang, PNG, issued a "Vision Statement" in which "Forum members [would] cooperate in efforts to maintain security, improve living standards, and ensure sustainable development throughout the region."

10 Pacific Plan Task Force. 2004. Working Draft #2 (December).

11 The second working draft of the Pacific Plan listed the guiding principles as (i) increasing the levels of sustainable returns to the Pacific; (ii) ensuring the successful implementation of regional cooperation at the national level; (iii) meeting common responsibilities and providing services cost-effectively; and (iv) developing partnerships with neighbors and beyond. The prioritization criteria were listed as (i) the likely impact on at least one of the four pillars of the Plan, and (ii) the potential for successful implementation and commitment.

12 Asian Development Bank. 2004. *Developing and Implementing the Pacific Plan for Strengthening Regional Cooperation and Integration*. Manila.

13 Taga, Laisa. More Questions than Answers. *Islandbusiness.com*. Available: http://www.islandsbusiness.com/archives/islands_business/index_dynamic/containerNameToReplace=MiddleMiddle/focusModuleID=4654/overideSkinName=issueArticle-full.tpl.

CHAPTER 2

Challenges Facing the Region

Introduction

In the Auckland Declaration, Forum leaders agreed that "the serious challenges facing countries of the region warranted serious and careful examination of the pooling of scarce regional resources to strengthen national capabilities." To face these challenges, "the key goals of the Forum are economic growth, sustainable development, good governance and security and that these goals… should be used as a springboard for stimulating debate on how to shape the region's longer-term future."

In light of this mandate, this chapter will analyze the performance of Forum members—the Forum Island Countries (FICs) in particular—against the four key goals of the Forum, which are expected to become pillars of the Pacific Plan (see Appendix 2). Fundamental questions will be examined.

- What has been the performance of the region—based on common definitions and indicators for each pillar?
- What has been the cost of to Forum members?
- What are the possible reasons?
- How might regionalism help?

This chapter will suggest that poor governance and low growth have imposed the largest *quantifiable* cost on the citizens of FICs, their governments, and development partners. This is not to imply that the pillars of security and sustainable development are unimportant. However, current international development *thinking*[1] highlights the importance of governance and growth as essential preconditions for security and sustainable development. Given the limited resources in the region, governance and

growth must be priority challenges for regionalism to address. This chapter will suggest several areas where regional bodies may have significant value-added in addressing the challenges of the region.

There is no intention here of adding to the many recent reports expressing pessimism about the economic future of the region.[2] However, if there are no significant challenges facing the region, or if existing national or regional capacity can deal with the challenges effectively, then there is no economic rationale for a large-scale initiative such as the Pacific Plan. Only an honest assessment of the challenges facing the region will point to areas where regional action may have beneficial impacts.

Governance

Governance in the Pacific

World Bank Institute (WBI) data summarized below in Table 2.1 show that for the 6-year data span governance in the Pacific is slightly worse, on average, than the global median for developing countries. There is significant variation in the data, however, with persistently low governance ratings (i.e. *higher* percentiles) for Papua New Guinea (PNG) and Solomon Islands. Ratings in those countries deteriorated substantially in recent years. The Fiji Islands also saw a significant deterioration (nearly 10%) in its score following the 2000 coup. Only the predominantly Micronesian states and Samoa have seen considerable (more than 5–6%) improvement in their ratings. Little data exist for Nauru, but recent (2002–2004) WBI scores for "government effectiveness" rank it between PNG and Solomon Islands. Other global surveys, such as the Transparency International Corruptions Perceptions Index (CPI), rank only PNG, but its findings are similar to the WBI data.[3]

A similar picture is found in a series of governance assessments by the Asian Development Bank (ADB) at both country and local level, summarized in ADB (2004). While there is no country-by-country ranking, the ADB country governance assessments found that "nearly all Pacific island countries face serious challenges in all areas of governance, and it is hard to avoid a negative tone in detailing the issues revealed or highlighted by [the assessments]."[4]

Table 2.1: Forum Island Country Governance Ratings (percentile ranking)

	1998	2000	2002	2004	Average 2000–2004
Fiji Islands	47	56	47	54	53
Kiribati	59	46	44	46	46
Marshall Islands	58	62	55	51	56
Micronesia, Federated States of	56	57	50	41	49
Papua New Guinea	65	67	71	76	71
Samoa	58	40	33	35	36
Solomon Islands	64	81	84	84	83
Tonga	64	60	64	58	60
Tuvalu	–	22	27	42	31
Vanuatu	57	61	58	52	57

– = not available.
Source: Sampson 2005.

The Costs of Poor Governance

How much has poor governance cost the citizens of these countries? How much better off would they have been if there had been good governance over this period? Before assessing the potential costs of poor governance, two important considerations must be noted.

First, it is extremely difficult to know precisely when governance indicators improve or deteriorate. While extraordinary events such as coups or civil strife precipitate deteriorations in governance indicators, many times such events are the result of (sometimes hidden) buildups in poor governance stretching several years back. Comparative governance data for the Pacific are virtually nonexistent prior to 1995. Several country-specific sources, however, indicate that in a number of states—PNG, Solomon Islands, Fiji Islands, and, to a lesser degree, Vanuatu—poor governance has been endemic for a much longer period than is covered by the WBI or CPI data. Nonetheless, pinpointing exact dates or time periods is an exercise fraught with difficulty.

Second, establishing counterfactuals—economic growth in the presence of good governance—is a difficult task, especially at the country level. Ideally, a country-specific growth trend of good governance—before the deterioration in governance indicators—would be more appropriate. However, in each country discussed below (PNG, Fiji Islands, Solomon Islands, and Nauru) there was either virtually zero per capita growth since

independence (PNG, Fiji Islands, and Solomon Islands) or historical gross domestic product (GDP) data were not available (Nauru).

The estimates below are drawn from Duncan (2005), who uses a global average derived from Chauvet and Collier (2004) that estimates the impact of poor governance in developing countries by estimating the loss of economic growth associated with poor policies, institutions, and governance. Chauvet and Collier (2004) estimated that developing countries suffering poor governance (but not civil unrest) record, on average, 2.3 percentage points less gross domestic product (GDP) growth per year than other developing countries. Where possible, an additional comparator country is also discussed below.[5]

Papua New Guinea

According to World Bank statistics, real GDP per capita in PNG was the same in 2003 as it was in 1976, the year following independence. Using the assumptions of Chauvet and Collier (2004), if PNG had not lost 2.3% of annual GDP due to poor governance, the per capita GDP in 2003 would have been United States dollars (US$)1,773 instead of US$881 (actual level in 2003). Thus since independence, poor governance has cost the average PNG citizen US$12,000. For the entire populaton, the aggregrate loss in GDP due to poor governance over the 1975–2003 period was US$52.8 billion.

This already high figure may in fact be an underestimate, if a comparator country, such as Botswana, is considered. Like PNG, Botswana is rich in natural resources—particularly diamonds—which account for around 40% of the country's output. Botswana was a British colony that at independence in 1968 had only 12 kilometers of paved road, 22 university graduates, and 100 secondary school graduates (Acemoglu et al. 2001). Similar to PNG, land in Botswana is collectively owned. Prior to independence, Botswana had a much lower per capita GDP than PNG. Since independence, however, Botswana has experienced much faster economic growth than PNG. It is claimed that Botswana's record as the fastest growing country in the world over the past 40 years is due to good economic policies that are based on good institutions (Acemoglu et al. 2001). Over the 1970–2003 period, PNG per capita GDP growth rate (in constant 2000 US$) averaged only 0.2%, while Botswana's averaged 6.7%. This growth rate is nearly three times the Chauvet and Collier (2004) estimate.

Fiji Islands

Since independence, the Fiji Islands has seen a change from a negative trend (-0.3%) in per capita GDP growth in the pre-1987 period to a slightly positive trend in the post-1987 period (0.02%). This change could be explained by the fact that a period of economic reform followed the 1987 coups. However, the post-1987 period has also been characterized by continuing political uncertainty—culminating in the coup of 2000—uncertainty over access to land, and the out-migration of skilled and highly skilled labor. Thus, the beneficial effects of reforms and the adverse impacts of the coups appear to have cancelled each other out.

If we assume that there has been no growth in GDP per capita in the Fiji Islands since independence and apply the Chauvet and Collier (2004) growth rate, the gap in per capita GDP between independence and 2003 is US$14,000. Under this assumption, estimated aggregate GDP forgone over the same period due to poor governance is US$10.8 billion (in 1995 dollars). On the other hand, if it is assumed that there has been poor governance in the Fiji Islands only since the coups in 1987, the loss in per capita GDP over the 1987–2003 period is estimated to be US$5,456. Aggregate GDP loss over that period is estimated at US$4.3 billion.

Duncan (2005) uses Mauritius as a comparator for the Fiji Islands. Both are small island states with a similar mix of ethnicities and a similar history of colonial administration. At one point both countries were very heavily dependent on sugar production and exports. Strong economic policies in Mauritius, however, focused on a fairly rapid structural transformation of the primarily agricultural economy to an economy in which manufacturing and services are predominant. This contrasts with Fiji Islands' attempts at economic reform, which have had little success except for the development of tourism and the limited growth of garment manufacturing under preferential market access. Over the 1980–2003 period, per capita GDP growth in the Fiji Islands averaged 0.89%. In Mauritius, average per capita GDP growth over the same period was 4.3%. Following the approach in comparing PNG and Botswana, this implies that the Chauvet and Collier (2004) estimate is very conservative.

Solomon Islands

There was reasonably strong growth in per capita GDP, at 2.6%, in Solomon Islands from independence in 1978 to the beginning of the civil unrest. However, on the basis of reports on economic management and corruption

in the country (in the logging industry,[6] for example), it appears safe to assume that the country experienced poor governance even during that time. The economy could very well have performed much better, in terms of growth. The cost of poor governance consequently has been estimated for the period 1978–2003, with adjustments for the additional adverse impact of civil unrest.[7] Accordingly, the total loss of per capita GDP over the period 1978–2003 due to poor governance is estimated at US$6,960. Aggregate loss of GDP over the same period is estimated at US$2.8 billion. This is equivalent to 11.4 times the value of Solomon Islands' GDP in 2003. The civil unrest in Solomon Islands over the period since 1997 had a dramatic impact on output and incomes. Actual per capita GDP declined from the historical high of US$850 in 1996 to US$534 in 2002. It is estimated that an additional US$260 million of GDP was lost due to the civil unrest—equivalent to the value of a full year's output in recent years.

The civil unrest has also imposed significant costs on donors (hence on taxpayers in donor countries). As a lead donor in the region, Australia has taken a key role in providing aid to stabilize Solomon Islands through the Regional Assistance Mission to Solomon Islands (RAMSI). Cumulative figures for RAMSI are not yet available. However, data of the Australian Agency for International Development (AusAID)[8] suggests that costs to taxpayers in donor countries have been considerable. The initial budget estimate for the Solomon Islands country program for fiscal year (FY)2004 was Australian dollar (A$)37.4 million. RAMSI was announced midyear, after initial budget estimates, and the new estimate for the Solomon Islands country program that year increased to A$168.5 million. In FY2005, expenditures in Solomon Islands are estimated at A$201.6 million, of which A$92.8 million is the country program and A$108.9 million is "estimated other official development assistance." Apart from AusAID, other government departments (primarily defense and AFP) have borne the costs of poor governance in Solomon Islands. The estimated expenditure of other government departments of A$79 million in FY2004 and A$93.7 million in FY2005 does not capture additional expenditure that is not eligible to be counted as ODA.

Nauru

On the basis of the income received from national trust funds, Nauruans in the 1970s were believed to have the second highest incomes in the world, after Saudi Arabia. While there are no historical GDP data available for Nauru, there has clearly been a dire economic loss suffered by this country

due to poor governance. A substantial part of this is the almost complete loss of the trust funds established from the sale of phosphate, and the lack of governance associated with the use of those trust funds. Gosarevski et al. (2004) estimated that if the trust fund monies had instead been invested with conservative commercial investment brokers, they would be valued in today's terms at around US$10 billion. This is a measure, though indirect, of the loss suffered by Nauruans as a result of poor governance. Using a more conservative measure, if the country had invested its phosphate earnings wisely, and they were today worth US$8 billion and earning 4–5% from interest and dividends, the present population of approximately 12,000 would have per capita income of around US$20,000. Instead, per capita GDP is about 1/20th of that amount.

Causal Factors and the Value-Added of Regionalism

Anere et al. (2001) and ADB (2004) point to a number of potential causal factors for the deterioration in governance, including

- concentration of political power in the hands of too few for too long, with competition for power provoking violence;
- strong external pressures (e.g., from governments and donors) leading to lack of commitment or ownership for major governance and reform initiatives;
- strong internal pressures to fulfill traditional obligations to kin and community over national interests, leading, for example, to politicization in public services;
- limited capacity, effectiveness, and civic education of so-called "restraining institutions," such as churches, media, and nongovernment organizations (NGOs);
- a breakdown in linkage between policy making in capital cities and cultural and value systems prevailing in rural areas; and
- scarce technical and managerial skills coupled with largely ineffective training programs, and the widespread use of external consultants in reform programs.

It is important to note at the outset that there is no single panacea for poor governance. Nonetheless, the list of possible causal factors above suggests that regional institutions can have a strong value-added in three areas.

First, *regionalism can help overcome the capacity constraints that prevent governance institutions from functioning properly*. Many, though not all, of these capacity constraints can be linked to smallness. Horscroft (2005) notes that

> …a very important scale economy that small states cannot exploit is in governance… Economies of scale in governance arise from the population-invariant minimum set of responsibilities a state has towards its citizens [as well as] from the high fixed and low marginal costs of many individual government functions.

Horscroft (2005) further notes that conventional policy models assume, without making it explicit, a minimum state size and administrative resource base that small states fall below. Thus the many officials in governance-related activities in the region often operate with resources severely overstretched relative to their responsibilities. Addressing this capacity constraint would be an important step toward improving governance outcomes in the region.

Another attraction of regional bodies is that their funding is often separated from that of national governments. This reduces the chronic cutting-off of funds of institutions, such as public accounts committees and national ombudsman offices, that try to constrain government breaches of the law. Anere et al. (2001) noted this tactic was widespread in Melanesian governments. Capacity constraints of this nature are quite separate from those associated with smallness. Funds for governance institutions are often allocated in principle, yet withheld in practice, arguably for political purposes.

Second, *regional bodies can provide adequate distance from both internal (societal) and external (donor) pressures*. An important constraint on FIC governance, inherent to many small states, is the influence of social obligations. Given the smallness of many FIC societies, it is often a challenge to find people willing to openly punish malfeasance or offer information on an official who in some cases may be a close relative or high-ranking clan member. "Whistle-blowing" may lead to recriminations, both economic (i.e., loss of job prospects in a small market) and personal. These governance obstacles are the negative side of a much more positive role that social ties play in the Pacific. Dobbell (2003) notes that the Pacific islands are "classic strong societies within weak states; the family and the village… are a social support system that impose great obligations but also provides social and emotional capital through family and extended relationships." It is important to note that the smallness arguments regarding capacity and social obligations extend to the larger Melanesian FICs as well, even though their populations are relatively larger. Melanesian FICs contain the highest level

of ethnic and linguistic fragmentation in the region, which, as noted in the previous section, acts as a strong constraint on capacity. The large number of ethnic groups implies that social obligations are just as strong as in smaller FICs—much like several small states in one larger state.

At present many of these constraints are being addressed through donor funding and widespread use of expatriates within or supporting major governance institutions. While this strategy may have delayed the deterioration in governance in certain FICs, it may not address more fundamental issues such as ownership of reform, appropriateness of governance institutions, and the criteria by which they operate. The widespread use of donor-funded OECD expatriates of the Organisation for Economic Co-operation and development (OECD) in FIC governance institutions has undoubtedly fed the perception that governance is an issue foisted upon FICs by donors. This perception has effectively prevented many FICs from actively engaging in the governance debate and reaping the benefits of stronger institutions.

Regional institutions can provide an intermediary solution to this dilemma. By employing experts from the region, regional bodies can help overcome suspicions of bias. Perceptions that assistance being provided is without local knowledge and experience of the region's unique characteristics and processes can also be overcome. Further, regional bodies are often the only nondonor institutions in developing countries that pay salary levels between those of national governments and private sector firms. They are thus able to retain expertise and lessen the brain drain of talented public sector officials. To be effective, regional bodies will need to be close enough to the national level that their findings will be taken seriously and, where appropriate, sanctions can be enforced. On the other hand, they will need to distance themselves far enough from the national level to maintain objectivity and an adequate flow of resources disconnected from the electoral cycle. Regional bodies can arguably better tread this fine line between ensuring objectivity and preserving ownership.

Last, regionalism can help design more appropriate "Pacific-owned" governance institutions. An important finding across all four key goals of the Forum, especially in governance and the security discussion to follow, is that the lack of adaptation between customary and modern systems has been a major factor in the poor performance of the region. In some cases, insufficient institutional resources are less of a problem than inappropriate institutional design. The creation of "Pacific-owned" approaches to

governance, democracy, and oversight will likely be perceived by Pacific stakeholders as more legitimate if it is undertaken within regional institutions. Since regional bodies are uniquely able to marshal resources and retain staff within the public sector, they are highly appropriate forums for these crucial debates.

Economic Growth

Growth in the Pacific

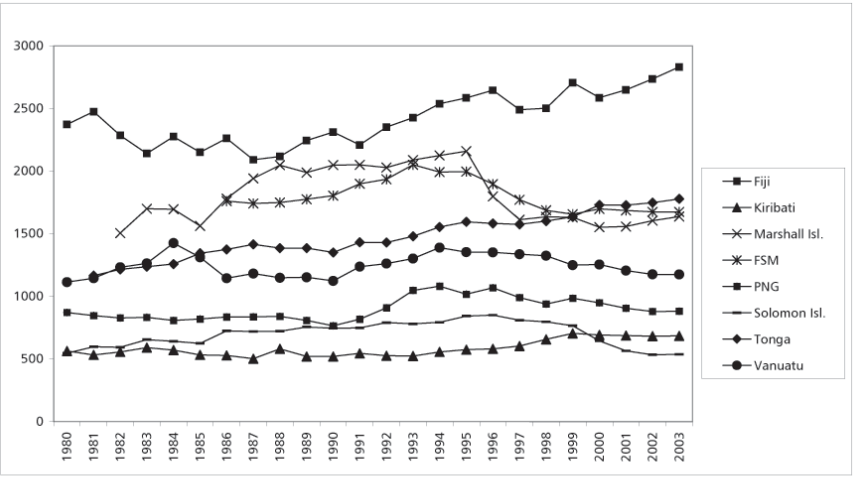
Economic growth in FICs has generally been poor, averaging less than 1.5% per year from 1996 to 2001. Table 2.2 shows that many FICs have struggled to sustain an even, positive overall growth rate. Solomon Islands contracted 14% in 2000, and PNG was in recession for 4 of the 6 years shown. Even where economic growth has occurred, it has often been in fits and starts, driven by unsustainable exploitation of natural resources and one-off investment schemes.[9] Given that population increases in many FICs have outstripped low GDP growth rates, per capita GDP has been largely stagnant or has declined (Figure 2.1).

Table 2.2: Real Growth in Gross Domestic Product in Forum Island Countries (% change on previous year)

	1996	1997	1998	1999	2000	2001
Cook Islands	-0.20	-2.80	-4.20	5.80	9.80	–
Fiji Islands	3.10	-0.90	1.40	9.70	-2.80	2.60
Kiribati	3.00	5.70	5.00	6.20	0.20	–
Marshall Islands	-15.90	-9.40	1.10	0.10	-0.90	1.70
Micronesia, Federated States of	-1.80	-5.10	-2.10	0.90	2.10	1.50
Palau	7.80	0.70	-5.20	–	–	–
Papua New Guinea	7.70	-3.90	-3.80	7.60	-0.80	-2.50
Samoa	7.30	1.20	2.40	2.60	6.90	6.50
Solomon Islands	3.50	-2.30	1.10	-1.30	-14.00	-5.00
Tonga	-0.40	0.10	2.40	3.10	6.70	3.00
Tuvalu	10.30	3.50	14.90	3.00	3.00	4.00
Vanuatu	2.50	1.50	2.20	-2.50	3.70	-0.50
Average	2.24	-0.98	1.27	3.20	1.26	1.26

– = not available. Data for Nauru and Niue are unavailable.
Source: Peebles 2004.

Figure 2.1: Per Capita Gross Domestic Product for Forum Island Country (constant 1995 US$)



Source: World Development Indicators.

This poor performance is echoed in a wide range of economic indicators discussed in Appendix 3, including fiscal weaknesses, low savings rates, high unemployment, high inflation in some FICs, and static or negative private sector performance. Appendix 3 also summarizes the consequences of this weak growth performance for FICs, in terms of poverty, inequality, and limited progress toward achieving the Millennium Development Goals.

Causal Factors and the Value-Added of Regionalism

Smallness and "External" Constraints on Growth[10]

There is strong evidence that the constraints imposed on FICs by their smallness and associated attributes—small populations, small domestic markets, remote and dispersed locations, narrow resource endowments, and frequent natural disasters—act, with governance weakness, as a constraint on growth. This conclusion counters a 2001 paper by William Easterly and Aart Kraay[11] of the World Bank that argued small states did not suffer from their smallness.

In order to evaluate these findings in light of the poor growth performance in the Pacific over the past decade, Sampson (2005) was commissioned for this report to reestimate the Easterly and Kraay regressions using more recent data (1995–2003) and a wider data set (197 countries and non-

sovereign states). His detailed findings and a broader discussion of the consequences of smallness may be seen in Appendix 4.

How might the supposed disadvantages of smallness have led to lower FIC growth in the past decade? One potential answer is that the costs of smallness are especially punitive for FICs, and that these costs have acted as a brake on investment, growth, and competitiveness. FICs also suffer from higher levels of remoteness than in any other region. Sampson (2005) found that remoteness had a strong and negative effect on growth.

Perhaps more importantly, like many small developing states, FICs have enjoyed preferential market access that has allowed them to overcome the cost handicaps of smallness and exploit sufficient value-added for economic activity to exist in their countries. This provides an assurance to investors that capital will earn sufficient returns in high-cost economies. In a preference-dependent economy such as the Fiji Islands, these resource rents from sugar alone total more than 50% of agricultural exports.[12] Since 1995, however, an ongoing process of multilateral and bilateral trade liberalization has continually eroded the value of market access in preference-receiving countries. The findings of Winters and Martins (2004) suggest that this decrease in the income transfer to small-state exporters will have a negative impact on growth given the large penalties to value-added in a competitive economy. Data for FDI suggest that the removal of preferences may have deterred investors, resulting in largely negative investment flows and low growth.

Poor governance and insecurity have undeniably lowered FIC growth. However, Sampson (2005) finds that dropping the three FICs that have experienced internal conflict since 1995 (Fiji Islands, PNG, and Solomon Islands) and reestimating the growth equations, improves the growth of the remaining Pacific countries only marginally. Overall growth is still significantly worse than that of any other region. This suggests that other factors not necessarily related to intra-FIC conflict and poor governance are constraining FIC growth.

State Failure and "Internal" Constraints on Growth

Apart from the constraint of small markets, low economic growth outcomes have undoubtedly been exacerbated by state failure in FIC economies. This is most clearly evidenced by the poor performance of state-owned enterprises and the weak private sector in many FICs. Extensive state interven-

tion in areas best left to the private sector has drained public resources and stunted the growth of commercial incentives. ADB (2004) concluded that "erroneous ideas regarding what role government should play have resulted in costly state involvement that exacerbates, rather than ameliorates, problems of geographical isolation and distance." While the lack of capacity of regulatory authorities is undoubtedly an issue, equally important is a lack of political will. In some cases conflicts of interest can block reform.

The Value-Added of Regionalism

To address external constraints on growth, regionalism can provide more lucrative economic opportunity for small economies. FICs are facing a new economic era of global liberalization. The added penalty of smallness implies that unless FICs are able to increase their market access—particularly for factors of production for which transportation costs are generally falling, such as labor—measures such as trade facilitation and investment climate reforms may yield only limited returns.

To address internal constraints on growth, regionalism can provide impetus to open protected markets and build market-friendly regulatory institutions. This is not to imply that widespread deregulation is a panacea for low FIC growth. In fact, in Chapter 4 it will be suggested that the former may easily worsen the latter. In certain sectors, however, especially where production structures or changes in the marketplace mean that small state governments will be clearly unable to provide adequate services or to regulate effectively, market liberalization and a regional approach to regulation merit further study.

Security

Security in the Pacific

Several FICs have seen marked deterioration in their security environments. Some FICs have been moving closer to being "failed states," with governments exercising less and less effective sovereignty over their national territories. In Solomon Islands, the deterioration was so severe as to warrant a regional intervention mission. The Melanesian states in particular—Fiji Islands, PNG, Solomon Islands, and Vanuatu—have all experienced considerable unrest and severe civil conflict in certain cases. This has demonstrated an indirect link between countries suffering from poor governance and those suffering from poor security. Other FICs such as Tonga and Nauru are showing signs of instability and, in the latter case, economic collapse.

Given that governance failures are often at the heart of security crises, the costs of governance (calculated in the Governance section above) can be considered analogous to the costs of insecurity. In certain cases, it is possible to isolate the additional adverse impact of civil unrest.[13] Duncan (2005) calculated that the unrest in Solomon Islands costs its citizens an additional US$260 million in lost GDP.

Most non-Melanesian FICs have seen periods of relative peace. Financial security, however, has become an increasing concern. Table 2.3 summarizes the risk ratings of several FICs covered by the Export Finance and Insurance Corporation (EFIC), an Australian government agency that provides insurance to exporters and issues its own ratings scale (1 to 6, 6 denoting a higher risk). It finds that in nine FICs exporters might encounter serious to moderate repayment problems.

Causal Factors and the Value-Added of Regionalism

Given the multiplicity of factors underpinning security outcomes, it is impossible to draw up a definitive list of every possible cause of the deterioration of security and stability in some FICs. However, a number of studies converge on a unique combination of factors posing a common challenge to FICs.

A Lack of Demographic "Safety Valves." Duncan and Chand (2003) note that the Melanesian states of Fiji Islands, PNG, Solomon Islands, and Vanuatu—those states which have seen increasing insecurity—differ from their Polynesian and Micronesian counterparts in at least one respect. While they share low economic growth and high birth rates, they do not enjoy easy migration to high-income countries. The resulting large pools of underemployed people pose a significant security risk, as they can be easily mobilized by disaffected elites.

Openness and Vulnerability. Like many small states, FICs have high ratios of landmass/coastline and trade/GDP. In some small states this openness provides trade and diversification opportunities. In others, when faced with weak capacity, this openness often translates into a high degree of vulnerability to external threats, such as arms trafficking, pest invasions, and drug/human trafficking. FICs face significant obstacles patrolling and controlling maritime borders and ports of entry. This is reflected in a growing number of potentially dubious economic activities such as money

Table 2.3: Forum Island Country Financial Risk Ratings by the Export Finance Insurance Corporation

Rating	Description	Pacific Countries and Territories	Other Countries
6	Serious problems already occurring	**Solomon Islands Nauru, Marshall Islands**	Timor-Leste, Angola, Nigeria
5	Serious problems likely (or already occurring)		Jamaica, Indonesia, Eritrea, Guyana, Kyrgyz Republic, Lao People's Democratic Republic, Sri Lanka, Viet Nam
4	Moderate problems possible (or already occurring)	**Cook Islands, Federated States of Micronesia, Fiji Islands, Papua New Guinea, Tonga, Vanuatu, Samoa**	St. Kitts, St. Lucia, Argentina , Brazil, Croatia, Ghana, Lebanon, Namibia, South Africa
3	Minor problems possible though unlikely	**Tuvalu, Kiribati, Niue, Palau,** Northern Marianas	Barbados, Malaysia, Thailand, India, People's Republic of China, Egypt
2	Very minor problems possible though unlikely	Tahiti, New Caledonia	Bahamas; Mauritius; Hong Kong, China; Republic of Korea; Taipei,China
1	Payment problems unlikely	American Samoa, Guam, Wallis and Futuna	Australia, France, Germany, Japan, New Zealand, United Kingdom, United States

1 = low risk, 6 = high risk.
Source: Export Finance Insurance Corporation Ratings as of 13 Jauary 2003, from Pacific Islands Forum Secretariat 2003.

havens, sex phone lines, Internet gambling, selling of spurious citizenships, flags of convenience, and video and CD piracy.[14]

Weak Capacity of Law Enforcement. In many FICs facing security problems, there is a general lack of trust in law enforcement institutions. In some countries these agencies suffer from limited training, low capacity to deal with sophisticated high-technology crimes, and deliver limited services to rural areas. The low salaries of police officers and poor governance at high levels of law and order institutions have fed corruption and abuses of law in some FICs to the point where police and military forces have in some cases been the direct cause of insecurity—either through abuse of power, selling weapons, or using extensive brutality.[15]

Ethnic and Social Tensions. Anere et al. (2001) make two important observations about the Pacific. First, arguably no other region in the world has such extreme cultural diversity. Less than 6 million people are divided among over 1,000 different language groups and at least as many cultural groups. Second, ethnic classification, like most social classification, changes with circumstances. Various ethnicities will come together in the face of a common threat, but when the threat subsides, each side is likely to fragment into its component parts. Like many other multiethnic societies, some FICs have suffered from protracted political opportunism, where domestic elites leverage ethnic and social differences to achieve political power or economic gain.

Land Disputes. Growing FIC populations have intensified pressures on land, leading to conflict among groups competing for an increasingly scarce resource. This has led to exploitation of increasingly marginal land, further reducing productivity in the subsistence sector. Many FICs have yet to develop systems to deal with land issues. This is once again an issue not necessarily linked to smallness, and thus very much within the resources of FIC governments. Anere et al. (2001) note that even land transferred between indigenous communities hundreds of years ago remains in dispute. Arrangements are not precise, are usually verbal, and misunderstandings are frequent. Previous attempts to register land have been highly contested and incomplete.

The Value-Added of Regionalism

Regionalism can have a strong value-added in security in three ways. First, *regionalism can provide safety valves for booming populations*. Experience has

shown that FICs with labor market access to Forum OECD members have experienced much less insecurity than other FICs. There are multiple issues on both sides that need to be addressed (these will be explored in Chapter 4). However, the need for demographic relief in some FICs is undeniable.

The second and third elements largely echo the governance arguments presented earlier. *Regional bodies can provide crucial capacity and training* to FICs, especially in law enforcement agencies, which are the most visible manifestation of security, or lack thereof. While regional institutions cannot change the basic geographic reality of strong external influence in FICs, pooling resources can help reduce vulnerability. Finally, *regional bodies can help mediate in conflicts and formulate appropriate solutions*. The experience of RAMSI has shown that regional approaches to security crises, rather than a purely bilateral one, can yield large benefits and increase the legitimacy of external interventions. Much like governance institutions, regional security institutions are often seen as more honest brokers for sensitive issues—such as land disputes and interethnic conflict—than external or domestic bodies.

Sustainable Development

Human Development in the Pacific

Composite Measures

Of all four Pacific Plan pillars, sustainable development is arguably the most fluid and all encompassing, with over 100 definitions to date.[16] The idea of sustainable development has broadened considerably from addressing mainly environmental issues to more recent formulations that address the interrelation between economic, social, and environmental goals. To avoid overlap with the other key goal areas of the Forum discussed in this chapter, this section will define suitable development as comprising

- environmental sustainability, including climate change, natural disasters, and natural resource management; and
- human development, including health, education, gender, and culture.

Cross-country data from the United Nations Development Programme (UNDP) suggest that most FICs have struggled to achieve a sustainable level of human development. Of the 175 countries surveyed by UNDP, Table 2.4 shows that only Palau, Cook Islands, and Niue have achieved median or above-median rankings. Three of the largest FICs (Vanuatu,

Solomon Islands, and PNG) are ranked toward the bottom of the scale. The average ranking is 110 out of 175.

Health[17]

Health indicators vary considerably across the Pacific, reflecting regional variations in development levels among Polynesia, Micronesia, and Melanesia. The health challenges of the Pacific can be generally divided into communicable/infectious diseases and non-communicable/lifestyle-related diseases. Throughout most of Melanesia and in parts of Micronesia people continue to suffer from infectious diseases usually associated with fast growing, low-income countries. FICs have thus far avoided, however, the worst effects of the global resurgence of previously dormant diseases such as malaria, measles, and tuberculosis. Nonetheless, PNG has seen several recent malaria epidemics with hundreds of deaths, and Vanuatu and Solomon Islands remain high-risk countries for malaria. UNDP (1999) found that influenza epidemics had severe impacts on productivity and on health expenditure, especially in 1996 (New Caledonia, Australia, New Zealand), in 1997 (Fiji Islands, Niue, PNG), and in 1998 (PNG).

Table 2.4: 1999 Human Development Index (HDI)—Forum Island Country Rankings

	Adult Literacy (%)	Combined Gross Enrollment	Life Expectancy at Birth (%)	GDP per Capita (US$)	HDI	Global HDI Rank
Palau	91.4	83.4	69.0	8,027	0.861	46
Cook Islands	93.2	84.8	72.0	4,947	0.822	62
Niue	97.0	83.6	74.0	3,714	0.774	70
Fiji Islands	92.9	81.3	66.5	2,684	0.667	101
Nauru	95.0	79.5	58.2	3,450	0.663	103
Tonga	99.0	83.3	68.0	1,868	0.647	107
Samoa	95.7	85.7	66.6	1,060	0.590	117
Tuvalu	95.0	74.0	67.0	1,157	0.583	118
Micronesia, Federated States of	71.3	71.4	65.7	2,070	0.569	120
Marshall Islands	74.4	71.7	65.0	1,182	0.563	121
Kiribati	92.2	67.8	61.6	702	0.515	129
Vanuatu	33.5	57.4	65.8	1,231	0.425	140
Solomon Islands	30.3	34.7	64.7	926	0.371	147
Papua New Guinea	28.2	28.6	54.0	1,196	0.314	164

GDP = gross domestic product.
Source: United Nations Development Programme 1999.

Perhaps the most worrying increase in infection rates is in sexually transmitted diseases, especially HIV/AIDS. There have been significant increases in HIV cases throughout the region, and in PNG in particular, where the disease is reaching an epidemic "takeoff" point. A recent AusAID study[18] found that estimates of infection rates ranged between 6,000 and 20,000 people, and surveillance updates showed a 48% increase in just 1 year. AIDS is already the major cause of death at Port Moresby General Hospital.[19] A general equilibrium scenario estimated that in a high-case scenario, PNG could lose up to 40% of its labor force and 8% of its GDP.

For most FICs, however, noncommunicable and lifestyle-related diseases remain the biggest health challenge. High rates of diabetes, hypertension, and heart disease—associated with diet and lifestyle, together with cancer, asthma, other chronic obstructive respiratory diseases—have become leading health problems. Type II diabetes has doubled in the region since the 1970s, and the prevalence of obesity is the highest in the world. The diabetes rate in the Marshall Islands is 50% of the population over the age of 50.[20] The case of the Fiji Islands, summarized below from UNDP (1999), provides a sobering warning that is increasingly echoed across the Pacific.

> Some non-communicable diseases have reached epidemic levels in some countries, including diabetes; in Fiji, diabetes cases occupy 15–20 per cent of all hospital beds. Hypertension and other circulatory diseases are also on the fast rise, fuelled by diets high in fats and sugar. Other than its related illnesses, alcohol abuse figures in the number of deaths from accidents and violence. Improved health services and environmental health may therefore improve child survival but not overall life expectancy if more otherwise healthy adults succumb to lifestyle diseases in middle age or die as a result of unhealthy eating, drugs, alcohol, or bad driving.

Education

Trends in education indicators are mixed.[21] Reported rates of net primary school enrollment for FICs are well in excess of the average figure for developing countries. Rates do vary significantly, however, with a low of 56%. However, there are significant weaknesses in both the quality of education (low basic numeracy and literacy rates) and the duration of education (high rates of dropout and repeaters). South Pacific Commission (2004), summarizing the results of a Pacific Islands Literacy Test conducted in 11 FICs, found that proxy measures, such as completion of primary school for literacy

> …suggest that eight PICs have achieved literacy rates of 90% or higher between 1990 and the present. More direct measurements of literacy have returned significantly different results, and these suggest that there is a high level of "hidden illiteracy" resulting in a significant proportion of children completing school but still lacking basic literacy skills.

It is worth noting that education services suffer acutely from the dispersion and isolation of FICs. The example of the Cook Islands is given in UNDP (1999), which noted that if the entire Cook Islands' population lived together, the country would need only one or two middle-sized primary schools and one large college. Instead, to service the many, widely scattered islands, the country has 19 primary schools, 9 colleges, and 6 high schools, with obvious implications for the cost-effectiveness of the education system.

Beyond basic skills, there appears to be a shortfall in many FICs between skills provided to school-leavers and those required by the labor market. UNDP (1999) found that many school-leavers found they had inadequate or inappropriate skills for the few wage jobs that were available, for agricultural work, or for other types of livelihood.[22] Most lack opportunities to upgrade their skills because too few nonformal training programs are available. A large proportion of dropouts cite financial constraints as the main reason for noncompletion of school, illustrating the interplay between low economic growth, low skills training, and gaps in the labor market.

A growing challenge for FICs is providing nonformal education alternatives, such as vocational and technical training. These alternative facilities are often few and far between, and their output is not adequate to address either the needs of school-leavers or the demands of the labor market.[23]

Social Equality

A similarly mixed picture among FICs is found for gender equality. In education outcomes, data from the Secretariat of the Pacific Community (SPC) (2004) indicate that the ratio of girls to boys in primary school is currently above 80 per 100 in all PICs for which data are available. The ratio reaches 90 or above in nine PICs. Similarly positive trends are found for tertiary education, with increasing female-to-male ratios at University of South Pacific campuses. Low ratios persist, however, in tertiary and secondary schools in PNG and Solomon Islands.

Economic and employment outcomes, on the other hand, are somewhat correlated with overall levels of development, but escape easy classification. Table 2.5 shows countries with high percentages of women in paid employment can exhibit vast differences in percentages of women in administrative and managerial positions. The differences between Kiribati and Nauru in these two categories are 5% and 60%, respectively. Nonetheless, evidence suggests that discrimination against women in employment is widespread, as shown by case studies of the Fiji Islands in UNDP (1999), and the low average share of women in nonagricultural sector employment (36% in 2000).

Environmental Sustainability

Climate Change and Natural Disasters

FICs face potentially large and negative economic impacts from climate change. A joint report from the South Pacific Regional Environmental Programme in collaboration with the Global Environment Bureau of the Japanese Ministry of the Environment[24] found that many FICs are already

Table 2.5: Employment Status of Women in Forum Island Countries

	Women as % of overall population	Women as % of economically active population	Women as % of people in paid employment	Women members of parliament	Women as % of administrative and managerial positions	Women as % of professional and technical jobs
Cook Islands	48.5	52	42	1	32	47
Fiji Islands	49.2	33	24	8	10	37
FSM	49.0	35	32	0	15	32
Kiribati	50.5	43	46	0	9	42
Marshall Islands	48.8	27	22	7	32	
Nauru	48.8	41	41	0	69	58
Niue	49.5	44	41	1	32	45
Palau	46.5	39	38	0	24	24
PNG	47.2	42	18	2	12	30
Samoa	47.6	46	19	2	12	47
Solomon Islands	48.1	49	48	1	27	27
Tonga	50.2	51	21	0	19	44
Tuvalu	51.5	33	38	0	16	46
Vanuatu	48.5	49	46	0	13	35

FSM = Federated States of Micronesia, PNG = Papua New Guinea.
Source: United Nations Development Programme 1999.

experiencing disruptive changes consistent with many of the anticipated consequences of global climate change. These include extensive coastal erosion, droughts, coral bleaching, more widespread and frequent occurrence of mosquito-borne diseases, and higher sea levels that make some soils too saline for cultivation of traditional crops. More worryingly, the report found that while many countries were developing adaptive mechanisms to deal with these changes, anticipated future trends implied that FICs would become increasingly vulnerable to food insecurity and reliance on imported food.

FICs are particularly at risk from natural disasters, varying according to their particular geography (Table 2.6). Contrary to assertions made in the small states debate that natural disasters do not have a significant economic impact, impacts of natural disasters on Pacific island economies are evident from property losses and macroeconomic indicators such as GDP growth patterns. UNDP (1999) found that for several years after Cyclone Uma in 1987, for example, Vanuatu had a real growth rate of -9%. In Samoa, cyclones Ofa (1990) and Val (1992) caused real growth rates to drop to -7.5%, -27.9%, and -4.3% in 1990, 1991, and 1992, respectively. Similarly, substantial declines in GDP growth in the Fiji Islands have followed severe natural disasters.

Table 2.6: Forum Island Country Vulnerability to Natural Disasters

Country	Cyclone	River Flood	Tsunami	Earth-quake	Landslide	Drought	Coastal Flooding
Cook Islands	M	M	M	L	L	H	M
Fiji Islands	H	H	H	M	H	H	H
Kiribati	L	–	L	L	–	H	H
Marshall Islands	M	–	L	L	L	M	H
Micronesia, Federated States of	M	L	H	L	H	H	H
Niue	M	–	L	M	L	H	L
Palau	M	–	H	L	–	M	H
PNG	L	H	H	H	H	M	H
Solomon Islands	M	H	H	H	H	L	H
Tonga	H	M	H	M	L	H	M
Tuvalu	M	–	–	L	–	H	H
Vanuatu	H	H	H	H	H	M	H
Samoa	M	H	H	M	H	L	H

FSM = Federated States of Micronesia, PNG = Papua New Guinea.
Risk Ranking: L = Low, M = Medium, H = High, – not relevant.
Source: United Nations Development Programme 1999.

Management of Waste and Natural Resources[25]

Waste management and pollution are widely recognized as major sustainable development challenges facing the Pacific. The rising volumes of solid, hazardous, and toxic waste in the region are putting increasing strain on the limited land area and often-inadequate mechanisms and technologies available for their safe disposal. Although these issues are felt most acutely in the lower-lying atolls of Polynesia and Micronesia, there is evidence that even larger Melanesian countries are beginning to feel the impact of poor waste management. Recycling initiatives have been hampered by financial constraints and lack of awareness. Solid waste runoff is increasingly threatening freshwater sources lying under some FICs, causing a direct health threat to drinking water supplies.

Given the abundance of marine, agriculture, forestry, and mineral resources found in the region and the limited capacity of FIC governments, effective natural resource management has been an ongoing struggle for many FICs. Regional organizations such as the Pacific Regional Environment Programme and the Forum Fisheries Agency have been actively involved in promoting natural resource management and harmonization of national-level practices with the many international objectives and conventions relating to the environment. Despite these efforts it is clear that in many FICs resources have not been exploited at a sustainable rate. Concerns relate to the following.

- **Coastal and Marine Resources**: FICs have seen declining fisheries productivity from overharvesting, reduced access of traditional users to fishing grounds, and increasing environmental damage due to shoreline development.
- **Freshwater Resources**: Poor solid waste management and poor data and knowledge of groundwater systems have resulted in serious problems in maintaining and monitoring water supply quality.
- **Forestry**: Increasing population pressures, unsustainable logging practices, and inefficient processing of forest and tree resources have resulted in widespread depletion of timber and forest stocks. Corruption is a concern in the forestry sectors of some FICs. A report by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)[26] found that licenses have been granted to harvest up to 97% of the existing rainforest in Solomon Islands. The same report found that villagers living near unsustainably exploited forests suffered from pollution of drinking and bathing water.

- **Mineral Resources**: PNG, Fiji Islands, and Solomon Islands contain world-class mineral deposits, which contribute significant levels of export earnings—32% of total earnings for PNG (1997), 30% in the Solomon Islands (1998), and 9% in Fiji (1998). However, mining operations, such as Bougainville in PNG, have been the subject of concerns over both environmental degradation and social conflict.

Developments in the forestry and mining sectors suggest that FICs, particularly those in Melanesia, are prone to the so-called "resource curse," in which abundant natural resource revenues fail to contribute to broad-based economic growth.

Causal Factors and Value-Added of Regionalism

There is a significant lack of analytical tools available to assess cause-and-effect issues related to sustainable development. This is due not only to definitional problems, but also because causal mechanisms underlying many specific sustainable development issues—gender, health, youth, poverty, inequality—are still very poorly understood. For the Pacific in particular, the lack of analysis greatly complicates any attempt to formulate effective policy proposals or to assess the full cost of unsustainable development.

This caveat aside, one common thread emerges from the analysis: capacity constraints limit the ability of FICs to respond to sustainable development challenges appropriately, suggesting a strong value-added for regional bodies. Many FICs simply lack the resources to handle the multiplicity of external threats, such as communicable diseases and natural disasters, on their own. Strengthening regional systems to handle these threats, many of which are common throughout the region, can yield benefits for FICs.

For some "internal" threats, such as unsustainable resource management, governance constraints play a clear role. For example, FIC bodies dealing with resource management often suffer from chronic institutional weakness. Providing these institutions with skilled expertise—free from political interference—and institutional objectivity will not solve governance weaknesses, but it can provide transparency and adoption of more appropriate policies. Regional bodies are ideally placed to play a role in such assistance. For literacy and noncommunicable diseases, where governance considerations do not weigh heavily, regional institutions can provide crucial capacity and intercountry networks that national governments would be unable to provide.

Summary: The Erosion of Effective Sovereignty in the Pacific

Falling Short of the Leaders' Vision

Chapter 2 has attempted to document, as far as data constraints allow, the serious challenges facing the Pacific region. Using the four pillars of the Pacific Plan as a guide, it was found that FICs face relatively low levels of governance, low economic growth, growing insecurity, and a lack of sustainable development. Data suggest that shortfalls in the four pillars are not exclusively a Melanesian problem, as some media reports have suggested. It is clear that in many FICs, the Forum Leaders' Vision of a "region of peace, harmony, security and economic prosperity" is an increasingly unlikely scenario, even in the longer term.

Faced with an increasingly complex array of external and internal challenges, and with policy and capacity constraints in a globalizing world, FIC governments are experiencing difficulties in meeting their two essential sovereign functions:

- Formulating and enforcing effective, appropriate national policies; and
- providing essential services such as health, education, and policing.

In a growing number of sectors, from education to law and order, the ability of many FIC governments to execute both functions is diminishing. Effective sovereignty—the ability of FIC governments and citizens to effectively carry out policies they themselves have chosen—is diminishing, even while nominal sovereignty remains intact.

It is suggested that poor governance and low growth have imposed the largest quantifiable cost on FIC citizens, governments, and development partners. Unless steps are taken in FICs to strengthen the legitimacy and effectiveness of public institutions and generate resources for development, it is difficult to see how security and sustainable development are achievable goals. This is not to suggest that the latter two pillars are unimportant, merely that governance and growth are essential preconditions for security and sustainable development. Given the limited resources in the region, governance and growth must be priority challenges for regionalism to address.

A Rationale for Regionalism

It was found in Chapter 2 that some of the challenges facing the region can be linked to smallness and the capacity constraints facing FIC governments. In other cases, the lack of objectivity and appropriateness of institutions has made them easy to capture by domestic (and foreign) elites, eroding political will for beneficial change. This suggests that regionalism can play a key role in several respects, such as

- overcoming capacity constraints;
- providing adequate distance from both internal (societal) and external (donor) pressures;
- providing more legitimate forums for the design of appropriate, "Pacific-owned" institutions;
- providing demographic "safety valves" and more lucrative economic opportunity for small markets; and
- mediating in regional crises and conflicts.

This analysis, while potentially useful, still leaves many questions unanswered. Out of the countless areas in which regional action potentially could be undertaken, what sort of interventions should be undertaken? In precisely what areas and in what time frame? The following chapters attempt to answer these questions.

ENDNOTES

1 World Bank. 2004. *Development Report*. Washington DC: World Bank; and World Bank. 2003. *Development Report*. Washington DC: World Bank.

2 Cole, R.V., ed. Pacific 2010: *Challenging the Future*. National Centre for Development Studies. Canberra: Australia National University.

3 Based on four surveys, Papua New Guinea (PNG) scores 2.6 out of 10 (a higher score denotes less perceived corruption), and is ranked 102 out of 146 countries surveyed (1 is least corruption).

4 Asian Development Bank 2004. The assessments covered Fiji Islands, Federated States of Micronesia, PNG, Samoa, Tonga, and Vanuatu (country level), and Fiji Islands, Kiribati, Solomon Islands, and Vanuatu (community/local level).

5 Note: all figures discussed in the following section are in constant 1995 US dollars unless otherwise indicated.

6 Hunt, C. 1998. *Pacific Development Sustained: Policies for Pacific Environments*. Pacific Policy Paper 32, Australian National University. Canberra: Asia-Pacific Press.

7 From their cross-country analysis, Chauvet and Collier estimate that civil unrest costs an economy an additional 3.8% of gross domestic product output for each year of the unrest. Therefore, in estimating the costs of poor governance in Solomon Islands for the period 1978–2003, an additional 3.8% was added to the per capita gross domestic product (GDP) for each year from 1997 to 2002. See Duncan (2005) for further details.

8 Australian Agency for International Development (AusAID). 2005. *Official Expenditures at the Activity Level*. Canberra: AusAID.

9 Peebles 2004.

10 This section draws heavily from Sampson (2005).
11 Easterly, W., and A. Kraay. 2001. Small States, Small Problems? Income, Growth and Volatility in Small States. In *Small States in the Global Economy*. Edited by D. Peretz, R. Faruqi, and E. J. Kisanga. London: Commonwealth Secretariat.
12 Grynberg, R., S. Silva and J.Y. Remy. 2004. Plurilateral Financial Standards and Their Regulation at the WTO—The Experience of Small Developing States. *Journal of World Investment and Trade* 5:3 (June).
13 From their cross-country analysis, Chauvet and Collier estimate that civil unrest costs an economy an additional 3.8% of GDP output for each year of the unrest.
14 Anere et al. 2001.
15 Pacific Islands Forum Secretariat 2001.
16 For a partial listing, see http://www.gdrc.org/sustdev/definitions.html.
17 This section summarizes the findings of United Nations Development Programme (UNDP) (1999).
18 Australian Agency for International Development (AusAID). 2002. *Potential Economic Impacts of an HIV/AIDS Epidemic in Papua New Guinea*. Canberra: AusAID.
19 See Panagelian, Lourdes. 2004. New Momentum in the Fight Against HIV/AIDS. *Pacific Magazine* (July). Available: http://www.pacificislands.cc/pm72004/pmdefault.php?urlarticleid=0020.
20 Whitney, Scott. 2003. Prognosis: Guarded: Pacific Governments are Grappling with Health Threats. *Pacific Magazine* (July). Available: http://www.pacificislands.cc/pm72003/pmdefault.php?urlarticleid=0009.
21 This section draws heavily on Secretariat of the Pacific Community (SPC) (2004).
22 In Solomon Islands in 1996, for example, an estimated 10,000 primary and secondary school leavers were looking for jobs, but for every available wage job at least 10 people were unemployed (UNDP 1999).
23 A survey in the Fiji Islands, summarized in UNDP (1999), found that of eight major non-formal vocational programs, 10,950 applications were received in 1998 for a total of only 4,850 available places. Similarly low capacity and student numbers were found in rural training centers in PNG (11,200), Solomon Islands (1,900), and Vanuatu (300).
24 South Pacific Regional Environmental Programme 2003.
25 This section draws from Barbados Programme of Action. 2003. A Synopsis of Sustainable Development in PICs: The Pacific Regional Assessment and Position for BPOA+10. Version 9th,December. Mimeo.
26 United Nations Economic and Social Commission for Asia and the Pacific. 2000. *Review of the State of the Environment of the Pacific Islands*. Available: http://www.unescap.org/mced2000/pacific/SoE-pacific.htm.

Chapter 3
The Economics of Clubs

Introduction

> Although individual motivations may vary, people join together to form collective organizations because they believe that greater benefits are available to them through collective action than when they act alone. People might desire collective action to control negative externalities or to encourage the production of positive externalities and public goods. The motivation for collective action is to do things that benefit the people in the collective organization. Although this may seem too obvious to state, it is worth a remark because it provides a way to evaluate the results of collective action. Collective action is successful to the extent that it improves the welfare of those who participate in it. [1]

The evaluation of any grouping—economic, social, or political—begins with a branch of economic theory known as the theory of "clubs." There have been over a hundred individual contributions to club theory since the seminal 1965 paper by James Buchanan.[2] Yet the fundamental lesson, captured in the quote above, remains constant: if a grouping is voluntary, participants must benefit individually, or else the collective disintegrates.

Individual members assess the costs and benefits of joining a collective effort. The sum of these individual decisions dictates whether a grouping is successful or not. Clubs are no different from other goods. Their viability depends on meeting demand from consumers, whether they be governments, firms, or citizens. Despite this singular conclusion, many different clubs exist at many different levels, from small voluntary cooperatives to large intergovernmental institutions. This variety exists because different

sized clubs have different characteristics that make them amenable to groupings of different sizes.

The essential element of club theory is that any collective endeavor requires two conditions to be satisfied. First, the club must be self-sustaining. More technically, the additional benefit each member receives from joining equals the cost to the club of allowing another member. Second, the club must provide benefits for each of its members. That is, each member must see an incentive to join a club even if it causes the club to become larger and more costly. This basic conclusion has remained unchanged in over a hundred theoretical contributions since it was first presented in the original Buchanan paper.

Club theory has been applied to a wide range of contexts, including military alliances, international organizations, cross-border infrastructure, and services. This chapter will explore some basic concepts of club theory and offer a number of lessons for the design of club goods in the Pacific region.[3] The chapter will conclude with a historical overview of clubs in the Pacific.

Club Theory in the Pacific Country Context

A number of theoretical adjustments are needed to draw useful lessons for Pacific regionalism from a standard club theory, as outlined in Appendix 5. The theory needs to be adjusted for the following facts:

- club members in the Pacific are countries, not private individuals;
- while potential congestion costs of clubs are important, costs of overcoming distance arguably matter more for the Forum membership; and
- there is a high degree of diversity of incomes and socioeconomic characteristics among Pacific countries.

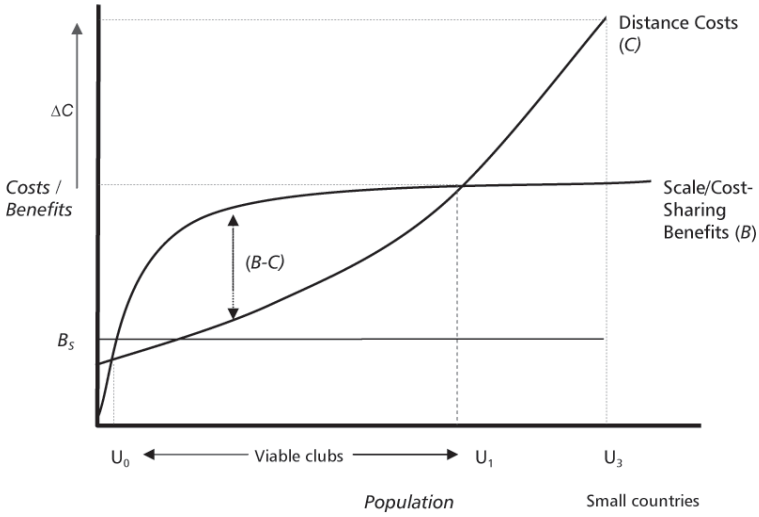
Costs and Benefits of Joining a Pacific Forum "Club"

The trade-off between costs and benefits when joining a Forum "club" are shown in the figure on next page. This graph has four features.

- The horizontal axis ranks countries in decreasing order of population size. Thus larger Pacific countries (Australia, PNG, New Zealand, Fiji Islands) are on the left-hand side of the horizontal axis, and the smaller countries (Niue, Nauru, Tuvalu, Palau) are on the right-hand side.

- While congestion costs for Forum clubs are possible—especially if there is a significant expansion in membership—it is unlikely that congestion will be a major constraint. The high cost of shipping goods, services, and people across the region—the so-called diseconomies of isolation—are a much more relevant constraint for Pacific clubs.[4] These costs are denoted by the C curve in the figure. Given that travel between even the large Forum countries is costly, the diseconomies of isolation are significant even when the number of countries is small. These diseconomies increase exponentially as the smaller and more remote countries are included.[5]
- The benefits of collective action (economies of scale) are shown by curve (B). When large countries join together to produce a club good, there is a large initial increase in scale benefits. As smaller and smaller countries join, these scale benefits remain positive but diminish until they are virtually flat as the club incorporates the smallest countries.
- Any country wishing to join a regional club will incur costs in switching from national to regional goods. These forgone benefits potentially include the economic benefits of trading in sovereignty-related services (finance centers, flags of convenience, and passports), the political benefits of homogeneous societies (ethnicity, etc.), and the benefits of autonomous policy making and implementation. All of these costs, denoted by B_S, can be considered one-off and are irrespective of the size of the regional club.

Cost-Benefit of a Forum "Club"



The optimal size of a club is found by the optimal balance between the economies of scale and the diseconomies of isolation, at the intersection of the B and C curves. Interestingly, there are two optimal club sizes, U_0 and U_1. At U_0, there is a low cost of provision as only large countries are members. However, the corresponding benefits are also low. At U_1, more countries mean higher costs. The benefits are also higher, however. In between U_0 and U_1 lies a spectrum of viable clubs where the net benefits of collective action are still positive. The basic lesson here is that several clubs of different sizes are possible, but the trade-off remains the same.

If the Forum membership decides to include all members (that is, increase membership size to U_3), inevitably the diseconomies of isolation will be higher than the economies of scale. This implies that a transfer will be required, from an external source such as a donor. This transfer is denoted by $\triangle C$.

How do the benefits of sovereignty fit into the picture? These benefits vary for each country and are denoted for a representative country in the figure by B_S. At the outset (U_0) the club may be attractive but its benefits low. Thus sovereignty remains the most rational choice. As the club grows in size, its net benefits provide a stronger and stronger pull until they rise above the benefits of sovereignty. At that point, a country should elect to join the club.

Heterogeneous Clubs

An important aspect not explicitly included in the figure is the question of financing—who pays for the club good? In a standard club theory, the collective good is financed by equal, lump-sum contributions. What happens when users are not homogenous?

The Pacific Islands Forum clearly constitutes a heterogeneous club, with a wide diversity in incomes. The decision of whether a club is attractive to a given country thus depends crucially on whether the country is a net donor or a net recipient. Donor countries, such as Australia and New Zealand, are assumed to be large enough to not require the club good. However, as a donor they shoulder the costs of the collective good, and as more and more remote countries are joined together, the cost of maintaining the club rises sharply. Thus the decision to join, for a donor country, depends on the benefits they derive (however indirectly) from funding the club good, balanced against the costs of funding the good plus the

sovereignty they must forego to join the club. For recipient countries, such as the FICs, the situation is much different. Once the club's scale benefits rise above sovereignty benefits, there will always be positive demand from recipient countries, since the recipient countries do not shoulder any of the costs of the club good.

This donor-recipient relationship modifies the conclusion of basic club theory in one important aspect: higher-using members no longer pay the highest rates of toll. In fact, the poorest countries (those least able to pay) will be most likely to make use of the club. This cost asymmetry can undermine decisions about how best to use club resources. The basic formulation, where each member pays in proportion to the amount of use of the club good, ensures that their decision to join is closely linked to a rational assessment of individual needs vis-à-vis the benefits of the club. If, however, a donor member is subsidizing (completely or even partially) the club good, there is a strong—even rational—incentive for a recipient country to join the club even if it does not require its services. While a larger club may be desirable, it intuitively increases costs for the donor, and increases congestion costs among the club membership.

Clearly, developing a toll system that more closely reflects economic costs would constrain this excess demand, but it is also likely to induce exit of marginal users from the club. This implies that the design of club goods—the incentives for members to join, and the way in which they work together—is essential, especially where membership is very heterogeneous.

Historical Overview of Five Pacific Island Clubs

How has this analysis of club theory played itself out historically in the Pacific region? Over the last 30 years there have been numerous examples of both successful and unsuccessful "clubs." Some have been created voluntarily in the postindependence era, and others unintentionally by metropolitan powers as decolonization ebbed in the last quarter of the 20th century.

What is fascinating about the diverse clubs is that some have proven remarkably durable and sustainable, while others have been sources of instability. The experience of Pacific countries as colonial constructs that crossed widely different groups (ethnicity, politics, geography) is mixed. Some, despite occasional separatist rumblings, have stayed together, while others have failed. Some of the postindependence voluntary clubs formed

by sovereign Pacific states have remained durable. A review of both experiences will be useful as lessons learned may well instruct consideration of options for a new type of Pacific regionalism.

If one considers a democratic state as a “club,” that club is held together because the advantages of membership stem from the net economic benefits that are accrued to each citizen, and to powerful groups in each country. When a group of citizens feels they are not benefiting from membership of a particular club, they may well attempt to exit the club. As long as membership of a club is based on voluntary agreement, not coercion, there may be no significant exit costs for a group to leave and form a separate entity. In reality, of course, many democratic nation-states are reluctant to allow separation of a group, particularly when the nation-state feels that allowing separation will provide a precedent for further separatist movements, or when the nation-state gains significantly from economic activity in the territory seeking sovereignty. In such cases, sovereignty—or “exit from the club”—can be associated with very high costs, often in the form of armed conflict.

At independence in the Pacific, a number of sovereign "clubs" were created with the support, recognition, and aid of the international community. These were frequently subeconomic in size, with the added disadvantage of physical dispersion of small populations and isolation from major markets. In the most disadvantaged of these nation-states, even aid and trade preferences were insufficient to induce competitive economies. Whatever benefits derived from the global economy came in large measure from remittances, aid, and migration, and from the trade in sovereignty-related services such as finance centers, flags of convenience, and philatelic sales.

Ethnic diversity does not necessarily create the preconditions for the appearance of separatist movements. There have been numerous historical examples in the Pacific and elsewhere where ethnically diverse “clubs” have managed to stay together successfully and flourish. The lessons of success and failure in the Pacific are telling and instructive for those seeking to build a durable regionalism that goes beyond the regional cooperation of the past three decades. In the examples below, diversity, especially ethnic diversity, is a given. What is not a given is the economic benefits of voluntary association in one or other club.

Kiribati and Tuvalu

This is perhaps one of the most interesting historical club experiences in the Pacific. While it is an example of an unsuccessful colonial club, the lessons derived for modern attempts at deepening regional integration could not be greater. Near the end of the colonial era in the late 1970s, present-day Tuvalu was the Ellice Islands part of a British dependency called the Gilbert and Ellice Islands Colony (GEIC). The Ellice Islands were Polynesian. While this made them distinct from the Gilbertese population, such diversity was not uncommon among other Pacific countries. In 1975, however, the Ellice Islands decided to separate from the GEIC prior to independence. The division was achieved amicably through a vote of the population and no serious conflict, armed or otherwise, occurred during the separation.

What is instructive and important is that Tuvalu's separation broke up one subeconomic and very remote unit, the Gilbert and Ellice group, into two even smaller and remote units. This occurred first by its separation from the GEIC in 1975, and was confirmed by Tuvalu's independence in 1978. Tuvalu's independence had always appeared from an economic point of view as irrational because it was clear that Tuvalu would never be sufficiently large to be a viable economic entity. However, with the benefit of hindsight and some understanding of "clubs," Tuvalu's independence was indeed rational. Furthermore, on a net basis this decision was beneficial to not only the political classes in Tuvalu, but to the population as a whole. Tuvalu had a choice of staying in a club that would nonetheless be subeconomic in size, or gaining the sovereignty benefits of forming a club that was even more subeconomic. In the language of economics, the benefits of sovereignty were greater than the cost of the diseconomies of scale associated with that sovereignty.

In retrospect, Tuvalu chose wisely. The commercial value of sovereignty has provided considerable economic benefits—e.g., the sale of its ".tv" domain name, philatelic sales, and fees from fishing fleet access to tuna resources in its exclusive economic zone. Perhaps the most significant benefit has been aid levels that would otherwise not be available to a group of outer islands. Tuvalu, like many smaller Pacific countries, has little else in terms of tradable resources and remains understandably reluctant to sacrifice the commercial aspects of sovereignty. However, there is a slightly larger lesson to be learned from the history of the dissolution of the GEIC than just the economic benefits of sovereignty.

The language of physics rather than economics can better explain the dissolution of the GEIC. While the Gilbert Islands, or Kiribati, is large relative to Tuvalu, its basic economic and political magnetism was not such that it could overcome the twin centrifugal forces of Tuvaluan ethnicity and the economic benefits of sovereignty. Had Kiribati been considerably larger and the pool of economic benefits from club membership been significant for Tuvalu, then these centripetal forces may well have overcome the twin effects of ethnicity and the benefits of sovereignty. This was not the case.

There was, however, another factor that must be considered in properly understanding the economics of the breakup of the Gilbert and Ellice "club." As we shall see below, one of the significant benefits of being part of a larger club stems from the economic benefits of being able to move to a much larger unit and seek gainful employment. It is this source of magnetism that has been one of the main reasons why so many ethnically diverse entities have not broken up. However, Tarawa (the Kiribati capital), as any Tuvaluan would have reasonably calculated at the time of independence, was unlikely to become the source of the gainful employment and opportunities that are found in such places as Suva, Auckland, Sydney, or Honolulu.

Fiji Islands and Rotuma

The relationship between Rotuma and the Fiji Islands is in many ways historically similar to that which existed between Kiribati and Tuvalu. Rotuma, like the Lau group of islands, is Polynesian. Unlike the Lau group, it was not traditionally or ethnically part of the Fiji Islands. Rotuma was part of the Fiji Islands for the convenience of the British colonial administration in Suva. Rotuma, however, despite sporadic secessionist rumblings both before and after the 1987 coups, has never seriously sought independence from the Fiji Islands.

Why has the experience been so different from that of Tuvalu? First, like the Tuvaluans, the Rotumans and Lauans were among the most educated groups in Fiji Islands. Both before and after independence, they have played key roles in the public service. This would intuitively bring pressure for secession. Secondly, Suva has always been an economic magnet for Rotumans, with some 70% of the population living on the main islands of Vitu Levu and Vanua Levu, and only 2,600 living on the island of Rotuma itself. Tarawa was similarly a magnet for Tuvaluans in the days of the GEIC, as Tarawa was the seat of government and the Tuvaluans dominated GEIC civil service. The difference lies in the nature of the magnetism. For

Rotumans in the Fiji Islands, there is the additional pull of nonpublic sector economic benefits that were unavailable to the Tuvaluans in the old GEIC, where the civil service was the largest employer. Independence from the Fiji Islands would have cut Rotuma off from that pool of economic benefits that accrue to a population from movement to a relative metropolis such as Suva.

Another significant example of the principles applying between Rotuma and Fiji Islands occurs between the two small islands of Renell and Bellona in Solomon Islands. Rennel and Belona are Polynesian islands in the very heart of Melanesia. Once again ethnic differences have been present, but the small economic opportunities (compared with, say, Nauru) on these two tiny islands never made an economic case for separation viable. Indeed the presence of a large part of the Polynesian population at White River (the outskirts of the capital Honiara) means that, in the language of physics, Honiara had sufficient economic magnetism to keep ethnically diverse groups in one club.

Cook Islands, New Zealand, and Niue

Perhaps one of the most important examples of a stable club where there is no intention or real movement toward exit is the agreements of free association that exist between both Niue and the Cook Islands, and New Zealand. The residents of both island groups are Polynesian, and Cook Islanders are related to the Maori. The agreements provide the two island groups with relative autonomy in all areas except foreign policy and defense. The most significant economic benefit that accrues to Niue and the Cook Islands is that their inhabitants remain New Zealand citizens with the right of residence in New Zealand and, by extension, in Australia.

This arrangement has meant that the vast majority of both islands' population live in New Zealand. The free movement of people between Cook Islands and New Zealand has been an important safety valve for the former when it faced serious retrenchment in the public service in the late 1990s. Migration allowed Cook Islands to remain politically stable in the face of economic hardship.

The islands' relationship with New Zealand also brings practical problems. Depopulation stemming from unfettered migration has brought both Niue and some of the outer Cook Islands to the very edge of economic viability as sovereign entities. This, too, is an important lesson for a sustainable path to development of a region with limited economic

opportunities. If Pacific countries form clubs with much larger economic entities, they need to ensure that while movement of persons strengthens the relationship between them, dysfunctional and unsustainable relationships that result in depopulation are avoided.

Pacific Islands Forum

One of the most successful and enduring "clubs" formed voluntarily by sovereign Pacific countries, together with Australia and New Zealand, has been the Pacific Islands Forum. While obviously not a sovereign entity, it has been a strongly supported "club" since its creation in the wake of French nuclear testing in the Pacific in the late 1960s and early 1970s, when the newly independent states were unable to discuss these issues in the context of the South Pacific Commission. The Forum has endured over a period of 34 years as a club of sovereign states that, by and large, has not interfered directly with the sovereignty of its members. Agreements are generally exhortatory in nature.

In large measure the funding of the regular budget of the Forum has been based on a formula that is related to GDP. Consequently, the bulk of financial responsibility for funding the organization has been left to Australia and New Zealand. FICs have shown a reluctance to bear a greater cost of the Forum, and other regional organizations.

Forum activities are currently in the areas of political and legal affairs, trade relations, and economic affairs. It is in the area of trade negotiations that the Forum has played a vital role in establishing a path to regional integration. It has also handled negotiations of Economic Partnership Agreements with the European Union. At another level, the Forum now has representative trade missions in Auckland, Sydney, Beijing, Tokyo, and Geneva. The first four of these are purely commercial in nature, while the office in Geneva exists due to the absence of diplomatic representation of any FIC at the World Trade Organization.

Forum activities have expanded over time to include those that complement the sovereign activities of its members. The Forum-endorsed Regional Assistance Mission to Solomon Islands, for example, was done with agreement of Solomon Islands.

The lessons of the Forum as a club for Pacific regionalism are that it has succeeded to the extent that it has complemented sovereignty of its

members. In other words, the political costs imposed have been low. At no point has the Pacific put its members to the test of imposing sanctions for failure to abide by agreed principles in the way of the Commonwealth's Harare Declaration. Thus the durability of the Forum to this point rests in its consensual approach that offers no substantive challenge to its members, and very low operating costs for FICs. Whether such a voluntary and consensual approach to regionalism can be sustained in the longer term remains to be seen. This is the subject of the following chapter of this report.

Summary: The Lessons of Club Theory for the Pacific

Several important lessons for Pacific regionalism can be drawn from the preceding analysis.

Intervene regionally only where there are significant economies of scale, and avoid interventions where there are significant costs associated with isolation. Given the high fixed costs of setting up regional goods and the high variable costs of servicing remote countries, the diseconomies of distance begin to increase exponentially once provision is moved outside a small circle of closely grouped countries. This implies that the universe of club goods that are sustainable for the Forum membership is quite limited. Given that many Pacific countries are small and isolated, only club goods that yield large-scale benefits, or enjoy low distance costs, will be viable without extensive external assistance. This is especially important if the club is to be voluntary—does not impose high costs, either in terms of the sacrifice of sovereign rights or direct financial costs.

Intervene regionally only where there are significant net benefits over and above national provision. In order for a "club" to remain together, the pool of economic benefits must be of a sufficient order of magnitude to overcome the possible forces of dissolution that stem from the economic benefits of sovereignty. To form clubs with small economic benefits is likely to prove unsustainable. This is especially relevant given that sovereignty is currently the main source of economic and political benefit for many smaller countries in the Pacific.

In the face of high isolation costs, subregional provision may prove optimal. It is worth reiterating that every regional club good has its own

cost and benefit structure. For any club good, distance costs of provision are sensitive to its location. Scale benefits, on the other hand, are sensitive to its institutional structure. Given the high diseconomies of isolation in the Pacific, it may prove optimal to break up a larger regional club good into a number of smaller, subregional clubs. While subregional provision may prove optimal to overcome isolation costs, there will be a corresponding loss of benefits as regional goods are broken up into smaller components and the potential for economies of scale is reduced. Likewise, the fixed costs will likely be higher as a number of duplicative institutions will need to be set up on a subregional basis (with possibly an additional regional good to coordinate the subregional bodies). These costs of subregionalism will have to be weighed against potential benefits.

In many cases, special initiatives are essential to assure services are provided to the smallest and poorest states. This will occur for two reasons. First, specific financing arrangements may be necessary to preserve the solvency of regional goods. The capacity weaknesses in many FICs are such that simply pooling together existing capacity will not generate enough scale to provide adequate service throughout the Forum membership. Unless these marginal countries are in a position to provide significant resources to underwrite the expansion of the club and absorb the additional diseconomies of distance, some form of additional financing will undoubtedly be required. This may take the form of external donor aid, or increased access fees for existing larger members. Second, it may be necessary to provide smaller countries with an incentive to join regional arrangements. If there are high barriers to membership—or, conversely, the benefits of sovereignty are particularly high—then some form of specific arrangements will be required to overcome smaller countries' resistance to joining a regional club.

The history of Forum "clubs" reflects many of these important lessons, and has shown that **between Forum members, historically the strongest association arrangements have been based on the movement of people**. Furthermore, the most durable diverse "clubs" are ones where a significant portion of the population of a particular group live in the territory of another. It is the movement of people that taps into the pool of economic benefits through opportunities for club members and remittances for those who have not moved. While movement of persons has been essential to cement relationships in diverse clubs in the Pacific, unfettered and unlimited movement can result in a dysfunctional relationship, where smaller constituents of the group become depopulated.

ENDNOTES

1 Holcombe, R. 2004. A Theory of Collective Action. Unpublished manuscript.

2 Buchanan 1965. For a survey of subsequent contributions see Sandler and Tschirhart (1980), and Sandler and Tschirhart (1997).

3 Only the elements of club theory relevant to Pacific regionalism will be explored. For further information, see the surveys listed above. See Appendix 5: Club Theory—Basic Concepts and Conclusions and a Technical Summary.

4 In this report "distance costs" and "diseconomies of isolation" are used interchangeably.

5 Remoteness here is assumed to be a function of traveling costs, which are in turn assumed to be inversely proportional to population. This is potentially problematic in the Pacific context, where remoteness is a fluid concept, incorporating distance from major hubs and the cyclical business fortunes of the region's transportation sector.

Chapter 4
Three Types of Regionalism

Introduction

The main lesson of club theory is that regional groupings should intervene regionally only where there are significant economies of scale, and avoid interventions where there are significant costs associated with isolation. This does not shed light, however, on exactly how countries should work together to create benefits and avoid costs. Even within the same sector, such as governance, there are countless ways that countries can pool their resources, each with its own balance of costs and benefits.

The importance of design in effective regional clubs cannot be understated. If regional institutions are properly chosen, designed, and implemented, then club members can capture the benefits of working together at minimal cost. If not, then the costs of working collectively—resources for new bureaucracies, travel costs, and so on—can easily overwhelm benefits. There is the risk that badly designed regional initiatives will merely aggregate, amplify, and transmit the costs of cooperation throughout the club, only adding to the financial burdens of members. This "cost doubling, not cost halving" problem is a risk for any club, however well intentioned. Harmful arrangements can easily endure into the future.

> Social norms acquire moral force over time, rules of thumb tend to become habit, and specialized procedures become part of the social fabric of a community. Consequently, an institution can acquire a validity of its own even though it is inefficient and counterproductive, independent of the economic purpose it once arose to serve, and outlasting that purpose. In this way it may become an impediment in the path of fruitful adaptation to a changed context.[1]

This caveat is especially pertinent to the Pacific "club" context. The high variation in development levels among Pacific countries and the great distances between them mean that costs of interaction are especially high. The risk of developing ineffective, unsustainable, or dysfunctional institutions is arguably greater than with a group of more contiguous, homogenous members, each "paying its own way."

This chapter will review the different ways in which regional clubs can join together to create shared institutions and reap the benefits of collective action. It will explore how getting regionalism "right" is crucial to overcoming the many obstacles facing the region, and how getting regionalism "wrong" has led to problems in the past. It will create a "menu" of approaches by outlining three different types of regional institutions—regional *cooperation*, regional *provision of services*, and regional *market integration*. It will summarize what economic theory has to say regarding the balance of costs and benefits of each one, and how each approach has led to success and failure in the Pacific and elsewhere. The chapter concludes with lessons for getting regionalism "right" in the Pacific.

Every region, including the Pacific, has pursued different types of regionalism at different times. Variation in the balance of costs and benefits of the different types derive from the fact that each is suited to very different challenges. There is, however, a common thread through most successful regional projects. The greatest benefits come from applying the right type of regionalism to the greatest shared challenges facing the region. While this seems obvious, the historical review in this chapter will demonstrate how many regions (including the Pacific) have often opted for regional institutions and approaches that, despite high costs, did not yield the necessary offsetting benefits.

This chapter will argue that in the Pacific context, regional cooperation is insufficient to cope with many of the region's challenges—despite this being a preferred method of regionalism in the Forum. It will argue that given the Pacific's unique characteristics, only by moving to "deeper" forms of regionalism—increased regional provision of services and regional market integration—will the Forum create the necessary pool of benefits needed to make regional institutions sustainable and beneficial to its members.

Regional Cooperation

Defining Cooperation

In general economic literature, "regional cooperation" encompasses virtually every form of interaction between countries. In this report cooperation will be defined more narrowly as the interaction of national governments where implementation is left purely at the national level.

Within this definition, cooperative institutions are those that help overcome problems of coordination, information sharing, mistrust, and commitment between governments. Operationally, this includes conferences, meetings, forums, and other forms of intergovernmental discourse. Dialogue is the key process and coordination measures are the key output—treaties, declarations, strategies, and action plans that outline mutually agreed steps to be taken by national governments. These are usually accompanied by mechanisms to ensure and monitor implementation, such as working groups, monitoring units, and committees.

Since the early days of the Forum, regional cooperation has been a primary vehicle for Pacific regionalism. Beginning in the 1960s, a network of regional organizations has developed to facilitate interaction and coordination between newly independent sovereign states. This network is largely centered on the Pacific Islands Forum. As an intergovernmental body, the Forum is largely directed by decisions taken at annual leaders' meetings, and at regular ministerial meetings covering a range of priority sectors and themes.

Forum leaders and ministers release a nonbinding communiqué at the conclusion of their regular meetings. These communiqués often note and discuss problems, or note progress or lack of progress on particular issues. The issues covered in recent years have ranged from economic reform, security, and fisheries, to nuclear testing, radioactive waste, and environmental issues (see Appendix 6). Forum economic ministers now hold annual meetings in addition to the leaders' meetings, with regular meetings on a range of issues including trade, foreign affairs, aviation, communication, and education. There is also the Forum Regional Security Committee, made up of officials from members' law enforcement agencies.[2]

Economic Arguments for Regional Cooperation

The Costs and Benefits of Regional Cooperation

The primary benefits of regional cooperation derive from building cross-country relationships, aligning beliefs and expectations, cultural exchange, learning from peers, and improving the flow of information between governments. Given the geographic isolation of many Pacific island countries and the high costs of transport and telecommunications, continued face-to-face interaction between Forum leaders and key officials has undoubtedly created strong links between Forum members. Cooperation has also brought benefits in terms of capacity building. Regional meetings have provided exposure for political leaders in a less formal setting than, for example, the United Nations General Assembly, and officials have gained useful practice in managing and documenting meetings, handling disagreements, and drafting conclusions.[3]

These benefits, while undoubtedly significant (especially for newly independent FICs and in the first decades after the colonial era), are also subject to strongly diminishing returns. Given the small size of many government ministries in the region, it is often the same officials who attend different meetings, reducing the benefit of additional meetings. In some cases, regional cooperation leads to a decision to move to a deeper form of regionalism—regional provision of services or regional integration. Deeper forms of regionalism require a high level of trust and confidence among members, and in the right circumstances regional cooperation can help build that trust and confidence.

The costs of cooperation in the Pacific are significant, however. Given the diseconomies of isolation in the Pacific, the costs of holding meetings have been high. This is especially true for meetings that involve the entire Forum membership, or are held in countries that are not major hubs for airlines operating in the region. For example, the cost to the Forum Secretariat alone of holding a ministerial-level meeting, such as the June 2004 Forum Economic Ministers Meeting (FEMM) meeting in New Zealand, was in excess of Fijian dollars (F$)250,000. This can be considered a relatively lower-cost meeting, as New Zealand is a regional airline hub. The cost of a lower-profile meeting, such as the April 2004 meeting of EPA trade officials in PNG, was roughly equivalent (F$224,000). The major part of costs for many of these meetings is transportation. Transportation is a one-off fixed cost regardless of the length of the meeting, highlighting the high diseconomies of isolation in the region.[4]

Another, less easily quantified cost, is the burden placed on scarce human resources in government ministries that attend regional meetings. Every day spent at a regional meeting contains an implicit opportunity cost to the government ministry, in that key personnel are away from capitals for long stretches of time. For some outward-oriented ministries, such as foreign affairs and external trade, constant interaction with regional counterparts can be seen as intrinsic to their duties. Opportunity costs are thus lower. For other ministries with a more domestic focus, such as education, health, and local government, these costs may be higher. Conclusions reached in a regional forum are usually generalized across the entire membership and may have limited relevance to the needs of individual countries.

Implementation and Political Costs

If benefits quickly diminish and costs are consistently large, then why is regional cooperation currently a primary vehicle for Pacific regionalism? One reason is that the cost of regional cooperation has generally been subsidized by either donors or FIC taxpayers. As noted in the earlier chapter on club theory, the Pacific "club" departs from traditional theory, in that the users of club goods—government officials, regional bureaucracies, and experts—are not generally the ultimate source of financing for meetings and conferences. There is thus a strong “price distortion,” where key officials have a strong incentive to organize and attend key meetings even if outcomes are not immediately relevant, or if a meeting entails time away from home capitals.

Another reason for the wide support for regional cooperation is that in the overwhelming majority of Forum decisions, there is no compulsion to implement decisions. Accordingly, there is no political cost to failing to implement such decisions. Thus the durability of the Forum has been based on an approach that offers no substantive challenge to its members. This is not to disparage the consensus-driven approach of the “Pacific Way.” Economic logic in fact dictates that a decision-making process driven by consensus is optimal for a mixed club such as the Forum (see Appendix 7).

Once consensus has been reached however, the decision to implement or not to implement is crucial. Implementation can either be voluntary or binding. In a voluntary approach, there is zero cost to a member that does not implement the group’s decision. A binding approach imposes costs for nonimplementation. This can entail a financial loss, such as a fine, or a political loss, such as blocking a member's future participation in group decision-making councils.

Implementation in the Forum

In its regional cooperation, the Forum has opted for a voluntary rather than binding approach. While this avoids political friction—and no doubt makes consensus much easier to achieve—it has also diluted the potential benefits of regional cooperation. The benefits of regional cooperation can only be attained and offset its costs if decisions reached are actually implemented. In the Pacific, the obvious strengths of the "Pacific Way" have arguably been diluted by voluntarism, resulting in a record of partial implementation of Forum decisions. With a few notable exceptions, implementation of Pacific club decisions has been left entirely to national governments or to Forum regional bodies. Any type of sanction or penalty for noncompliance has been rare, and monitoring has been generally left to ad hoc committees that have relied extensively on country inputs—and the capacity of countries to produce the necessary reports—for their monitoring activities.

Due to the lack of systematic monitoring, it is difficult to provide direct evidence of noncompliance. One of the few areas where monitoring has recently begun is the biannual assessment of decisions taken at the FEMM. The most recent assessment[5] compiles country responses on the implementation of a range of FEMM decisions from 2002 to 2004. During the assessment, responses were received from less than half of the Forum membership, with incomplete implementation the clear picture emerging. "Lack of political will" and "availability of human, financial, and technical skills" were cited as the most common constraints to the implementation of the Eight Principles. Similar results were obtained for a stock taking of reforms in governance, economic, financial sector, and trade/investment institutions. The fact that the FEMM stock taking is in the public domain and the response rate was below 50% suggests that implementation rates are lower for nonresponding countries.

Appendix 6 summarizes the past 20 years of Forum communiqués on a range of economic issues. The communiqués are largely framed in what may be termed encouraging or exhorting language, and are restricted to endorsing and/or acknowledging the findings of relevant action plans or regional studies. In certain key commercial areas, such as fisheries and shipping, Forum decisions are geared toward concrete actions—e.g., the establishment of the South Pacific Maritime Development Programme. Nonetheless, none of the decisions listed in Appendix 6 are accompanied by any language stating a specific cost to noncomplying countries.

It was noted above that a voluntary approach is likely to require less decision-making time. Governments will more quickly sign on to agreements for which nonimplementation imposes no penalty. Yet it must be considered whether this saving of time and resources compensates for the hidden but significant cost to the region's reputation and development resulting from the Forum's patchy record of implementation.

A "Pacific Way" to Increase the Benefits of Cooperation?

Partial implementation is not unique to the Pacific region. Yet the constraints, inherent and otherwise, facing the region mean that the opportunity costs of reaching decisions that are implemented only partially (or not at all) are uniquely high. Continued interaction and debate have yielded undeniable benefits for the Pacific region. This is especially true for the smallest and most vulnerable states, many of which are attempting to strengthen institutions after only a few decades of formal independence. In the end, though, the costs of cooperation must be offset by significant, tangible benefits.

It is difficult to reconcile voluntarism and its associated record of half-hearted implementation with the large benefits required to offset costs. It has been argued often that "it is the bureaucratic costs of cooperation that need to be attacked, not the cooperation function itself."[6] This report takes no issue with that statement. Given the high diseconomies of isolation in the Pacific, however, significant reductions in the costs of cooperation may be achievable only in the longer term, if at all. It is the benefits of cooperation that must be increased. The lesson here is that cooperation can have net benefits, yet it is clear that the current Forum approach is not optimal. Replacing voluntarism with a uniquely "Pacific Way" of strengthening monitoring and commitment is one way to improve this situation.

There is strong evidence that moving away from a purely voluntary model has enhanced the benefits of regional cooperation in regions outside the Pacific. Appendix 8 outlines how the Mercado Comun del Sur (MERCOSUR) grouping in Southern America, the European Union, and Economic Community of West African States (ECOWAS) all have used binding cooperation to reinforce their commitment to shared principles.

It is beyond the scope of this report to outline what such an approach might look like in the Pacific. A "Pacific Way" to strengthen implementation will no doubt have to grow out of the region's existing forms of conflict

resolution and prevention. Yet it must have three important elements.

- It must preserve the current consensus-driven, decision-making process to ensure that all Forum countries participate in formulating decisions that may impact them.
- Any legally binding agreement must contain explicit provisions for enough technical assistance to implement decisions. Moving away from a voluntary model brings an important concern: imposing costs for non-implementation may unfairly penalize states with weak capacity. In financial regulation, for example, international bodies have formulated standards and codes not only without the participation of small states, but also at variance with their unique development circumstances. These principles have been made into de facto binding agreements through the use of "name and shame" lists of noncompliers (e.g., OECD's Harmful Tax Initiative) or incorporated into risk assessments by major institutions (e.g., the Basle Capital Accord). Small states are penalized for not having the capacity to implement an agreement into which they had no input.[7] A stronger Pacific cooperation must not repeat this double penalty.
- The assessment mechanism must be comprehensive but fair. The resources needed to assess compliance in any single country, let alone the entire Forum membership, will be significant. Entrusting the entire task to a single organization will most likely result in a patchy, one-size-fits-all assessment. In the case of the financial standards and codes mentioned above, many were subject to penalties as a result of either highly simplified "tick-box" assessments, or highly subjective qualitative assessments by organizations with little knowledge of the countries.[8] A more feasible alternative is the use of self-assessment—to encourage ownership—coupled with a regular peer review mechanism, to ensure coverage and objectivity. This must be combined with technical assistance to ensure that countries are able to provide an accurate picture of their own and other countries' compliance.

As a step toward binding commitments, a new Forum method of "peer pressure" could in principle strengthen implementation, while avoiding the hard methods of persuasion that are often used by multilateral organizations and arguably contravene the principles of the "Pacific Way."

The smaller Pacific states have the greatest stake in moving away from the current voluntary status quo. If a group member does not face any cost for not implementing collective decisions, there is little real incentive for

that member to ensure that group decisions can realistically be implemented. As a result, group decisions become more and more ambitious. Countries face an ever-growing list of action plans and strategies to account for and report on. Their ability to actually implement any given decision thus decreases proportionately. It is clear that any state in the Pacific—especially the smallest ones—attempting to implement all the decisions listed in Appendix 6, while at the same time negotiate a constant stream of new decisions, would very quickly come up against the limits of their resources. Modifying the voluntary model in the Pacific will provide an automatic incentive, whether financial or political, to focus agendas on decisions that bring large benefits and can be reasonably implemented.

Regional Provision of Services

Defining Service Provision

Service provision, along with policy making, was cited as a key pillar of a country's "effective sovereignty" at the conclusion to Chapter 2. However, governments can choose to pool their capacity to provide services. Regional provision of services is qualitatively no different than outsourcing or devolution of services to private sector providers. The power to make policy remains with national governments. The regional body merely provides selected services. If the service is provided more effectively by a regional or private sector provider, the "effective sovereignty" of a country may be advanced.

Institutions created for regional service provision are most useful when supporting or replacing weak and/or failing national service capacity. Such regional institutions generally require a dedicated physical infrastructure, located in one or more countries in the region, with centralized management and staff. The key distinction from regional cooperation is that the regional body actually replaces one or more functions that are normally provided nationally, rather than merely coordinating them.

The range of services provided can vary enormously, from essential public services such as education, health care, and economic planning, to more commercially oriented activities such as transport and import procurement. A limited number of regional organizations in the Pacific have a primary role as service providers. These include the Forum Fisheries Agency (FFA), the University of the South Pacific (USP), and the Pacific Forum Line.

However, it is often difficult to draw a clear distinction between regional bodies that are purely cooperative and those that are purely service providers. In reality, many are both. For example, regional bodies such as the Secretariat of the Pacific Community (SPC) South Pacific Applied Geoscience Commission (SOPAC), and the South Pacific Regional Environmental Programme (SPREP) both facilitate regional meetings (cooperation) and provide technical services through staff experts (service provision).

Economic Arguments for Regional Service Provision

Is there a strong economic case for providing services regionally in the Pacific? A useful analytical starting point is the literature on public economics,[9] which outlines the instances where public sector intervention can be economically more efficient than the market in allocating resources. The basic argument for public sector provision of goods and services, as well as for the regulation of private markets, should be derived from a diagnosis of market failure. Different aspects of market failure will be explored in this section, but a common underlying idea is that market failure occurs when the market does not allocate resources in an efficient way. Put more simply, the market creates more social costs than benefits. In this scenario, the involvement of a public body may overcome the market failure and result in a more beneficial outcome.

In the case of regionalism, there is a double test of market failure, known as subsidiarity. The principle of subsidiarity states that services should be provided at the lowest level at which efficient and effective provision is possible. Thus, in order to justify service provision at the regional level, there has to be some inefficiency at both the market and the national government levels. Subsidiarity can be assessed by applying two simple questions.

- Is the market providing a service well? If so, then involvement by national governments and/or regional bodies should be minimal.
- Can national or local governments provide the service well? If so, then involvement by regional bodies should be minimal.

There is a third implicit consideration that is perhaps more important. Even if a double market failure has been identified, can regional bodies actually deliver their intended benefits? The caveats in the introduction to this chapter are especially pertinent for service provision, since it generally requires a physical institution and staff, whose incentives can easily become separated from those of the region they are meant to serve.

> To establish a convincing case for public sector involvement, you should be able both to point to a market failure and to argue convincingly that the public sector is able to handle the problems involved in a better way. The last part of this requirement is far from trivial; there is no particular reason to believe a priori that actual bureaucrats and politicians will be motivated to take decisions in accordance with the prescriptions of welfare economics and public finance. Recommendations regarding the division of labour between the private and public sectors should take account not only of market failures but also of the possible failures of policy.[10]

Appendix 9 explores the subsidiarity argument, moving from the market, to the national level, to the regional level. It argues that among the Pacific countries, notwithstanding the important qualifications highlighted above, there is indeed a strong economic case for providing some services at the regional level. If efficiently designed, increased regional provision can create large net benefits for the region, especially where capacity constraints in the market and in governments are strongest.

It should be noted, however, that effective regional service provision can potentially involve significantly higher costs than the status quo of national provision, for two reasons. The first is that regional bodies must deal with diseconomies of isolation between FICs that are usually greater than those faced within FICs. The second reason is that the status quo is likely to involve underprovision of services, so merely pooling current resources of FICs will be insufficient to address the problem.

This implies that resources for regional institutions will have to be additional, especially for short-term fixed costs and medium-term recurring costs, as the institutions develop their capacity and expertise. The promise of regional institutions lie not so much in saving governments and donors money in the short term, but ensuring that future expenditures are more effectively spent in the longer term. The key lesson is that the need to establish regional institutions that create large benefits is especially pertinent for the Pacific, since cost recovery and self-sufficiency will only be possibile in the longer term, if at all.

Case Studies from the Pacific

In order to test the costs and benefits of service provision at the regional level in the Pacific, separate retrospective cost-benefit studies were commissioned on each of four established service providers in the Pacific: USP, FFA, Air Pacific, and Pacific Forum Line. Each study outlines the original rationale for creating regional capacity in their respective sectors, the means by which national services were consolidated, and the retrospective costs and benefits—qualitative and quantitative. Only a brief summary is provided here. Each is available on the websites of the Asian Development Bank (ADB) (www.adb.org) and Pacific Island Forum Secretariat (PIFS) (www.pacificplan.org).

University of the South Pacific

USP is the preeminent tertiary education institution in the Pacific. The USP system includes a large number of prestudies, research, and consultancy units that, alongside its degree programs, are considered to be on a par with facilities found in other universities. It has three campuses (the main campus located in Suva, Fiji Islands), extension centers in each member state, and increasingly uses distance education for course delivery.

USP clearly satisfies the subsidiarity criteria at both the market level and the national level. The "market" alternative for tertiary education is classified here as non-Pacific universities. In a few cases, such as the Central Queensland University campus in Suva, there is a subsidiary established within the Pacific islands. At the national level, there are clear constraints against not only a single country developing similar facilities, but also a group of countries creating between themselves a comprehensive tertiary institution. National universities have been established in Samoa, Tonga, PNG, and most recently, in the Fiji Islands. Each, however, has a fairly restricted curriculum. To access the market alternative, most students must travel and study abroad. This study estimates that the aggregate yearly cost of education abroad for students enrolled in USP would be approximately F$120 million. The annual cost to regional governments of operating USP is less than half that amount, and the cost is retained within the region. In addition, students educated abroad were found to be more likely to permanently migrate, further exacerbating the drain of human resources.

Apart from the cost savings over a market or national solution, USP creates scale benefits in the form of its various units and centers. These both feed off the universities' physical and human capital and pour financial

surpluses and intellectual energy back into the USP system. It would be difficult to imagine a purely national university in the Pacific that would have the capacity to support a similar level of activity. In all, the study estimates that USP operations generated approximately F$50 million in 2004, while enabling foreign exchange savings over F$120 million.

There is, however, a strong caveat: USP operations are, despite its clear financial benefits, still greatly dependent on ongoing donor financing. On one hand, USP's large scale and clear benefits make it a magnet for donor funds in the region: in 2004, USP attracted an estimated F$24 million in aid. However, as USP grows in size, it incurs larger recurring expenses to maintain both adequate infrastructure levels and a representative student body. In many instances, this requires scholarships and other direct/indirect financing programs. Thus, even an institution that generates significant benefits and is seen by many around the region as a prime example of regional provision of services, is still in large part financially dependent on external sources.

Air Pacific

Prior to the establishment of Air Pacific, the majority of island countries did not have the economic power, market demand, skilled support personnel, support aviation infrastructure, or the support services required to undertake national airline services. Only the Fiji Islands was able to support a national airline, which monopolized the regional aviation market for 17 years prior to the establishment of competing airlines. The parlous state of regional infrastructure—crude and remote airfields, and nonexistent fuel terminals and support personnel—meant that travel costs remained prohibitively expensive. However, there was a recognized need for airline services to more remote FICs, apart from the Fiji Islands. Successive waves of capitalization backed by a consortium including major commercial players such as Qantas, led to an expansion of Fiji Airways (soon to be renamed Air Pacific) from a national airline to a regional one.

Despite its expanded mandate, Air Pacific remained a private company that went through the normal commercial process of growth, with private equity participation from established international and aviation operators. These operators fast-tracked the market penetration capability of Air Pacific to operate regionally, and in the later years, internationally. The financing of Air Pacific was not undertaken through public finances, nor was its managing board exclusively controlled by regional governments.[11] A strong flow of

private capital ensured that Air Pacific's reliance on member government budgets would be minimized. However, the private nature of the firm also led to perceived biases toward the Fiji Islands in its services. This led to the leaders of Nauru, Samoa, Tonga, Solomon Islands, and Vanuatu withdrawing from Air Pacific. These countries then initiated airline ventures of their own, either individually or in partnership with other international aviation companies. These national ventures often negatively impacted FIC government budgets, as scarce finances had to be injected into loss-making airlines to avoid a return to a situation of limited airline service delivery.

The consequence of increased competition for Air Pacific was initially disastrous as well. It experienced recurrent losses as its market share dropped significantly. In response, Air Pacific and its partners undertook a large-scale restructuring that brought the firm back into financial health.

The Air Pacific case demonstrates how any regional service provider faces a difficult trade-off. On one hand, a regional service that is operated along commercial lines and separated from public funding allows a more flexible structure and the potential to weather crises, as Air Pacific did over the past 2 decades. However, this commercial structure, coupled with the inherent market smallness of many FICs, means that the scope of the regional service will necessarily be restricted. This can easily undermine support for regional initiatives, and underscores the need for proper financing arrangements. Individual shareholders, whether firms or governments, must feel that they are receiving adequate benefits from regional service providers.

Pacific Forum Line

The structure of the shipping industry in the region prior to the establishment of the Pacific Forum Line (PFL) reflected the market obstacles of the Pacific: a small number of shipping entities dominating the market, each with significant levels of price control, but acting collectively as a cartel to the detriment of service provision to the Pacific. The high fixed costs of the industry, the smallness of the island markets, and the uneconomical returns generated from servicing these routes dissuaded other shippers from entering the market. The oligopolistic structure perpetuated rent-seeking behavior from other industry agents, such as maritime unions, pushing costs up further and eroding competitive behavior. These barriers led to the failure of purely national shipping lines, which quickly became insolvent. The need for a regional shipping line was clear.

PFL was established in the mid-1970s after a 4-year period of initial study. Even with significant initial capitalization, however, the regional shipping line quickly ran into the same financial constraints that had plagued its national and market predecessors—operating and administrative costs exceeded gross revenue from the outset. Not only was the initial capitalization in retrospect seen as inadequate, but also ongoing costs, such as loading and discharging, were the second-highest cost of operations (after charter hire). This implied that PFL had underestimated the underdevelopment of supporting infrastructure in destination countries.

In the early 1980s, two important actions led to a turnaround in PFL's fortunes. First, after a period of intense diplomatic activity, an injection of funds from Australia and New Zealand arrived to shore up PFL's weak capital structure. Second, a thorough review of PFL operations was commissioned. It found, in the words of the annexed report, that PFL was "trying to be all things to everybody." At the behest of member governments, it operated many unprofitable routes and was incurring huge losses.

The governing structure of PFL certainly promoted this outcome. At the top were the Forum heads of government, overseeing the Regional Shipping Council comprised of ministers in transport and shipping-related fields. Below the Council were shareholders, government officials, the PFL Board of Directors (appointed by regional governments), and finally the General Manager of PFL. While this ostensibly kept the enterprise under public control, it also led to many of its greatest operational difficulties. The findings of the PFL review led to further capitalization through a loan from the European Investment Bank (EIB). PFL subsequently focused on a few key routes, and successfully lowered its costs through negotiations with member states. In sum, the regional service provider strengthened its commercial focus.

Forum Fisheries Agency

The Forum Fisheries Agency (FFA) was created in 1979 to assist FICs in pooling resources, in coordinating with external partners, and in securing the benefits of fisheries stocks through prudent collective management. Over the 25 years since its creation, FFA has played a pivotal role in helping member countries secure and uphold sovereign rights over their respective exclusive economic zones (EEZs). FFA helped negotiate beneficial tuna fisheries access agreements, and assisted the development and negotiation of conservation and management regimes for tuna fisheries in their EEZs. It

also helped monitor and enforce compliance with access agreements and fisheries regulations. More recently, FFA was instrumental in negotiating the creation of a new international body aimed at ensuring that highly migratory tuna stock in their EEZs and adjacent high seas are managed on a biologically and economically sustainable basis.

Despite the difficulties in calculating the precise net benefits of FFA, analysis undertaken for this report by Hyndman (2005) indicates that they have been substantial. The contribution of the FFA to GDP in individual member countries averaged nearly 7% of GDP, with wide variation and estimates as high as 21.5% for Kiribati. FFA played a pivotal role in helping member countries negotiate the US Multilateral Treaty on Fisheries, which came into force in June 1988. While the benefits once again vary widely, Hyndman (2005) estimates that over the 16 years of licensing until the present, member countries have received total payments of almost US$200 million under the treaty. Total annual payments (expressed as a percentage of total landed catch value) are relatively high and rising, estimated at about 11% in 1988/89 licensing year to over 20% currently.

Since 1979, total expenditure on FFA inputs over the entire 25-year period to 2004 was about US$75 million. Over this period, member contributions totaled US$14.2 million (or 19%) of FFA's total funding, with other funding sources providing the remaining US$60.7 million (or 81%), mostly as development assistance.

How has FFA succeeded where many regional initiatives have foundered in the past? The analysis of Hyndman (2005) points to a number of factors.

First, economies of scale have been clearly identified and exploited. While geographic circumstances vary throughout the region, each FIC faced a common set of challenges in procuring expert information, analysis, advice, and support on fisheries issues. Capacity constraints at the national level and weak commercial incentives for individual countries to encourage sustainable harvesting meant that monitoring, licensing, and regulation could not have been limited to exclusively national levels. In other words, the subsidiarity criteria clearly pointed to a regional solution for fisheries management.

Second, there has been a strong link between FFA activities and the needs of its member states. FFA has helped member countries to collec-

tively develop informed regulatory strategies for their fisheries by compiling, evaluating, and disseminating relevant information to members about

- the region's fisheries,
- existing management practices and their likely impacts on the sustainability of fish stocks, and
- other management options, precedents elsewhere, and their impacts.

While member states' interest in FFA is undoubtedly linked to the importance of fisheries to their economies, there is clear evidence that the proactive role FFA has taken in disseminating crucial information has yielded strong benefits. FFA has also provided a forum for frank, informed discussion about fisheries issues and provided ongoing assessment of relevant issues of interest to FFA member states.

Finally, funding for FFA has not been entirely dependent on a single source, yet steady donor support has been crucial. FFA funding comes from members' contributions, donor support, and fees charged by FFA. However, despite the comparative advantage enjoyed by FICs in fisheries products and the undeniable financial benefits to a number of FICs, FFA is still largely dependent on donor financing, which provides nearly three quarters of total funding.

Case Studies from Other Regions

Bulk Procurement of Pharmaceuticals

Bulk procurement is often cited as an area where regional service provision can achieve economies of scale, especially for groupings of small states with weak individual market power. Due to the commonality of brands and its vital role in sustainable development, pharmaceuticals (along with petroleum) are often mentioned as a possible commodity to purchase in bulk. A recent study evaluated the success and failure of eight programs from around the world,[12] including the Joint Bulk-Purchasing Scheme for the Pacific Island Countries. The study found that in virtually every region there existed a clear need. Prices provided by the market were beyond the purchasing power of national (and private) health care systems. Additionally, there existed little capacity within the individual countries to produce sufficient pharmaceuticals to satisfy demand, let alone undertake new research to develop domestic alternatives, without infringing on global patents. The need for cost-effective medicines was evident.

Despite the fact that regional action clearly satisfied the subsidiarity criteria, the study concluded that only a small number of regional bulk purchasing programs were ultimately successful. One reason was that only a small number of programs actually achieved the forecast economies of scale. Bulk purchasing in most cases was able to achieve modest reductions in prices. However, program volume was often insufficient to attract the best prices—absent significant markups, and the programs were not cost-effective enough to justify the expense involved and demonstrably impact health outcomes.

A second (related) conclusion was that the design and execution of the programs greatly affected their cost/benefit calculus. Programs based on purely voluntary arrangements (such as the Caribbean Pharmaceutical Service and the Central American) suffered from an absence of political and/or financial commitment. This was manifest in a chronic lack of funds for research and procurement as member countries diverted payments intended for collective use to other uses.

These problems were exacerbated by a high cost structure. Even the most successful programs entailed many expenses, such as a permanent, well-resourced secretariat and complex governance/surveillance arrangements to ensure transparent procurement. In several instances, these costs were not foreseen at the outset.

Air Afrique[13]

Air Afrique was created in 1961 by 12 French-speaking African countries[14] to contribute to socioeconomic development in the member states, on the premise that many of the smaller countries could not afford a national airline. The subsidiarity argument seemed to many observers to be evident: civil aviation is a natural sector for cooperation given the high fixed costs of aircraft, airport infrastructure, and human resources planning and development. Airports incur sizable fixed, indivisible costs. The presence of such economies of scale implies that airports serving less than 1.5–3 million passengers will operate with increasing long-term average costs. To this end, the member states signed the Yaoundé treaty of 1961, providing Air Afrique with an exclusive concession to international traffic, while keeping national autonomy for domestic transportation. Bilateral agreements with non-members were negotiated through a joint committee. A majority stake in the airline was equally divided among the signatory countries.

In 2002, however, after nearly 2 decades of persistent financial difficulties, Air Afrique was liquidated. The primary reason for the airline's failure was that it failed to address many of the chronic, underlying problems in the African aviation market, such as high fuel prices and airport taxes, steep insurance premiums due to inadequate safety, and a lack of subcontractors. The latter forced the airline to internalize many basic operations, such as catering and sales. A second set of reasons related mainly to Air Afrique's multistate arrangement. National sensibilities impeded efficiency considerations at nearly every turn. Cash-strapped partner governments often demanded universal service obligations, yet failed to provide compensating financial infusion to the airline. At the time it filed for bankruptcy, Air Afrique had 32 directors (by comparison, General Motors has less than half that number). Managers chose to acquire large, top-range aircraft instead of turbo-prop short-haul planes better equipped to operate on regional routes. All member governments wanted a direct air link to Europe, whereas it would have proved much more cost-efficient to develop Abidjan as a regional hub. Finally, some countries started to free ride on the arrangement, subtly opening their markets to charters from Europe in contravention of the Yaoundé treaty.

Lessons Learned

The case studies within the Pacific and from other regions suggest that even with an intuitively sound strategy, regional provision of services must overcome several hurdles to succeed. Three key lessons for regional service provision are drawn.

- For a regional provider to be successful, the fundamental principle of subsidiarity must be satisfied. Regional bodies must only intervene when market or national public sector bodies cannot effectively deliver the service. Regional bodies have been more successful in traditionally public sector areas, such as education, than in market-oriented commercial activities. When undertaking the latter, clear, commercial objectives and professional business management are essential. The regional arrangement must be robust enough to withstand competition, including from sometimes ill-advised, national-level operations.
- External support—whether from donors or from member governments—is crucial. Capacity weakness in many FICs means that simply aggregating existing national-level resources will create weak and undercapitalized regional service providers. The most successful regional operations may not enjoy financial cost recovery, even in the longer term.

- Clear governance arrangements and shareholder expectations are essential. This is especially important when regional provision entails close member state involvement and the creation of a regional bureaucracy. Governance arrangements must ensure that shareholders feel they have a strong stake in the enterprise, lest they undermine regional providers with competing national services. But arrangements must also ensure that political interference and unrealistic expectations do not detract from overall financial health. The limitations of minority shareholdings need to be clearly spelled out. Specific arrangements, including financing arrangements, for an agreed level of service provision to "uneconomic" routes are necessary to manage the tension between commercial and political objectives.

Regional Market Integration

Defining Market Integration

The basic definition of market integration is the reduction of barriers between the markets of member countries. Most regional agreements begin with the removal of tariffs on the trade of intraregional goods. However, market integration can go beyond goods to include nontariff barriers, services, investment, and movement of labor.

"Regional market integration" is considered separate from "regional integration" in this report. The latter is more commonly used in economic literature, and generally refers to removing market barriers (market integration) plus the creation of shared institutions, such as central banks and regulatory bodies (regional services provision) to facilitate the freer movement of goods, services, and people. However, this typology reflects the experience of the European Union (EU), where market integration was assumed to yield the highest gains. Service provision was seen as a complementary adjunct since the original member countries were not particularly constrained in critical capacities.

In practice, countries can elect to provide services from a single regional body (or a number of subregional bodies) without breaking down market barriers, except for those goods and services that are intrinsic to the service itself. A degree of standardization across countries is often required to facilitate centralized service provision, but this need not be accompanied by market liberalization.

Examples of market integration in the Pacific include the Melanesian Spearhead Group (MSG—Fiji Islands, PNG, Vanuatu, and Solomon Islands), the Closer Economic Relations (CER) agreement (Australia and New Zealand), the South Pacific Regional Trade and Economic Cooperation Agreement (SPARTECA), and the Pacific Island Countries Trade Agreement (PICTA). The Forum members are also party to several agreements with non-Forum countries, such as the Cotonou Agreement (Forum and African Carribean Pacific Countries with the European Union) and the Compacts of Free Association (Palau, Federated States of Micronesia, and Marshall Islands with the United States.)

Economic Arguments for Market Integration

The economic literature on market integration is particularly rich, but only the arguments in favor of integration will be briefly summarized here.[15] In this basic formulation, the main costs and benefits of regional market integration are grouped into four main categories: competition-scale effects, trade-location effects, revenue effects, and investment-capital effects.

Competition and scale effects are analogous to the benefits of pooling national services. As noted in the previous section, many small countries lack the market size to support large-scale competitive activity, leading to high prices, low levels of sales, high costs, and a market structure biased toward oligopoly and/or monopoly. Combining markets can reduce monopoly power through more intense competition, yielding three types of gains. The first is a gain to consumers from the downward pressure on prices as monopoly rents are taken away and firms expand sales. The second is the ability of firms to exploit economies of scale due to access to a larger market. The third is a reduction in internal inefficiencies as firms streamline their price-cost margins. The elimination of monopoly rents and the competitive pressure on firms forces them to restructure, and in some cases go out of business, so these adjustment costs must be weighed against the competition and scale benefits described above.

Trade and location effects refer to the changing patterns of trade once intrabloc market barriers have been removed. The classical gains from trade derive from countries importing goods and services from the most efficient (lowest-cost) producer, in exchange for goods and services that they are able to produce relatively efficiently. In the case of a regional trading agreement, if a producer located in a trading partner displaces inefficient production at home, these gains are known as trade creation. However, it is unlikely that

the Pacific region contains the most globally efficient producer. If a regional partner displaces the lowest-cost imports from the rest of the world, then there is the cost of trade diversion. This can happen because the higher-cost goods from the partner country enter duty free under the regional market integration arrangement. The integration arrangement may allow them to undercut the lowest-cost global producer, whose imports are still subject to duties. The potential for trade diversion is the reason regional market integration is generally considered a second-best trade policy, as opposed to global most-favored-nation liberalization.

Revenue effects refer to changes in government revenue that may occur due to regional market integration. The impact is sensitive to a number of factors. If tariffs are lowered (but not to zero), the increased demand for imports from regional partners may in fact increase trade-related revenues. Even if tariffs are reduced to zero, the competitive and scale effects of increased economic growth (and the impact of lower import prices on export prices) may lead to increases in total government revenues. A similar outcome can be achieved by developing alternative sources of revenue, such as a value-added tax (taxing consumption instead of trade). The key considerations then are (i) the impact of market integration on growth, and (ii) how constrained governments are in administering and collecting new taxes.

Investment/capital effects generally refer to the incentive that integrated markets provide for increased capital flows. For example, if integration makes the market more competitive, favoring lower marginal cost sources of production, foreign direct investment (FDI) from firms in partner countries may increase. For developing countries, the creation of a single market, especially if it is accompanied by the creation of shared institutions, may attract higher official flows as donor funds are able to flow to more countries. If integration is extended to labor, remittance flows may be significant, depending on the host-country labor market and barriers to capital flows within the region.

Regional Integration in the Pacific

Over the last several decades, small developing states have joined an increasing proliferation of regional market integration arrangements. Based on their experiences, the literature on market integration has developed methodological caveats that suggest many cautionary lessons for the Pacific.[16]

Potential Costs-Benefits of an Islands-Only Market Integration

A key finding of the literature on integration is that both the competition-scale effects and the trade-location effects are proportional to the size, level of development, openness, and heterogeneity of member countries. The impact of these findings for the Pacific countries, and for the future of PICTA, are summarized by Scollay (2001).

> The general view [is] that the prospects for maximizing trade creation and minimizing trade diversion will be greater the larger the shares of the members in their partners' pre-existing trade, the larger and more diversified the partners' economies, the closer the partners' domestic prices to world prices, and the greater the initial non-uniformity of the partners' tariff structures. It is quite clear that none of these characteristics, with the possible exception of the last, are found among the FICs…

Scollay's findings on PICTA reflect those of other authors, such as Narsey (2001), who found that regional market integration between developing countries—especially between small developing states with tiny populations, low incomes per capita, a lack of transport links and infrastructure, and a similarity of resource endowments—did not yield large trade creation and scale benefits for its members. Furthermore, they found that most benefits were captured by monopolists through trade diversion, rather than through trade creation.[17] Small benefits were also found for revenue and investment, given the marginal levels of trade between Pacific markets—exports to other FICs do not account for more than 5% of the exports of any FIC—the benefits of an islands-only agreement would be minimal.

Despite this, the costs of an islands-only market integration may still be substantial. Narsey (2001) outlines the experience of the MSG market integration, where even a limited number of imports from the Fiji Islands and PNG into Solomon Islands and Vanuatu created significant economic costs for a minority of import-competing producers, and political costs for importing governments. In some instances (e.g., kava and biscuits) the pressures from local manufacturers, under the guise of balance-of-payments problems, led to punitive duties being imposed by the importing countries.

The experience of FICs shows that they have attempted to develop a number of bilateral and subregional trading arrangements for a limited number of goods. However, PICTA has been written, signed, and ratified

but not implemented. MSG has gone further, yet the political costs appear to be overwhelming the economic benefits. The key lesson from the intra-islands experience with regional market integration is that the pool of economic benefits available from trade liberalization in goods is so small that none of the larger economies have pursued either most-favored-nation (MFN) or regional trade liberalization with any commitment.

Potential Costs-Benefits of a Forum-Wide Market Integration: Goods, Services, and Investment

If market integration is extended to the entire Forum membership, and crucially includes Australia and New Zealand (ANZ)—by far the two largest markets in the region—the consideration of costs and benefits changes significantly and varies according to the scale and scope of integration.

If market integration is restricted to goods and services, then it is likely that scale, competition, trade, and location benefits will largely be reaped by FIC consumers and ANZ producers. Due to the small percentage of FIC exports in the total imports of Australia and New Zealand, it is unlikely that consumers there will see significant decreases in the price of their average consumption basket. Nor will they see significant changes in the domestic market due to increased competition from FICs—neither from FIC producers themselves nor from foreign firms based in FICs. The latter would most likely relocate their production to the larger OECD markets if tariffs were lowered.

FIC producers, on the other hand, would likely suffer significant adjustment costs. Due to their scale disadvantage and their relative lack of commercial experience, it is unlikely that FIC import-competing producers would survive in an integrated Forum-wide goods and services market. Several observers, such as Narsey (2005), have predicted that the scale of potential job losses and industry closure under PACER would dwarf the scale of PICTA. Given that FICs have a poor record of growth and job creation, any offsetting competitive and trade effects will most likely arrive in the long term. In the short and medium terms, there will be large adjustment costs for FICs, and increased risk of further alienating public and elite opinion against increased integration.

Thus there may be overall net benefits to a goods-and-services-only integration, but they most likely will be hugely (and unacceptably) lop-sided. Similarly, revenue effects would most likely be highly negative for

FICs given the high dependence of FIC finances on taxes related to trade with ANZ. Conversely, given that FIC imports into ANZ are not significant proportions of total ANZ imports, it is unlikely that PACER would severely impact ANZ trade-related revenues.

If integration includes investment, then investment flows from ANZ to FICs should, in theory, increase—both in "old" ANZ-dominated sectors (e.g., trading companies, banks, financial services, major manufacturers), and especially in "new" World Trade Organization (WTO)-compatible areas (tourism, fisheries, timber, information and communication technology [ICT], retirement). However, Narsey (2005) notes that ANZ producers have been reluctant to move outside the "older," traditional areas, and it is not immediately clear how, in the absence of complementary measures, an integrated market will change this. The preconditions needed to pull investment flows into new sectors, let alone into more traditional sectors—stability and predictability of the business environment, and access to reliable infrastructure, services, and a trained workforce—do not exist in many FICs and cannot be created quickly. The added impact of weak transport links, small markets, and other handicaps identified in Chapter 2 push up the cost and risk of investing in many FIC economies past the threshold of most investors, even those with long experience in the region.[18]

Potential Costs-Benefits of a Forum-Wide Market Integration: Labor Mobility

If Forum-wide market integration includes labor mobility, then there is potential for large wins on both sides.[19] The benefits to FICs from access to ANZ labor markets include skills development, a wider cultural perspective, higher incomes, and more secure remittances back home. Already, some Pacific economies are almost entirely dependent on remittances from their overseas workers for foreign exchange. Studies show that up to 90% of Tongan households receive remittances, making up 52% of cash incomes. Thus labor mobility will be a key vehicle for promoting sustainable development in FICs.

This benefit, however, will only materialize if labor mobility schemes recognize the risks inherent in skills loss ("brain drain") and depopulation, issues that are particularly relevant given the capacity constraints in FICs. There is a crucial need for labor market access schemes to ensure that FIC workers return to their domestic markets, that mobility is not a permanent skills loss to the home country. Such schemes also need to ensue that

workers moving abroad are not educated solely at the home country's expense—i.e., that there is no implicit developing-developed country subsidy. Temporariness can be ensured in a number of ways, ranging from financial incentives (bonds, repatriation allowances) to nonfinancial penalties for overstaying.

While these risks remain, there is strong evidence that FIC leaders are still strongly in favor of labor mobility, and that it would provide strong momentum behind a large-scale, Forum-wide regional project. Peebles (2004) notes that as early as 1971, Fijian Prime Minister Ratu Mara suggested that Australia establish a guest worker scheme. The issue was raised at South Pacific Forum labor ministers conferences throughout the 1970s and 1980s. Many FIC governments have seen labor mobility as potential relief for demographic pressures from high rates of population growth, burgeoning youth populations, and high levels of unemployment among youths. Many observers[20] have stated that labor mobility is a "make-or-break issue" for FICs, and a clear litmus test of Australia and New Zealand commitment to both FIC development and Forum regionalism.

For Australia and New Zealand, there are clear benefits from labor migration as well. Like many OECD countries, they are facing a number of economic trends favoring increased labor market openness:

- falling birth rates and rising life expectancy, thus increasing the dependency ratio (the proportion of those dependent on state support to active workers), and the stress on public infrastructure, especially those catering to the elderly;
- rapid economic growth outstripping the growth of the domestic labor force;
- structural change in economies, especially shifts from manufacturing to services, increasing skills mismatches within the labor force;
- geographic immobility, the unwillingness/inability of residents to move within a country to fill gaps in the labor market; and
- changing occupational preferences, where the upward mobility of the domestic labor force results in the unwillingness of resident workers to accept certain low-skilled, low-status, and low-paid work.

The impact of these trends is expected to be large and negative. Labor shortages can slow productivity and per capita income growth. Andrieu (1999) estimates that over the 1998–2050 period, such losses could be in

the order of 10% for the United States, 18% for the EU, and 23% for Japan.[21] A 2003 report by the Boston Consulting Group estimated that by 2020, Australia would face shortages of some 200,000 workers annually.

Perhaps more importantly, labor mobility can be an important element in the development partnership between FICs and OECD Forum members. Recent parliamentary reports[22] acknowledge that labor market access would be a key part of a closer Pacific economic and political community. A 1997 review of Australia's aid policy noted that "labour mobility may prove to be more cost-effective than continuing high levels of aid in perpetuity." Limited access to Australia "... has been argued for as an effective way to assist the very small states whose only export is labour services."

There is already a strong precedent for labor mobility in the region. Peebles (2004) notes that FIC citizens are already vital workers in key industries in the Australian and New Zealand economies. New Zealand has had full access to the Australian labor market since the 1920s. Several Polynesian states (e.g., Cook Islands and Niue) have arrangements to ensure labor market access and benefits in OECD Forum members. Increasing labor market access would not only cement the general global shift toward emphasizing "trade not aid," but also provide—as the historical analysis in Chapter 3 demonstrated—a large enough pool of benefits for the Pacific "club."

Lessons Learned

Case studies have been prepared on the EU, the Caribbean Community's Single Market Economy, and Asia-Pacific Economic Cooperation, and may be seen in Appendix 10. They provide four key lessons for regional market integration in the Pacific.

- First, if artificial market barriers (customs, technical, fiscal) are high and markets are large enough to provide adequate scale benefits, then market integration can bring large benefits. The intuitive corollary is that smaller countries joining larger markets will experience a relatively larger increase in their welfare.
- Second, regional market integration has many "layers," which include goods, services, investment, and labor. Each provides its own economic benefits and adjustment costs, depending on the market structure of the member countries. In the same way that countries have pursued regional cooperation, service provision, and market integration at different levels and speeds, there is no reason a priori to assume that a

region must begin integration with goods, then move to services and investment, and end with labor mobility.

- Third, liberalizing each of these "layers" requires a complementary set of institutions, or regional service providers, to create the proper enabling environment for the reduction in market barriers. Without functioning institutions, market integration will almost certainly fail. However, these institutions come with caveats and costs of their own (subsidiarity, governance, etc.) outlined in the previous section.
- Fourth, regional market integration brings adjustment costs—economic, social, and political—that can be significant, even where trade flows are small. It is widely noted that the "losers" of reform always have a stronger incentive to organize than the "winners." Due to ever-present differences in competitiveness, adjustment costs are often unavoidable. Large benefits are needed to overcome them. It is doubtful that FIC integration with Australia and New Zealand will change the reality that the source and destination of exports within the region are, and will likely remain, highly asymmetrical. However, both the CARICOM and PICTA experiences suggest that it is not so much the presence of asymmetrical flows that is politically unpalatable in regional market integration, but rather the absence of offsetting benefits.

Summary: Toward a New Pacific Regionalism

Economic theory states that a club not only must be sustainable, but also must yield a sufficiently large pool of economic benefits. Otherwise, in the Pacific the "centrifugal forces" of sovereignty will lead to a breakdown of the club, leaving many members who derive stability and well-being from the club worse off. How can a regional club ensure that its shared institutions create large benefits?

This chapter has shown how each of the three types of regionalism has its costs and benefits.

- For *regional cooperation*, the benefits include increased consensus building and policy coordination. Costs include setting up and maintaining the cooperative mechanisms themselves, and the cost of moving people around the region for meetings and conferences. These latter costs increase as more isolated countries are involved.
- For *regional provision of services*, the benefits include a higher level of services provided, fewer facilities, more efficiency, and a higher degree of shared knowledge. The primary cost, much like cooperation, involves

moving regional goods, services, and people over the large distances in the Pacific.

- For *regional market integration*, the benefits include a larger market for Pacific firms, with more production at a lower cost, more choice for Pacific consumers, and more economic opportunities for Pacific workers. Costs include the political and adjustment costs of stronger competitive pressures for Pacific companies, and further exacerbation of capacity weaknesses, especially in public sector bodies.

What does this mean for the Pacific? The region already has many shared institutions, many geared toward regional cooperation and intergovernmental dialogue. Benefits of this cooperation are tangible. The Forum and its Council of Regional Organizations in the Pacific agencies have allowed the region to speak and plan collectively for its future for nearly 4 decades. Is there a need to go beyond the current approach and invest the significant additional resources required?

The analysis in this chapter suggests that there is. It has shown that regional cooperation—like other forms of regionalism—suffers from high diseconomies of isolation. Voluntary dialogue and coordination, while beneficial, brings a high opportunity cost. Continuing to direct scarce donor funds into greater regional cooperation is arguably at variance with the lessons of club theory, that successful clubs must bring large net benefits.

This chapter has shown that in the Pacific and elsewhere, the largest benefits have come from regions focusing on the type of regionalism that addresses their fundamental challenges. For countries in Africa and South America facing challenges to democratic traditions, strong and binding regional cooperation brought big benefits. For countries in the Pacific facing constraints on their capacity, increased regional provision of services brought big benefits. For countries in Europe facing high barriers between their large markets, regional market integration brought big benefits.

Around the world, addressing big challenges with the right tools has brought big benefits. When the challenge-objective link was weakened, or when the regional institutions established were poorly managed, the collective effort was less successful. Another key lesson from the international case studies is that groupings of purely small states often do not create the net benefits needed. Larger partners often are crucial in widening the potential of regionalism. It is for this reason that the three different types of regionalism

must be analytically separated. Since no two regions face the same challenges, there is no reason to assume their approaches will be similar.

Chapter 2 outlined the various obstacles facing the Pacific region, grouped under the four pillars of the Pacific Plan: economic growth, sustainable development, good governance, and security. Of these four pillars, the analysis suggested that low economic growth and governance failures imposed the largest quantifiable cost on the FICs' development. Further, it suggested that in the case of governance, capacity constraints at the national level played a significant role. In the case of growth, countries were constrained by their small markets, isolation, and the effects of multilateral liberalization.

In this context, current Forum regionalism based to a large degree on cooperation can help, but it cannot by itself address the root of the problem. A "deeper regionalism" is needed.

A Pacific regionalism that speaks to Pacific needs must focus on easing capacity constraints for governments through increased regional provision of services, and creating economic opportunity for Pacific citizens through increased regional market integration.

More specifically, the analysis suggests that regional service provision in the governance sector and regional market integration for movement of labor would yield the largest quantifiable benefits for the Pacific "club." While these "key wins" emerge from the analysis, they are not by any means the only provision or integration measures that can create tangible benefits, nor would they alone be sufficient to create the necessary pool of benefits to make the Pacific club both viable and valuable. Chapter 5 will outline a partial list of sectors and initiatives where large regional benefits may be found.

A final key lesson from economic theory is that for Pacific regionalism to yield the necessary pool of benefits, Australia and New Zealand must become meaningful partners in collective institutions with the Pacific countries. Benefits of regional provision of services and market integration, while potentially significant, are highly sensitive to scale. Regional cooperation is arguably less sensitive. The analysis presented in this chapter and the historical overview of Pacific clubs presented earlier have shown that deeper forms of cooperation need large partners to create the necessary pool of benefits. Chapter 6 will propose an approach to facilitate greater ANZ involvement in a deeper Pacific regionalism.

ENDNOTES

1 Bose 1997.
2 Summarized by Peebles (2004).
3 Hughes 1998.
4 Authors' estimates based on Forum Secretariat data.
5 Pacific Islands Forum Secretariat. 2004c. FEMM Biennial Stocktake 2004. Forum Economic Ministers
6 Meeting, 9–10 June. Suva: Pacific Islands Forum Secretariat. Hughes 1995.
7 Grynberg, R., S. Silva, and J.Y. Remy. 2004. Plurilateral Financial Standards and their Regulation at the WTO—The Experience of Small Developing States. Journal of World Investment and Trade 5:3, June.
8 See Schneider, Benu. The Road to International Financial Stability: Are Key Financial Standards the Answer?
9 See Sandmo (2002) for a useful introduction to this material.
10 Sandmo 2002.
11 The major shareholders of Air Pacific are the Fiji Islands Government and Qantas. The other minority shareholders are Air New Zealand and the governments of Solomon Islands, Kiribati, Tonga, Samoa, and Nauru.
12 This section summarizes the findings in Center for Pharmaceutical Management. 2002. Regional Pooled Procurement of Drugs: Evaluation of Programs. Arlington: Center for Pharmaceutical Management. The study examined the following programs: Organisation of Eastern Caribbean States Pharmaceutical Procurement Service (PPS), formerly known as the Eastern Caribbean Drug Service; Pan American Health Organization Revolving Fund for Vaccine Procurement; Fondo Rotatorio de Medicamentos Esenciales para Centroamérica y Panamá (Revolving Fund for Essential Drugs for Central America and Panama); Gulf Cooperation Council; Arab Maghreb Union; Joint Bulk-Purchasing Scheme for the Pacific Island Countries; Association Africaine des Centrales d'Achats de Médicaments Essentiels; (African Association of Central Medical Stores for Essential Drugs); and Southern African Development Community.
13 This section summarizes the findings of Goldstein (2001) and BBC News Online. 2002. Air Afrique Finally Goes Bust. 7 February.
14 Benin, Burkina Faso, Togo, Central African Republic, Chad, Congo, Cote D'Ivoire, Mali, Mauritania, Niger, Chad, and Senegal.
15 The basic argument outlined below draws from World Bank (2002), DeRosa (1998), Scollay (1998) and Scollay (2001).
16 This section draws heavily on Scollay (2001).
17 Narsey 2001.
18 Hughes 2005.
19 This section draws heavily from Peebles (2004).
20 Dobbell 2003, Peebles 2004, and Senate Foreign Affairs, Defence And Trade References Committee 2002.
21 Andrieu 1999.
22 Australia Parliamentary Report in Peebles (2004).

CHAPTER 5

Priority Sectors for Regional Action

Introduction

This chapter summarizes the findings of a series of independent studies assessing potential benefits and costs of implementing a variety of regional initiatives.[1] The initiatives were chosen for study because of their perceived potential to yield significant net benefits and enhance economic welfare in the region. The chosen initiatives, however, do not comprise a definitive or exhaustive list of possible initiatives.

Most of the studies are not formal cost-benefit analyses, due to data, time, resource, and other practical constraints. They do, however, represent systematic efforts to identify and assess qualitatively and, where possible, quantitatively, the estimated benefits and costs likely to arise from each of the regional activities studied. Should any of these initiatives be approved for implementation, additional work would be necessary to better define and quantify these preliminary assessments.

The following section briefly outlines the methodology underpinning the separate studies. Thereafter, each of the individual initiatives are presented, with a summary of the critical findings and conclusions from its supporting study. The iniatives are grouped under the pillar of the Pacific Plan to which it would contribute improvement, i.e.,:

- good governance,
- economic growth,
- sustainable development, and
- security.

The penultimate section draws together the main lessons and conclusions from all of the studies of potential regional activities. Finally, the indicative costs and benefits of the proposed initiatives are summarized in tabular form at the end of this chapter.

Methodology

Few of the studies of initiatives summarized below approached the level of a comprehensive cost-benefit analysis. Such analysis would entail systematic identification and valuation of both costs and benefits, and calculation of the net present value (NPV) of the whole stream of estimated benefits and costs over the long term, if not the life of the intervention. Such rigorous methodology generally was not possible due to inadequate information and many uncertainties.

The various studies embraced in varying degree some of the following sequence of basic steps involved in formal cost-benefit analysis.[2]

1. **Decide whose benefits and costs count**. This is the first step in evaluating the costs and benefits of an intervention.
2. **Define target activity**. Clarity is needed here on its prospective functions and outputs, the nature of its likely impacts, and who is likely to be affected.
3. **Identify the counterfactual scenario**. Identification of the likely situation in the absence of the target intervention, which is usually known as the counterfactual scenario, and is most commonly the status quo.
4. **List and explain impacts (qualitative assessment)**. Description of the nature of impacts, and, where possible, explain systematically why and how they are expected to occur—including any interrelationships between impacts. This amounts to a qualitative cost-benefit analysis.
5. **Select measurement indicators of impacts**. Attempt to quantify as many as possible of the key impacts.
6. **Monetize all identified impacts**. This is the most challenging and difficult step in practice, because of its demanding and often unattainable information requirements. Many studies monetized a number of obvious costs, but few attempted to value the expected benefits from the regional interventions studied, in terms of "willingness to pay." Expected impacts in the studies are mostly addressed as financial costs and cost savings, and revenue gained or forgone.
7. **Discount all costs and benefits**. Where values for relevant opportunity costs and benefits can be estimated and allocated to each year over the appropriated time horizon, these should be discounted to obtain an estimate of the NPV of the target intervention. This is also done for the counterfactual scenario. The difference between these would be a measure of the net contribution of the intervention.

8. **Sensitivity analysis**. The choice of the discount rate is sometimes problematic. However, potential concerns can be managed by using alternative discount rates to calculate NPVs and assess the sensitivity of the resulting NPVs and conclusions derived from them.

Appendix 11 provides a more detailed discussion of the conceptual basis for measuring costs and benefits.

Governance

Scope for Regional Institutions to Foster Good Governance in FICs

Chapter 2 highlighted the very high opportunity cost of weak governance in selected FICs. Calculations by Duncan (2005) of the projected opportunity costs of forgone gross domestic product (GDP) over the next 10 years also illustrate the gross potential benefits FICs could achieve by acting to strengthen their governance arrangements, and so avoid or mitigate such costs. These potential benefits over 10 years from 2004 are in the order of US$10 billion for Papua New Guinea (PNG), US$2.4 billion for the Fiji Islands, and US$250–320 million for Solomon Islands.

While there is no panacea for achieving good governance, there are potential regional institutional initiatives that could help strengthen public sector governance by providing specialist expertise not available locally. Objective, impartial advice or management of governance challenges might be provided by such initiatives. Chapter 2 demonstrated that, among other factors, capacity weaknesses compromised the effectiveness of governance institutions in the Pacific.

Within the broad range of possible good governance initiatives, we recommend an initial focus on the priority areas of strengthening economic management and accountability of FIC governments. Four interventions are examined:

- a regional economic and statistical technical assistance facility,
- a regional customs agency,
- a regional panel of auditors, and
- a regional ombudsman.

Regional Economic and Statistical Technical Assistance Facility[3]

Overview

The main areas of economic and statistical technical assistance envisaged for supply by a restructured regional facility are

- **Macroeconomics and tax policy and administration**, including public financial management (i.e., budgeting, accounting, and financial management systems), taxation, and macroeconomic policy analysis;
- **Financial sector supervision**, including supervision and regulation of banking and other financial institutions, insurance (e.g., provident funds and pensions), and action to prevent money laundering;
- **Microeconomics**, including, at minimum, trade, investment, and competition policy; management of state-owned enterprises and natural resources; environmental policy; and education and labor market policy; and
- **Statistics**, including assistance in the collection and compilation of financial statistics, national accounts, balance-of-payments information, and labor market statistics. Additionally, assistance would be provided in constructing price indexes, developing survey questionnaires—e.g., for household expenditure, employment, investment, and population census—and in database construction and management.

Envisaged Role of the New TA Facility

It is important to recognize that assistance in many of the above areas is currently being provided by existing regional agencies, such as

- Pacific Financial Technical Assistance Centre (PFTAC) in Suva, Fiji Islands;[4]
- Economic services in the Pacific Islands Forum Secretariat (PIFS) in Suva,
- Economic and statistical services provided via the Sesretariat of the Pacific Community in Noumea, New Caledonia, and Suva;
- Forum Fisheries Agency (FFA) in Honiara, Solomon Islands; and
- South Pacific Regional Environmental Programme in Apia, Samoa.

A new facility would need to draw on, enhance, in some cases merge, and in total, upscale this existing regional assistance. In addition, donors such as the Australian Agency for International Development (AusAID),

New Zealand Agency for International Development (NZAID), and Japan provide substantial related technical assistance on a bilateral basis. International agencies also provide related technical assistance, such as ADB, the IMF (mainly during their Article IV consultations), and the World Bank group. Finally, the OECD Secretariat devotes considerable resources to the compilation and publication of statistical databases. A regional TA facility would need to be actively supported by these partners, and provide TA that is coordinated with and complementary to donor and international programs.

Options for Restructuring Regional Economics and Statistical TA Services

1. **Merge most existing economic and statistical TA resources into PIFS**. The merged facility could be located in the Pacific Islands Forum Secretariat in Suva, which would also consolidate existing PIFS resources devoted to the same subject areas. Negotiations with the IMF and other donors would be required to ensure a smooth handover of capacity from PFTAC to PIFS, and retain significant IMF involvement. The merged facility could be overseen by a deputy secretary-general, with directors heading the separate divisions overseeing the four main classes of services identified above. Divisional staff could comprise one adviser, three project officers, and four technical/support staff. Local offices would be established in several other FICs to enable provision of more direct assistance. Each such local office would be headed by a separate director, and would have a representative from each of the headquarters divisions.[5]

It would be important to assess whether the statistics functions of the merged facility might better be located in the South Pacific Community (SPC) Secretariat at Noumea, in view of the significant statistical services resources already in place there.

2. **Merge most existing economic and statistical TA resources into PFTAC.** As in the first option, it would be desirable to establish local offices in several FICs to provide the needed breadth and intensity of interaction with national departments. If the enhanced PFTAC were to remain outside the oversight of the Forum bodies, strengthening of existing oversight mechanisms, such as a board comprised of FIC reserve bank governors, would be essential to ensure FIC ownership and commitment to the expanded facility.

Qualitative Assessment of Case for Merging Economic and Statistical TA

The primary case for merging the region's economic and statistical TA is the recognition that, prima facie, existing institutional arrangements that are providing such assistance seem to have had little observable impact on FIC performance to date. This is despite sizable amounts of such assistance over the last decade or so.

The current lack of impact reflects, in part, two shortcomings of the PFTAC facility. One is that PFTAC is severely understaffed relative to FIC needs. The second is that PFTAC is not sufficiently "owned" by the region. Pooling existing regional economics and statistics expertise into a single facility, gearing up the operations, and using more local staff could enhance the effectiveness of TA resources by addressing both of these issues. It could harness economies of scale and scope in the supply of TA services. A higher concentration of technical expertise, for example, could lead to more robust advice by stimulating competition of ideas. It could also lead to more local "ownership" of the TA outputs, thereby improving the probability of advice being accepted and implemented.

A merged facility could contribute significantly to FIC economic and social well-being if it succeeds in improving TA quality and accessibility to FICs, thereby increasing the likelihood that advice culminates in effective action. In doing so, it would contribute to FICs achieving improved governance in public sector activities, and improve the regulatory and policy environment for the private sector. The opportunity costs of the merger would likely be miniscule compared with the benefits from strengthening governance (and reducing the very high costs of poor governance).

To assess whether a merged regional facility is likely to be the best way to achieve this contribution will require more comprehensive evaluation. The underlying problems that prompted consideration of restructuring regional economic and statistical TA should be thoroughly evaluated, as should other possible options for resolving them. Existing providers of such TA services in the region will need to be consulted further.

Quantitative Assessment of Case for Creating New Regional TA Facility

The opportunity costs of creating a merged regional TA facility were not assessed comprehensively in the preliminary study. A full quantitative assessment will require, for example, identification of any cost saving for

existing agencies, relocation and transfer costs, one-time establishment costs, as well as recurrent operating costs.

The total annual cost of a regional facility, if activities merged into PIFS, are estimated at around F$8 million. Salaries would account for about F$6 million of the total if it is assumed the facility had the following personnel: deputy secretary-general (1), directors (4 in headquarters, 3 in subregional offices), advisors (4), project officers (12 in headquarters, and 12 in subregional offices), and technical/support staff (22). Yearly travel costs and in-country training costs would each account for about F$500,000. Administrative support costs would amount to about F$1 million per year.

Regional Facility to Assist Customs Officials in Collecting Revenue

Overview

A possible means of both improving customs revenue collection and reducing costs of poor governance in FICs would be to develop an independent regional customs facility. Such a facility would specialize in providing customs-related services, such as specialist training for national agencies, information sharing, and on-the-spot surveillance checks of customs import documentation in FICs. Strictly speaking, this would be an intergovernmental facility, complementing the work of national customs agencies and providing services on behalf of all FICs. It would be answerable to a high-level governance body comprising representatives of each FIC. To be effective, the regional facility would require operational independence from executive branches of FIC governments through appropriate governance, institutional arrangements, and resourcing—in much the same way as central banks ensure their operational independence.

Case for Creating Regional Customs Capacity

A preliminary study of customs collection in a sample of FICs was conducted by Professor Ron Duncan to assess whether there is a strong case for establishing such a regional customs facility.[6] Signs of avoidance of customs duty on imports were evaluated through a statistical examination of the reported value and tariff classification of imports into Fiji Islands, Kiribati, and PNG, and their comparison with the reported value of exports from other countries to these three countries.

The following were the main findings of the statistical evaluation of the study.

- In PNG and Kiribati in recent years, undervaluation of imports in customs declaration documents was less likely to have occurred than in earlier years.
- In Fiji Islands, the opposite seems to hold, as there are substantial, persistent patterns of differences in the classification of merchandise that merit further inquiry.[7]

The Fiji Islands findings could be the result of innocent differences in classification between exporting countries and importers, or could point to deliberate evasion of duty payable. Although more disaggregated data on imports are available for Fiji Islands and PNG, it would be difficult even from these data to confirm suspicions.

The study emphasizes that independent, on-the-spot inspections are needed to determine whether importers are deliberately misclassifying or undervaluing (underinvoicing) imports in order to evade the payment of duty, and whether any customs officers are knowingly "overlooking" or accepting such fraudulent acts. Two possible options for achieving such inspections were highlighted by the study.

- **Independent Surveillance Teams**: This is the most common means of reducing evasion of duty payable and corruption in customs operations. Such teams check the valuation of merchandise imported and the classifications of goods for purposes of charging customs duty. The inspections may be comprehensive, or involve a random sample of customs transactions.
- **Independent Inspection Agency**: In Indonesia, where the customs service had been seen as particularly corrupt, the Government recently adopted an effective alternative approach. An independent inspection agency was created that assumed all responsibilities of the customs agency, resulting in a dramatic increase in customs duty collected.

National customs agencies in FICs have an ongoing need for practical training in customs administration, inspection, and enforcement. They also require information sharing to learn from relevant developments in other jurisdictions.

Qualitative and Quantitative Assessment of Implementation Impacts

Independent surveillance teams. Stationing an independent inspection team in one FIC with a mandate to undertake random checks on customs

practices in FICs that have tariff regimes, is one means of checking the extent of duty evasion and corrupt practices in the region's customs services. Random audits, combined with severe sanctions for evasion of customs duties, also could be effective in increasing duty collection and reducing corruption. Random audits alone would not be as effective as having a continuous inspection service stationed in each country, but it would be much less expensive. Some checks could be conducted on a random basis while others could target suspected cases.

Independent surveillance teams, as an adjunct to their inspection role, could usefully provide local specialist training to help build the operational capacity of FIC national customs services. They could serve as a conduit for sharing technical information about customs issues and practices, drawing on lessons from international experience.

The cost of creating a customs surveillance team to carry out random checks as well as training programs is estimated at about F$1 million per year. This estimate assumes a surveillance team of four with average salary/benefits costing F$200,000 each (including administrative support costs); an average of five country visits by each staff member for inspection/training purposes costing F$5,000 per visit, or around F$100,000 annually; and office rental and equipment costs of about F$100,000 annually.

Independent Inspection Agency: The services of such inspection agencies are quite expensive. To justify contracting an independent customs inspection agency to assume the role of national customs services throughout Pacific island countries would require strong evidence of corruption and sizable public revenue loss.

The risk of corruption in customs services is highest where average duty rates are high and vary significantly. Accordingly, an independent inspection agency, if used, would likely encounter its largest payoffs in countries where customs regimes have these features, and in the larger countries such as the Fiji Islands and PNG, where a significant amount of customs duty is collected (around F$150 million a year in the Fiji Islands).

Like an independent inspection team, an independent inspection agency could also provide training for national customs agencies and act as a conduit to facilitate information sharing.

Regional Panel of Public Sector Auditors[8]

Overview

An independent, impartial, competent, and properly funded public audit agency is a vital component in the institutional arrangements that all countries, including FICs, need in order to foster and maintain good governance. This requirement also applies to regional and international public sector activities. Governments and legislatures rely on ex post audits of public expenditure, revenue, financial assets, and liabilities to achieve two valuable public benefits:

- Ex post attestation that public sector personnel have used public money and resources for properly authorized purposes, and have met their publicly funded commitments; thus
- encouraging, ex ante, proper use of public resources, and deterring improper use by increasing the perception that public sector personnel will be accountable for proper/improper use via kudos/opprobrium.

Many FICs, however, find it very difficult to attract and retain staff with the necessary skills and experience to carry out the required quality of auditing needed to attain these two important benefits. Professionally qualified, experienced accountancy staff are in high demand and tend to be attracted to larger countries. Wide disparities therefore exist in operational capacities of FIC offices of auditor-general (OAGs).

The merits of adopting a three-phased approach to regional intervention are assessed below. This approach would culminate, if conditions are suitable, in the creation of a regional panel of auditors to provide public sector auditing services, in order to strengthen the quality and quantity of public sector auditing in all FICs. These services would include attestation and capacity-building functions, such as specialist advice and training, and extend to state-owned enterprises as well as to government departments.

Envisaged Regional Audit Intervention in Three Phases

The preliminary study envisages the following three phases of regional intervention to strengthen public sector auditing capacity and performance in FICs.

(i) **Strengthen capacities of OAGs and harmonize standards**. Phase 1 would fund the South Pacific Association of Supreme Audit Institutions (SPASAI)[9] sufficiently to enable it to (a) provide training and secondment programs for national OAGs to strengthen their operating capacities, and

(b) encourage and assist FICs to adopt common standards and institutional frameworks for the role of OAGs. SPASAI's role would remain one of technical support and acting as a clearinghouse for exchanging ideas on audit issues.

(ii) **Create formal Federation of Pacific-Forum OAGs**. Phase 2 would aim to boost further the operational capacities of FIC OAGs by creating the Federation of Pacific-Forum OAGs (superseding SPASAI) with a formal mandate to (a) continue OAG training programs to bolster national OAGs' operational capacity, (b) provide resources and advice to national OAGs to reduce their operational capacity disparities, and (c) consider thoroughly the case for creating a regional panel of public sector auditors. A formal federation could even become directly involved in auditing public sector regional institutions. Alternatively, Phase 2 could upgrade SPASAI to achieve the same ends.

(iii) **Create a fully integrated Regional Panel of Auditors**. Phase 3 could entail FICs devolving to the Regional Panel of Auditors some functions of national OAGs, to act on their behalf. This would be a medium-term option.

Qualitative and Quantitative Assessment of Benefits and Costs

Phase 1: Strengthen capacities of OAGs and harmonize standards. This phase would mark the start of progressive steps to enhance public sector auditing capacities and performance to achieve the benefits mentioned above. The goal of encouraging and enabling FICs to establish a common regulatory framework for OAGs is just one means of helping them enhance their auditing performance. While the SPASAI already has a mandate to undertake the phase 1 functions, it does not have the resources to do so. It needs public funding to carry out this role to any significant extent. The study estimates that SPASAI would require funding to cover the annual costs shown in Table 5.1.

Phase 2: Create a federation of OAGs. While the study expects Phase 1 training programs to reduce disparities in OAG institutional capacities, it foresees these persisting even after a convergence of operational environments has been achieved. Phase 2, therefore, would continue with the secondment arrangements, either under the Federation option or by strengthening SPASAI. Whichever option is chosen, the costs of Phase 1 would continue, and need to be added to the costs of the extra functions envisaged for Phase 2 as shown in Table 5.2.

Table 5.1: Estimated Annual Costs of SPASAI Phase 1 Functions (F$'000)

Item	Estimated Cost per Annum
Operating a small secretariat to manage its enlarged level of activities	1,316
Operating a wider training function	840
Secondments between offices, to provide assistance and facilitate an exchange of expertise[a]	156
Total	**2,348**

SPASAI = South Pacific Association of Supreme Audit Institutions.
a The practical reality is that most of these secondments would need to come from more developed countries like Australia and New Zealand.
Source: White 2005.

Table 5.2: Estimated Annual Costs of SPASAI Phase 2 Functions (F$'000)

Item	Estimated Cost per Annum
Operations to be established in Phase 1	2,350
Minimum operations of national offices within the federation (with a maximum costing of about F$37 million)	26,075
Additional costs of expanded federation office	180
Total	**29,000**

SPASAI = South Pacific Association of Supreme Audit Institutions.
Source: White 2005.

The second item in Table 5.2 represents the estimated minimum required to enable the national OAG functions in each FIC to achieve a suitable level of operational capacity. The estimate is benchmarked on the New South Wales State OAG in Australia, with some adjustments.[10] These figures include existing budget provisions already made for the individual FICs for their national OAGs.

Phase 3: Create Regional Panel of Public-Sector Auditors. Creating a regional panel of auditors with at least some of the functions of national OAGs would have some clear advantages.

- **Independence from Executive Governments**: The Regional Panel of Auditors, provided its funding is assured, would be independent of potentially untoward influence by national governments.
- **Capacity to Audit FIC Regional Bodies**: The Regional Panel of Auditors would be a suitable body to audit regional institutions that develop in the Pacific.

The establishment of a regional panel of auditors should be seen as a medium- to long-term objective that would require a total budget of about F$40 million per annum. This figure is relatively larger than for other governance initiatives, but it includes FICs' current aggregrate expenditures on public sector auditing. Only the Phase 1 costs are additional to FICs' current expenditures.

Regional Ombudsman Office

Overview

An ombudsman is defined as "an official who investigates citizens' complaints against the government or its servants."[11] Over 100 countries throughout the world have ombudsman offices, each with the fundamental role of promoting the principles of administrative justice and good governance. These include several Pacific countries, such as PNG, Samoa, and Vanuatu.

Ombudsman functions often include the following three elements, such as in New Zealand.

- Assess the merits of citizens' complaints about administrative acts and decisions of government agencies—at central, regional, and local levels—and recommend appropriate remedial action by the department or agency concerned.
- Review government decisions to not release official information requested under legislation designed to make it easily accessible to the public—unless there is a strong case that its release would not be in the public interest—and recommend appropriate action.
- Guide and inform employees who have made, or are considering making, a protected disclosure (i.e., whistle blowing).

In carrying out such functions, ombudsmen typically are not empowered to coerce a government department or agency to accept their advice or recommendations. But their advice is often followed. The desired outcomes from these functions are that they

- resolve grievances occurring in the process of public administration;
- improve the accountability of the public sector for its administrative actions and decisions;
- enhance public confidence in public sector administration; and
- promote "open" government by ensuring that official information is released to the public unless it can be demonstrated that the release of specific official information would not be in the public interest (with the onus on government to demonstrate this).

Case for a Pacific Regional Ombudsman

While a few FICs do have a national ombudsman, the majority do not. Creating a small Pacific egional ombudsman office would provide an opportunity for citizens of FICs with no national ombudsman to air their grievances about government administrative acts and decisions. It would also allow the possible constructive resolution of these citizen grievances via the intermediation of the regional ombudsman. It could, in other words, partly fill a gap in current public sector institutions in these countries.

The regional ombudsman office could be quite small (e.g., one resident ombudsman), but still be effective by being able to coopt the services of national ombudsmen for short periods to help the regional ombudsman office carry out its role. Based on estimates for the customs unit (see above), the annual salary costs for the regional ombudsman would be approximately F$200,000 (including administrative support). If the ombudsman undertook a limited number of reports annually, the additional cost of country visits and hiring of short-term experts (if needed) should not exceed F$300,000, bringing total annual costs to F$500,000.

Like national ombudsmen elsewhere, the regional ombudsman would have powers only to investigate, advise, and recommend, with no power to force government departments or agencies to adopt advice given. Even with this limited power of "moral suasion," however, the reports of the ombudsman's office, given a high regional profile, would undoubtedly generate interest and debate within the region and the country in question.

In practice, without specific legislation governing accessibility of official information, a regional ombudsman's role may be limited to dealing with grievances. But even this relatively limited focus would be another factor helping encourage sound public sector management processes and decisions, and good governance.

An issue to be resolved is how best to ensure that a regional ombudsman can operate independently and impartially. This is a vital requirement that is universally recognized as essential for an ombudsman. What this means is nicely explained in the web site of the Republic of Ireland ombudsman office.

> Impartiality requires independence and independence, in turn, requires statutory or legal underpinning, security against arbitrary removal, the power to issue and publish reports with the protection of legal privilege and, finally, adequate resources to do the job.

In most countries the office of national ombudsman is underpinned by specific legislation, and usually reports to the legislature. Both of these features help ensure its independence. To enable a regional ombudsman to operate effectively may require a treaty between FICs backed up by enabling national legislation. This issue requires further study.

Economic Growth

As discussed in Chapter 2, constraints to economic growth in the Pacific arise from a combination of weak governance, limited skilled human capacity, and natural constraints (smallness, remoteness, a narrow resource base). Some priority regional governance responses have been outlined above. This section outlines some possible initiatives that can help address the other constraints to economic growth: limited skilled human capacity and natural constraints. All of the following initiatives include measures to address skilled human capacity constraints by pooling scarce and expensive skills into a shared regional institution.

Three proposed initiatives aim to help FICs generate better returns from two of their key resources—fisheries (through further harmonization of access arrangements), and a young and dynamic but undertrained and underemployed labor force (through the liberalization of regional labor markets and the creation of a regional nurse training facility). Three further proposals seek to minimize the high costs and weak provision of services in two sectors that are vital for small and remote countries—transport (the Pacific Aviation Safety Office (PASO) and joint procurement of petroleum products are proposed) and communications (liberalization of telecommunications markets is proposed).

Any further work undertaken on regional initiatives to address economic growth should carefully consider the ongoing analysis of the likely economic impact and service opportunities offered by the Pacific Islands Air Services Agreement (PIASA). PIASA is a regional market integration agreement signed at the Auckland Meeting. Its aims are to progressively liberalize market access in the FIC airline sector and relax restrictions on national ownership of airlines. PIASA is potentially further reaching than the proposed Pacific Aviation Safety Office in terms of regulatory liberalization, national sovereignty, and economic benefits.

Liberalizing Labor Mobility in the Pacific

Overview

Pacific countries have long experienced permanent migration of their citizens to larger, more developed host countries such as Australia and New Zealand (ANZ) in search of better education, public services, and employment opportunities. To date, immigration policies of these two countries have favored the permanent migration of skilled workers, severely restricting access of unskilled workers. Research commissioned for this report indicates that both the migrants (skilled and unskilled) and their host countries benefit significantly from this type of migration. The research also suggests that current ANZ immigration policy, however, probably represents the worst-case scenario for residents of Pacific island countries because of its detrimental impact on their welfare resulting from the loss of skilled workers. This conclusion appears to hold true even after allowing for the mitigating effect of remittances home.

Summarized below is an analysis in a study carried out by T.L. Walmsley, S.A. Ahmed, and C. Parsons[12] examining whether a more mutually beneficial scenario for host and home countries might be to allow more Pacific islanders to work in ANZ on a temporary basis—e.g., a fixed term of 3 to 5 years. After the fixed term, such temporary workers would be required to leave the host country. Other Pacific islanders would be allowed to take their place so long as the total number at any time does not exceed the increased quotas. The analysis here raises some important issues for consideration of all Forum member countries.

Labor-Mobility Liberalization Options Examined

The study modelled the impact of ANZ increasing their quotas for temporary movement of persons by an amount equal to 1% of their respective labor forces, with the quotas filled entirely by an influx of Pacific island

labor on a temporary basis. Outcomes of the policy changes would be achieved in the short-medium timeframe, or approximately 3 years. Scenarios modeled included, notably

- 1% increase in quotas for both skilled and unskilled labor met entirely by a further influx of Pacific island labor,
- 1% increase in quotas for unskilled labor only (met similarly), and
- 1% increase in quotas for skilled labor only (met similarly).

Such a development would be broadly in line with "mode 4" temporary movement of labor between countries envisaged under the General Agreement on Trade on Services (GATS).[13]

Benefits and Costs of the Different Options

Increasing the movement of both skilled and unskilled labor from FICs to ANZ. As shown in Table 5.3, Pacific islanders—both migrants and those remaining in FICs—would experience a net welfare increase of a massive US$1.1 billion in the short-medium term (col. 6, row 3). Pacific islanders working in ANZ would gain the most, nearly US$1.4 billion (col. 2, row 3) and US$168,000 (col. 3, row 3), respectively. But this beneficial impact is offset partly by a welfare loss of almost US$490 million (col. 4, row 3) borne by those remaining at home in the Pacific islands. The loss arises mainly because a 1% rise in temporary migrant-labor quotas for skilled and unskilled workers would reduce FICs' already-stretched skilled workforce by 21%—with consequential effects on productiveness and tax revenue—but would reduce their far more plentiful unskilled workforce by only 2%.

Table 5.3: Bilateral Welfare Changes for 1% Rise in Unskilled and Skilled Labor Quotas (US$ million)

Home Region (1)	Host Region: Australia (2)	New Zealand (3)	Pacific Islands (4)	Other (5)	Total Welfare of Home Region (6)
Australia	302.61	-0.85	1.77	0.00	303.53
New Zealand	-6.88	26.55	0.94	0.00	20.61
Pacific Islands	1,386.10	168.07	-488.02	0.00	1,066.14
Rest of the World	-75.55	-11.31	33.12	-33.10	-86.84
Total Welfare of Host Region	**1,606.28**	**182.46**	**-452.19**	**-33.10**	**1,303.44**

Source: Walmsley et al. 2005

Table 5.3 also shows that ANZ residents (other than temporary migrant workers from the Pacific islands) would also benefit under this scenario of labor-movement liberalization. For example, the welfare of Australians living in Australia would rise by about US$300 million (col. 2, row 1), and the welfare of New Zealanders living in New Zealand by about US$26 million (col. 3, row 2). But labor from all other countries (the rest of the world) resident in the two host countries would experience welfare losses of some US$86 million (cols. 3 & 4, row 4).

Increasing the movement of unskilled labor only from FICs to ANZ. This scenario, as shown in Table 5.4, would still yield large short-medium term welfare benefits for temporary migrants from FICs (almost US$880 million), while also benefiting Australians and New Zealanders living in their own countries, but with no welfare losses to those remaining in FICs.

Increasing the movement of skilled labor only from FICs to ANZ. This scenario, shown in Table 5.5, would still yield significant welfare benefits in the short-medium term for the temporary migrants from FICs (over US$610 million), but would impose severe welfare losses on those remaining in FICs (over US$510 million), and yield significantly less welfare benefits for Australians and New Zealanders living in their own countries. This would arguably be the worst scenario. It would exacerbate the welfare loss to the remaining Pacific island residents, but with relatively little offsetting welfare gains.

These results do not allow for the likelihood of increased productivity of Pacific islanders returning home after temporarily working in ANZ. They are at least broadly indicative of the detrimental welfare impact on FICs of the current situation of permanent migration of skilled labor.[14]

When the researchers allowed for the expected increase in productivity of returning temporary workers under the first scenario, it was found that the higher productivity of returning skilled and unskilled temporary labor would more than offset the welfare losses of Pacific island residents. This would yield a net welfare benefit of about US$18 million. While the higher productivity of returning skilled labor would yield positive welfare gains (about US$124 million), these would be insufficient to offset the above welfare losses from the temporary outflow of skilled labor. In contrast, the higher productivity of returning unskilled labor would yield much larger positive welfare gains (nearly US$400 million).

Table 5.4: Bilateral Welfare Changes for 1% Rise in Unskilled Labor Quotas **(US$ million)**

Home Region (1)	Host Region: Australia (2)	New Zealand (3)	Pacific Islands (4)	Other (5)	Total Welfare of Home Region (6)
Australia	199.84	-0.38	0.07	0.00	199.53
New Zealand	-4.88	17.90	0.04	0.00	13.07
Pacific Islands	775.05	104.13	22.03	0.00	901.21
Rest of the World	-58.62	-6.98	1.88	-19.06	-82.79
Total Welfare of Host Region	**911.39**	**114.67**	**24.02**	**-19.06**	**1,031.02**

Source: Walmsley et al. 2005

Table 5.5: Bilateral Welfare Changes for 1% Rise in Skilled Labor Quotas (US$ million)

Home Region (1)	Host Region: Australia (2)	New Zealand (3)	Pacific Islands (4)	Other (5)	Total Welfare of Home Region (6)
Australia	102.87	-0.47	1.70	0.00	103.99
New Zealand	-2.00	8.64	0.90	0.00	7.54
Pacific Islands	611.05	63.94	-510.06	0.00	164.93
Rest of the World	-16.94	-4.32	31.25	-14.04	-4.04
Total Welfare of Host Region	**694.88**	**67.79**	**-476.21**	**-14.04**	**272.42**

Source: Walmsley et al.

Possible Regional Action Suggested by the Research Results

These results suggest that leaders of Pacific Forum countries should examine the possibility of permitting increased quotas of unskilled workers from FICs to work in Australia and New Zealand on a temporary basis for, say, 3–5 years. After this period, they would be required to depart ANZ and be replaced by other unskilled FIC workers. This may be a cost-effective way of assisting FICs to enhance their economic development.

The results also raise the question of whether action to encourage a larger pool of skilled workers in FICs would be another way to mitigate the detrimental welfare impacts from the migration of their skilled workers. One possible measure to consider would be improved training opportunities. One of a number of specific initiatives that would meet this objective, a regional approach to nurse training, has been examined as an example of this approach and is discussed next.

Creation of Pacific Regional Nurse Training Facility

Overview

Nursing is explored to illustrate the potential costs and benefits of a sector-specific temporary labor scheme. There has been a rapid increase in the number of nurses emigrating from developing countries to work for short or long periods in high-income countries. This trend has also been evident in the Pacific region in recent years. Many concerns have been raised about the impact of this trend on the source countries, not least a decline in the quality and volume of health services. But perceived benefits also stem from this international flow of services, most importantly the reverse flow of remittances. The question arises as to whether prospective benefits would be large enough to justify a Pacific island government, or governments, creating a training facility to train nurses to work overseas, as has happened in other countries.

A recent initial study by Professor Ron Duncan assesses both the arguments for—and potential benefits and costs from—creating a publicly-funded regional nurse training facility geared primarily to training nurses to standards that would enable them to work offshore—e.g., in developed countries like ANZ where nurses are in short supply.[15] The main findings of this study are summarized here. It is important to note that the Duncan (2005c) and Walmsley et al. (2005) studies utilized different methodologies and bases, and the resulting estimates cannot be aggregated.

Should Governments Intervene to Create a Regional Nurse Training Facility?

The report notes that in the Philippines—the country with the largest international flow of nurses—the private sector primarily trains nurses to work overseas. Why not similarly leave it to the private sector to decide whether to create such a facility in the Pacific region, guided by market forces and its own assessment of viability? Are there "market failures" and resulting external social benefits that could justify a Pacific island

government (or a number of such governments, jointly) either subsidizing a private facility, or establishing and operating such a facility?

Entry Barrier. The Duncan (2005c) study finds that a new private nurse training facility in the Pacific islands would likely have difficulty establishing its credentials and successfully placing its graduates in high-income countries because of the lack of a track record.[16] This situation was seen as a major obstacle to setting up a private export-oriented nurse training facility in the Pacific islands.

In these circumstances, a major argument for a Pacific-wide regional nurse training facility is that the Pacific island governments together could use their collective political bargaining power to negotiate with intended destination governments. They could, for example, create a uniform set of regulations under which nurses would be hired. They could also help ensure the Pacific regional nurse-training facility is accredited with the destination countries, so that its graduates would be recognized.

Such negotiations on the part of Pacific island governments appear to be the only way to overcome this market failure. Otherwise, nurses from Pacific island countries will continue to experience difficulties finding nursing jobs, instead taking on so-called "caregiver" jobs, which are less well paid.

External Benefits Not Reflected in Market Prices. Another possible market failure is that setting up a high-quality nurse training facility to meet the standards of destination countries—assumed to be higher than those in source countries—could have beneficial impacts on the nursing services and health facilities in Pacific countries. Not all nurses trained in the facility would necessarily emigrate. After being trained to higher, international standards, nurses newly trained but not emigrating could well lift health standards in Pacific countries. Further, nurses returning to the Pacific after substantial experience abroad would also help lift Pacific standards of nursing. To the extent facility benefits are not captured by the nurses as higher salaries, the resulting social benefits could justify government subsidies of the training facility.

Regional Provision to Obtain Benefits from Economies of Scale and Scope

There clearly are economies of size and scope in the training of nurses, given the different kinds of nursing functions. To harness these economies, it would make sense to set up a regional facility that would accept

enrollments from all Pacific countries. One means of both creating a training facility of sufficient size and scope, and meeting destination countries' certification requirements, would be for a training facility operating in one of the destination countries to establish a facility in a Pacific country. It is not clear, however, if such a facility would need any government subsidy, or one only during an initial establishment period.

Approach to Benefit-Cost Analysis of a Regional Nurse Training Facility

Assessment of the net benefits likely to result from creation of a Pacific regional nurse training facility requires that both private and social benefits and costs be taken into account. Social benefits and costs are those not captured by the nurses' increased income, and by the training costs. Private benefits and costs are the benefits the nurses and their families derive from the training, less the private costs of the training. The government would also participate in private benefits, receiving taxes and perhaps training fees paid by the nurses. Additional training costs may be paid by government.

Whose costs and benefits should be counted and to what extent? Most, if not all, nurses graduating from the training facility would be expected to go overseas to work for a period. Should such overseas workers be regarded as part of the Pacific region's economy and, therefore, their entire net increase in income counted in the analysis as private benefits arising from the training facility? Or should only the remittances back to the region from this income be counted as additional private benefits from creating the facility? The study calculates the net benefits under both approaches.

Assumptions about Benefits: The study makes a series of assumptions about the benefits and costs involved. These include, for example, assumptions about the following aspects of private benefits: (i) the likely increase in wages earned by the emigrating nurses as a result of the training, (ii) how long they would earn the higher wage overseas, and (iii) what is the amount that emigrant nurses are likely to remit annually. In calculating net private benefits, allowance is made for their basic living costs overseas.

Assumptions about Costs: Assumptions about the training costs of a Pacific regional nurse training facility are based on the tuition fees in a similar kind of training organization with no government subsidies.

The analysis assumes that there is a large pool of unemployed or underemployed labor, so that the opportunity cost of an untrained person

who remains in a Pacific country is probably close to basic living or subsistence costs. The Fiji Island data were used for estimation.

To allow for the difference in basic living costs between the Pacific region and the overseas host country, the study assumes these are equivalent to the basic unemployment benefits paid a single person in the Fiji Islands and Australia, respectively. The difference between the unemployment benefits and what it actually costs the nurses to live in Australia is assumed to reflect the higher standard of living experienced by the nurses, and therefore is counted as a private benefit received by the nurses.

Counterfactual Scenario: The analysis assumes that, without government intervention to obtain accreditation for a nurse training facility in the Pacific, nurses from the region would find it difficult to obtain overseas employment as nurses. The number of people thus able to gain employment abroad as nurses will be considerably less than if such a training facility existed.

Results of Benefit-Cost Analysis

Based on study assumptions, Table 5.6 shows the results per nurse graduate.

Table 5.6: Benefits and Costs of a Pacific Regional Nurse Training Facility[a] (F$)

Item	Costs	Benefits
Australian nurse's salary (earned over 10 years)		536,800
Less opportunity cost of Fiji Islands employment (over 10 years)	49,700	
Less living expenses in Australia (over 10 years)	229,300	
Net increase in income due to training (undiscounted)		257,800
Net increase in income discounted at 3% per annum		200,000
Net increase in income discounted at 8% per annum		131,200
Tuition fees discounted at 3% per annum	33,100	
Tuition fees discounted at 8% per annum	30,300	

a Assumes emigrants remain part of the Pacific economy.
Source: Duncan 2005.

Counting the entire increase as a benefit arising from the regional facility results in the following.

- The net present value (NPV) of a Pacific island nurse graduate's increased income due to training at the proposed Pacific regional facility and employment overseas as a nurse for 10 years is estimated at about F$200,000, using a discount rate of 3% per annum.[17]
- In contrast, the corresponding NPV of the total cost of tuition fees per nurse graduate is estimated at F$33,100.
- The resultant benefit-cost ratio is 6.0 (i.e., F$200,000/$F33,100).

The corresponding NPV figures per nurse graduate using an 8% per annum discount rate are a net benefit of $F131,000, total tuition fee of F$30,300, and benefit-cost ratio of 4.3.

The study also calculated net benefits considering that only the value of a graduate nurse's remittances from abroad count as benefits from the graduate training facility. It estimated the value of such remittances over a 10-year period, using plausible assumptions based on available evidence, as F$66,700. At annual discount rates of 3%, the total NPV of benefits from these remittances would be F$51,900 (or F$35,400 if discounted at 8%). The resultant benefit-cost ratio at 3% discount rate is 1.6 (or 1.2 at a discount rate of 8%).

Other Impacts and Issues

External Benefits and Costs: It will likely be necessary that trainees of the regional nurse training facility receive practical experience in a hospital. If this is unpaid work, the value of the work can be considered as an external benefit of the project. If, say, third-year nurses are required to undertake 20 hours per week for 50 weeks, and this work is valued at F$2.50 per hour, the total worth of their contribution would be F$2,500 (as compared to the starting salary in the Fiji Islands of F$11,600 for a registered nurse).

It is assumed that nurses trained at the regional training facility would be additional to the number of nurses already being trained. Thus social costs in the form of a decline in the quality of health services due to nurses emigrating should not be claimed against such a facility.

Government Budgets: As far as Pacific government budgets are concerned, to what extent would tax revenues accruing from the additional remittances received from additional nurses working abroad offset the

expenditure incurred in establishing and operating a Pacific regional nurse training facility?

The governments would benefit directly to the extent remittances were spent on consumption, and value-added tax (VAT) and/or import duties were in place. If governments meet the tuition costs of the students, per-student total cost over the 3-year period (allowing for dropouts) would be F$34,000. If the governments pay the living expenses of students as well as the training fees, total government financial commitment for each student would be around F$50,000 over the 3-year period.

Minimum size: Economies of size and scope mean that the facility should be of a certain minimum size if it is to provide the necessary breadth and quality of training needed to satisfy accreditation requirements in destination countries. The larger the intake of students, the lower will be the individual costs of training. A facility capable of enrolling 150–200 students appears to be about the minimum viable size. To have a major impact in creating overseas employment opportunities for the large number of young people presently unable to find local jobs, and to be a significant contributor to remittances, the facility would have to be many times larger than this—possibly 10 times this size.

Further Harmonization of Fisheries Access Arrangements

Overview

The focus of an initiative to strengthen fisheries access agreements is on four potential priorities for regional interventions addressing fisheries issues. Three of these priorities concern regional cooperation in negotiating and implementing policies affecting fisheries, notably the interrelated issues of

- harmonization of access arrangements,
- accountability and transparency in all such arrangements, and
- creation and allocation of new property rights for fisheries access.

The fourth priority concerns the institutional arrangements needed to enable continued, or new, effective regional provision of services that address fisheries issues—notably the issue of FFA's future role in relation to the newly created Western Central Pacific Tuna Commission (WCPTC).

Harmonization of Tuna Fisheries Access Arrangements

Fisheries access fees are, at present, usually negotiated as part of bilateral agreements with fishing fleets of individual distant water fishing nations (DWFN). Typically these fees are based on either the current, or last year's catch volume or value, and are understood to entail significant variations in the rates of fees applied to these bases. It also is understood that there are significant variations in total access fee payments received. It is difficult to assess the extent of such variations, or the reasons for them, however, because of a lack of adequate, publicly available information about the majority of fisheries access agreements. Details of these agreements—especially access fee rates and any related development assistance—are not publicly reported. In contrast, fisheries access arrangements under FICs' sole multilateral arrangement, the US Multilateral Treaty on Fisheries, incorporate payment of a fixed fee entitling up to a set number of vessels to fish, and the details are publicly available.

A mix of some or all of the following factors may account for variations in access fee rates, notably differences in.

- DWFN's willingness to pay for access to fish in different EEZs, linked to their estimates of likely economic benefits;
- the history of tuna resource concentrations in each EEZ;
- the negotiating prowess of different FICs, which may allow DWFN's to avoid revealing the full extent of their willingness to pay for access;
- a conditional linkage of bilateral development assistance—maybe informally and secretly—to the outcome of fisheries access agreements;
- FIC domestic fishery development goals—e.g., the desire to establish onshore fish processing and generate employment—that may lead an FIC to accept a lower fisheries access fee rate in return for DWFN help with FIC objectives; and
- possible corrupt practices, including catch underreporting.

Harmonization of fisheries access fees is commonly perceived as a panacea for increased net returns by FICs for access to the highly migratory tuna that FICs temporarily "own" while they are in their EEZs. The grounds for this view is that FIC cooperation in adopting a united negotiating stance with DWFNs would both increase their leverage to negotiate the highest feasible access fee rates, and reinforce this advantage by increasing the contestability of access fees among DWFNs. It is also argued to be an

effective way to reduce fiscal risk by reducing the scope for individual discretion, thereby reducing the scope for corrupt practices.

Is harmonizing access fee arrangements the most effective way to improve economic benefits FIC coastal states receive from their EEZ fishery resources, and at the same time reduce potential fiscal risks? This is a fair question that should be systematically and dispassionately addressed as a matter of priority. In so doing, attention must be given to the extent blanket harmonization of access fees would be seen as fairly reflecting often large differences in the value of fisheries access to different EEZs.

But even if such harmonization is found to help reduce fiscal risks associated with fisheries access agreements, a closer look at the potential sources of these risks suggests that it would not be a complete solution. For example, as van Santen and Muller have explained, setting bilateral access fees on a "harmonized" basis exposes FIC governments to fiscal risks from fraudulent behavior.[18]

> [This] basis offers the best potential for cheating. The system requires extensive data, which are difficult and sometimes impossible to verify; there are strong incentives for sustained mis- or under-reporting [by fishers]. Monitoring costs are relatively high.

Transparency and Accountability in Fisheries Transactions

The secrecy currently surrounding FIC government fisheries access agreements exacerbates the fiscal risk, and is inconsistent with the Pacific Islands Forum's Eight Principles of Accountability,[19] which have been endorsed by FIC governments.

Secrecy, together with system features noted above, increases the opportunity and scope for corrupt behavior by those involved in access agreements on behalf of governments.

It would therefore be prudent that FICs ensure that their negotiating practices are consistent with the principles of good governance and sound public sector management. This also would allow more informed negotiations and settlements between FICs and DWFNs.

As a matter of priority, it would be desirable for FICs to cooperate and mandate the FFA to compile and maintain a comprehensive database of

bilateral fisheries access agreements—including details of access fee rates and payments. FICs should also mandate FFA to confirm the accuracy of the information by independent professional audits, and make this information publicly available. The outcome of this approach would be the creation of a compulsory, open registry of all FIC bilateral fisheries access agreements, including fee provisions, and effective measures to ensure compliance with the registration requirements.

Long-Term Sustainability of Existing Fisheries Access Fee Arrangements

The present typical fisheries access fee arrangement described above[20] is fraught with risk, as it tends to encourage overfishing and overinvestment in fishing. This risks the biological and economic sustainability of the fishery.

A more suitable arrangement might include, say, a fixed option-value component and a variable economic-rent component that depended on the fishers profitability—in conjunction with more certain, defined property rights.[21] Such arrangements could encourage more sustainable harvesting of fisheries to the benefit of the coastal states and fishers. Rights could be allocated by carefully managed auction. At present, however, such an approach is understood to be not yet feasible for the region due to the risk of collusion among the small number of DWFNs, and the apparent lack of agreement between DWFNs and coastal states on such changes in property rights. Additionally, there is at present no expert auction infrastructure in the region.

This subject is one that member countries will need to start addressing systematically and objectively in the near future. It is already an issue, in the sense that the pending work of the WCPTC is scheduled to address fisheries management issues that touch on this subject.

Future Role of FFA

As a matter of high priority, FICs should review the role of FFA to see what, if any, changes in its focus and organizational arrangements may be required for it to serve member countries most effectively. Three key points need to be kept in mind in considering FFA's future role.

- Given the huge economic disparity between DWFNs and individual FICs, a regional fisheries body (such as FFA) is needed to provide expert advice to all Forum member countries to enable them to negotiate—collectively or individually—on a more equitable basis with DWFNs.

- FFA will need to take more account of the interests of DWFNs in member countries' EEZs, and the need to ensure that future fisheries arrangements are likely to be sustainable—economically and biologically—for both the fishers and the coastal states.
- In order to achieve economically and biologically sustainable fishing arrangements, FFA eventually will likely have to help FICs move toward some sort of Total Allowable Catch (TAC) or equivalent fisheries rights. TACs could be allocated via an auction system once institutional arrangements are developed to minimize the risk of collusion between potential bidders.

Liberalization of the Telecommunications Market

Overview

In a region with highly dispersed populations, remote from major world markets, regular access to cost-effective telecommunications infrastructure and services is a vital requirement for future economic development. Telecommunications service providers currently are mainly state-owned monopolies with exclusive licenses. Access costs typically are high, partly reflecting the relatively low teledensities and high operating costs in the region. International experience shows that liberalizing the market for telecommunications service can be expected to yield significant benefits in the region in terms of lower costs, more efficient services, and service quality improvements.

Market deregulation is not necessarily regional market integration. The former is often done at the national level, on a sector-by-sector basis. However, the benefits of market deregulation among all Forum members would be analogous to an integrated regional market for telecommunications. To manage this integration, a regional regulatory service provider is proposed. In this way, a telecommunications liberalization initiative would encompass more than one type of regionalism: both integration and regional provision of (regulatory) services.

The main findings and recommendations of report on telecommunications deregulation in the region prepared by Professor James McMaster of USP for the Pacific Islands Forum Secretariat are outlined below.[22]

Main Findings

There are major benefits from opening monopoly markets to private sector competition. International case studies of telecommunications deregulation undertaken by the International Telecommunications Union (ITU) and other researchers clearly show the substantial economic benefits that result from opening government-dominated telecommunications monopoly markets to private sector competition by licensing new providers. These benefits take the form of lower prices, improved service quality, a higher level of investment in new infrastructure, more rapid adoption of new technology, increased bandwidth, and improved productivity and efficiency in the use of resources.

All consumers stand to gain and the costs of regulation are tiny. Competitive telecommunications markets will generate sizable net economic benefits to all consumer groups in the Pacific Islands, including urban and rural residential subscribers, private sector business firms, schools and universities, public enterprises, and government departments and agencies.

The value of economic benefits to consumers is sizable. The estimated total value of economic benefits to all consumers in FICs almost all stems from a sharp reduction in international telephone call rates, peak mobile phone rates, and Internet charges. This benefit is what economists term a consumers' surplus, with an estimated annual value of US$66 million,[23] and total value over a 5-year period of US$285.9 million (using a 5% discount rate—US$250.9 million using a 10% discount rate).

The estimates, shown in Table 5.7, are based on FIC revenue data from the *ITU Database 2005* edition, and on total telecommunications revenue for Pacific Island ITU member countries. The estimates also incorporate a set of assumptions about the likely level of reduction of call charges resulting from competition, the response of telecommunications companies to the threat of competition in contestable markets, the profitability of different market segments, and price elasticity of demand for telecommunications services.

It is important to note that these calculations of the level of consumer surplus are based on the limited amount of revenue data. More precise estimates of the economic benefits from competition could be made if the Pacific telecommunications authorities made available detailed historical information on their sources of revenue from different services, and their revenue and cost projections for the next 5 years.

Table 5.7: Benefits to Consumers from Deregulation of Telecommunications (US$ million)

	Consumer Surplus for 1Year	Consumer Surplus for 5 Years Discounted at 5%	Consumer Surplus for 5 Years Discounted at 10%
Cook Islands	0.32	1.39	1.21
Fiji Islands	26.25	113.60	99.50
Kiribati	0.95	4.11	3.60
Marshall Islands	1.43	6.19	5.42
Micronesia, Federated States of	2.61	11.30	9.89
Nauru	0.32	1.39	1.21
Palau	1.74	7.53	6.60
Papua New Guinea	25.20	109.10	96.18
Samoa	1.39	6.02	5.27
Solomon Islands	2.51	10.87	9.51
Tonga	0.00	0.00	0.00
Tuvalu	0.32	1.39	1.21
Vanuatu	2.98	12.90	11.30
Total	**66.07**	**285.80**	**250.90**

Source: Mc Master 2005.

The types of economic costs and benefits to the main stakeholder groups expected from information and communication technology (ICT) deregulation in the Pacific islands are outlined in Table 5.8.

Introducing competition also will lead to improved service quality and a more rapid increase in bandwidth. While the study did not estimate the monetary value of benefits from quality improvements—as gauged by consumers' willingness to pay—it is likely to be substantial. For example, New Zealand's experience with telecommunications deregulation showed that benefits from quality improvements may exceed those from lower call rates.[24]

The longer-term dynamic impacts of deregulation and the development of competitive telecommunications markets will be most beneficial for private-sector development, trade, and investment promotion. They are expected to support the generation of an estimated 20,000 new jobs in ICT-enabled businesses, such as call centers and back-office services.

Table 5.8 Economic Benefits and Costs of Information and Communication Technology Deregulation in the Pacific

Group	Cost	Benefit
Urban Residential Consumers		• Reduced tariffs • Increased consumer surplus • Improvement in ICT service quality • Choice of providers
Rural Consumers	Slower expansion out of fixed-line network to isolated locations that are uneconomic	• Reduced cost of some ICT services • Improved quality of services • Introduction of new wireless services
Private Businesses		• Reduced business ICT costs • Businesses more competitive globally • Expanded use of Internet for business functions • Opportunities for new business process outsourcing contracts
Government and Other Public Utilities		• Reduced cost of ICT services for government departments and public enterprises • Improved Internet services and more rapid introduction of e-government • Increased government revenue from a more rapid growth of ICT total revenue
Regulator for ICT	Need to strengthen regulation to ensure strong competition on a level playing field	
Monopoly ICT Provider	• Loss of monopoly market power • Loss of opportunity to make supernormal profits • Pressure to reduce costs and excess staff • Lower incentive to invest in long-term capital infrastructure • Reduced capacity to repay loans for previous capital investment • Reduced market share • Strong price competition from new competitors • Need to improve productivity	
New ICT Providers		• Opportunity to enter new profitable market • Opportunity to test new technology in small markets
Educational Institutions		• Reduced cost of Internet for e-learning

Source: Mc Master 2005.
ICT = information and communication technology

Regulatory Concerns and Costs

The good news is that international case studies show that a high standard of telecommunications market regulation can be achieved at minimal cost—usually less than 1% of total industry revenue—after introducing competition.

International experience also shows that there is no need to maintain a public telecommunications monopoly in order to cross-subsidize the supply of telecommunications services to rural areas and remote island communities.[25] Instead, universal service goals (of expanding services to rural areas) can be achieved by establishing a universal service fund to finance them. All telecommunications providers are required to contribute to it; the proceeds are used to finance contracting out the supply of universal service obligations to private sector providers.

The study indicates that there are likely to be substantial cost savings and economic benefits for the region if all FICs were to enact a common set of e-commerce laws. Most governments have recognized the need for new laws to support national ICT policy and ICT development plans. Cook Islands, Fiji Islands, and Tonga have made good progress in drafting a set of modern e-commerce laws benchmarked on international best practice.

One potentially significant cost would arise from modifying existing monopoly contracts. A number of FICs have recently renewed long-term monopoly contracts with major telecommunications providers. The economic costs and legal ramifications of modifying or breaking these contracts are not addressed in the study, but merit further examination.

Creating a Pacific regional telecommunications authority could result in significant benefits for the region.[26] Such a regional authority would promote liberalization and fair competition, harmonization of regulations and policies, universal service, fair pricing, access to advanced services, and overall sector development across the region. The benefits would stem from substantial economies of scale and other technical advantages from adopting a regional approach to industry regulation, especially as smaller FICs may be unable to attract professionally skilled ICT regulatory specialists to lead their national regulatory authorities.

Creation of Joint-Procurement of Petroleum Products

Overview

Most Pacific economies are heavily dependent on petroleum imports, which makes them particularly vulnerable to petroleum supply disruptions and price rises resulting from global and regional market conditions.

Although the size of this regional market is significant—about US$100 million per annum at freight-on-board prices, it is not managed in a consolidated manner. The fragmented market, numerous players, and poor economies of scale have resulted in inefficiencies in the supply chain, asset redundancy, and underutilization of distribution vessels. This translates into high costs to end consumers.

In many of these countries, consumer protection mechanisms are in force, with price regulation (in the form of profit and price caps and petroleum pricing templates) attempting to mimic the presence of true competition and maintain fair and equitable prices. While this minimizes the price to consumers and avoids price gouging, it does not address costly flaws and inefficiencies in the supply chain.

The preliminary study by Jared Morris assessed the feasibility of regional and subregional initiatives designed to enable small island member countries to procure their vital petroleum needs more cost-effectively.[27] To this end, two basic options for intervention are examined qualitatively and quantitatively, and compared to the status quo.

1. **Regional Regulatory Agency**. Create a regional regulatory agency to:
   - Set regulations covering petroleum supply, storage, distribution, and usage in the entire region, including market failure, environmental, and health and safety issues for the industry; and
   - Implement and enforce these regulations.

2. **State-Owned enterprise (SOE) Operation of Petroleum Handling, Bulk Storage, and Local Distribution Assets**: An SOE would own and operate petroleum handling, bulk storage, and local distribution assets in each country, as a means to enable long-term, subregional cluster contracts for petroleum supply to be negotiated on more favorable terms. The key components of this option (compared with the status quo) are
   - creation of a regional regulatory agency to carry out the same role as

under option 1.

- secure public ownership and operation of petroleum terminal handling, bulk storage, and local distribution facilities in each small island member country as a prerequisite to the next component; and
- secure beneficial subregional petroleum supply arrangements for three subregional clusters of member countries, by creating a regional business advisory unit with the capacity to implement this strategy.

Practically, the unit would need to be part of the regulatory agency, but would require suitable governance arrangements to manage potential conflicts of interest.

The entrenched market dominance of a petroleum supplier in each small island country, and the absence of effective industry regulation, mean that establishing and enforcing an effective regulatory framework for the industry is a prerequisite to implementing this option.

Option 2 is relatively ambitious, but it sets the upper bounds of a range of possible variants.[28] While option 2 is likely to yield higher benefits, it would also entail higher risks. Chapter 4 case studies pointed out the risk of regional bodies undertaking market activities, and the need for clear commercial objectives and governance arrangements that keep costs at a minimum.

Rationale for Regional Intervention

Many small island states in the region face critical cost and supply constraints for petroleum products, due to both

- market failure in the procurement and supply of petroleum products, with a lack of effective competition for petroleum supplies—usually one dominant petroleum supplier in each country is able to extract a degree of monopoly rents—and a fragmented, inefficient supply chain; and
- regulatory failure, as a result of no effective regulation of this market to moderate the impact of market dominance, reflecting a lack of skilled, experienced regulators and inadequate regulatory frameworks.

Comparative analysis of the different options for intervention follows. The status quo is the counterfactual for this analysis.

1. **Regional Regulatory Agency**. Market failure justifies government intervention. But to counteract it effectively on a national basis requires more staff with a high level of skills and experience in regulatory policy and implementation than most small island states can individually provide. Creating a regional regulatory agency would enable all states to benefit collectively from economies of scale and scope in providing petroleum industry regulatory services for the entire region. This also would have the advantage of harmonizing the regulatory framework for the industry and ensuring greater consistency in applying and enforcing regulations.

2. **SOE Ownership and Operation of Bulk Terminal Facilities**. SOE ownership and operation of petroleum handling and storage facilities in individual countries is designed to ensure the contestability of long-run supply agreements, which is not feasible when a potential supplier also owns these assets. Operating the facilities could be part of a long-run petroleum supply contract, rather than carried out by an SOE.

Subregional petroleum supply agreements. Securing integrated, subregional petroleum agreement for clusters of countries has the potential to improve the purchasing power, shipping logistics, and supplier management framework.

A regional business advisory unit would be created as a separate but associated group within the regional regulatory body. The unit would formulate, negotiate, monitor, and implement appropriate long-run petroleum supply arrangements for subregional clusters of countries.

Nature of Benefits and Costs

The main benefits include avoided costs—such as supplier onshore costs—and financial price risks by adopting suitable hedging strategies. Savings would also comprise bulk procurement discounts, local tanker efficiency, and more effective price control.

The main costs associated with the options are

- construction of bulk terminal facilities;
- personnel costs for analysis of networks and clusters, and for brokerage;
- risk assurance process, including economic, safety, and environmental risks;
- rrice control and market monitoring support;

- terminal operating and maintenance; and
- supplier margins.

Qualitative Assessment of Intervention Options

Option 1, creating a regional regulatory agency, is expected to result in some price benefits because of improved regulatory performance from a better resourced, integrated approach to regulating market dominant suppliers. But it would not address the problem of unnecessarily high supply costs due to inefficiencies in the fragmented supply chain.

Option 2, particularly an integrated, subregional petroleum agreement for clusters of countries, is expected to result in some significant net benefits. In particular, it would enable contestability in letting long-run petroleum supply contracts and more efficient supply chains—both expected to result in lower-than-otherwise prices to petroleum end users. This, in turn, would generate a wider flow of subsequent benefits, including enhancing prospects for economic development in the region.

But option 2, by virtue of SOE ownership and operation of petroleum terminal facilities, also involves some high risks—i.e., undercapitalized, underfunded, or poorly managed SOEs—that need to be managed.

Quantitative Assessment of Options

Costs and benefits have been valued in real terms over 15 years, and the results are summarized in Table 5.9.[29] The streams of costs and benefits have then been discounted by a real discount rate of 7%, with sensitivity testing using discount rates of 4% and 10%.

Conclusions

The above results indicate that the status quo would incur opportunity costs over a 15-year period with an estimated NPV of about US$27 million. The results for option 1 indicate a very small net benefit overall, with an NPV of about US$0.1 million, as reflected in the estimated benefit-cost ratio (BCR) of only 1.01. In contrast, results for option 2 indicate sizable net benefits, with an NPV of about US$104 million overall for the countries assessed, and an estimated BCR of 2.12.

While these results are preliminary and indicative only, they lead the report to recommend that the Forum Secretariat investigate further the possibilities and requirements for developing subregional bulk purchasing arrangements for clusters of countries.

Table 5.9: Net Benefits of Regional and Subregional Interventions: Petroleum Supply

STATUS QUO

Southern Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Cook Islands	$ (974,321)	$ -	$ (974,321)	$ -	0.00
Niue	$ (622,483)	$ -	$ (622,483)	$ -	0.00
Cluster Summary	**$ (1,596,805)**	**$ -**	**$ (1,596,805)**	**$ -**	**0.0**

Northern Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Federated States of Micronesia	$ (18,693,083)	$ -	$ (18,693,083)	$ -	0.00
Palau	$ (1,869,308)	$ -	$ (1,869,308)	$ -	0.00
Republic of Marshall Islands	$ (2,868,294)	$ -	$ (2,868,294)	$ -	0.00
Nauru	$ (124,497)	$ -	$ (124,497)	$ -	0.00
Cluster Summary	**$ (23,555,182)**	**$ -**	**$ (23,555,182)**	**$ -**	**0.00**

Central Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Kiribati	$ (1,522,946)	$ -	$ (1,522,946)	$ -	0.00
Tuvalu	$ (121,790)	$ -	$ (121,790)	$ -	0.00
Cluster Summary	**$ (1,644,736)**	**$ -**	**$ (1,644,736)**	**$ -**	**0.00**

	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
TOTAL (Status Quo)	**$ (26,796,722)**	**$ -**	**$ (26,796,722)**	**$ -**	**0.00**

REGIONAL REGULATORY FRAMEWORK - PRIVATE SECTOR

Southern Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Cook Islands	$ 145,461	$ (46,729)	$ (707,071)	$ 852,531	1.21
Niue	$ 145,885	$ -	$ (34,237)	$ 180,121	5.26
Cluster Summary	**$ 291,346**	**$ (46,729)**	**$ (741,307)**	**$ 1,032,653**	**1.4**

Northern Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Federated States of Micronesia	$ (182,892)	$ -	$ (2,519,527)	$ 2,336,635	0.93
Palau	$ (349,449)	$ -	$ (2,519,527)	$ 2,170,078	0.86
Republic of Marshall Islands	$ (102,857)	$ -	$ (805,589)	$ 702,732	0.87
Nauru	$ 210,895	$ -	$ (93,723)	$ 304,618	3.25
Cluster Summary	**$ (424,302)**	**$ -**	**$ (5,938,366)**	**$ 5,514,063**	**0.93**

Central Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Kiribati	$ 207,504	$ (635,649)	$ (635,649)	$ 843,153	1.33
Tuvalu	$ 24,873	$ -	$ (54,406)	$ 79,280	1.46
Cluster Summary	**$ 232,377**	**$ (635,649)**	**$ (690,056)**	**$ 922,433**	**1.34**

	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
TOTAL (Intervention Option 1)	**$ 99,420**	**$ (682,378)**	**$ (7,369,729)**	**$ 7,469,149**	**1.01**

REGIONAL REGULATORY FRAMEWORK - PUBLIC SECTOR

Southern Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Cook Islands	Not Assessed	Not Assessed	Not Assessed	Not Assessed	-
Niue	Not Assessed	Not Assessed	Not Assessed	Not Assessed	-
Cluster Summary	**$ -**	**$ -**	**$ -**	**$ -**	**-**

Northern Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Federated States of Micronesia	$ 78,852,009	$ (7,639,207)	$ (58,217,229)	$ 137,069,238	2.35
Palau	Not Assessed	Not Assessed	Not Assessed	Not Assessed	-
Republic of Marshall Islands	$ 23,703,153	$ (5,841,380)	$ (17,643,682)	$ 41,346,835	2.34
Nauru	Not Assessed	Not Assessed	Not Assessed	Not Assessed	-
Cluster Summary	**$ 102,555,161**	**$ (13,480,587)**	**$ (75,860,911)**	**$ 178,416,072**	**2.35**

Central Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Kiribati	$ 1,356,492	$ (3,181,020)	$ (10,533,172)	$ 11,889,664	1.13
Tuvalu	$ 499,968	$ (2,040,990)	$ (6,589,841)	$ 7,089,809	1.08
Cluster Summary	**$ 1,856,461**	**$ (5,222,011)**	**$ (17,123,013)**	**$ 18,979,474**	**1.11**

	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
TOTAL (Intervention Option 2)	**$ 104,411,622**	**$ (18,702,598)**	**$ (92,983,924)**	**$ 197,395,546**	**2.12**

BCR = benefit-cost ratio, NPV = net present value, PV = present value.

Creation of Pacific Aviation Security Office (PASO)

Overview

Aviation safety and security are vital public goods, especially for Pacific countries that consist of thousands of islands covering 30 million square kilometres of ocean. Modern air transport is essential for tourism and trade in the region, which enable economic growth and alleviation of poverty.

Even though the region's air transport systems are small, all aspects of their operations must meet international standards of aviation safety and security. These safety and security standards cover four separate but interdependent aspects: (i) flying operations, (ii) airworthiness, (iii) airports, and (iv) security. National civil aviation authorities are responsible for monitoring and certifying compliance by their airlines and/or airports with domestic and International Civil Aviation Organization standards and recommended practices.

Pacific countries, however, generally find it difficult to fulfill the required regulation and oversight nationally, due to diseconomies arising from their small size and the fragmented nature of the aviation industry in the region. All face severe financial limits and shortages of skilled personnel to perform these essential functions, and as a result have often failed to meet requirements. Noncompliance places safety and security at risk, and potentially jeopardizes continued international services.

Creating a regional organization to supply aviation security oversight functions for individual Pacific countries would allow them to take advantage of economies of scale and scope in securing the necessary level and quality of services for them to meet international standards. With technical support and policy advice from ADB, a group of these countries has already taken steps to create and implement a regional agency to provide aviation security services for the region—PASO. These countries are Fiji Islands, Kiribati, PNG, Samoa, Solomon Islands, and Vanuatu.

Case for Regional Provision of Aviation Security Services[30]

All Pacific countries' systems for assuring and regulating aviation security need to be improved to ensure the ongoing viability of aviation in the region. The following are options to achieve the needed improvements:

1. **upgrading individual national capacities**: Full development of each national civil aviation authority (CAA) to provide sufficient capacity to meet standards fully;

2. **outsourcing**: Contracting most functions from independent service providers from more developed countries; and
3. **regional provision**: Development of a cooperative regional service capacity.

Comparative analysis of these options clearly shows why regional provision of aviation security services would benefit the region most.

1. **Upgrading Individual National Capacities**: Relying on individual country resources to meet minimum international standards would require each FIC to employ qualified inspectors in four specialized disciplines—flight operations, airworthiness, airports, and security—and upgrade the diverse legislative, regulatory, and institutional frameworks. While this may be achievable, the small scale of individual country operations would not require full-time employment of these specialists. The result would be excess national capacities and duplication of effort, with high operational costs.

2. **Upgrading Services by Contracting Out**: Relying on outsourcing to the extent needed to increase the level and quality of CAAs would cost far more than the present levels of national expenditures on outsourcing, which experience indicates are inadequate.

3. **Shared Regional Capacity**: By contrast, creation of a regional aviation security agency, such as PASO, would enable development of a shared regional capacity that can become self-sufficient and reduce the unit costs of service provision. The lower unit costs arise from reducing duplication, creating economies of scale and scope, harmonizing regulatory systems, and sharing scarce specialist personnel. For example, a total of five such specialists could provide the necessary services for all the countries that need them in the region.

Over time, a cooperative regional approach to aviation security is expected to be the most effective way to improve air transport safety and security in the region, rather than simply maintaining the status quo. Developing a critical mass of expertise in a regional aviation security body would allow a proactive, more robust approach to planning for the dynamic future needs of the aviation industry and its regulation.[31] A proactive approach means systematically identifying and assessing potential future risks to the industry, and planning how best to avoid them or otherwise deal

with them. At present, CAAs typically have little choice but to react to problems as they arise.

Another benefit of a regional agency is that it could supply useful policy and operational advice to governments, as an adjunct to providing technical services. But if such advice is provided, care needs to be exercised to manage potential conflicts of interest that might arise through mixing regulatory execution and policy advice. Protocols can be established and regulate any such concerns.

Pacific Aviation Security Office

PASO now legally exists as a non-profit intergovernmental organization, but is yet to become fully operational. Its legal basis is the Pacific Islands Aviation Safety and Security Treaty. This treaty delegates national authority of national CAAs to PASO, and provides for supervision of its operations by the Intergovernmental Council of Directors, made up of representatives from each member country. The role of the Council of Directors is to set PASO's policies and monitor its implementation and enforcement of technical findings. In effect, PASO will become the technical branch of each national CAA, although implementation of PASO recommendations in each country will remain a national responsibility.

Analysis of Benefits and Costs

PASO is expected to result in the Pacific aviation sector meeting all international standards for civil aviation safety and security regulation and oversight. Creating a single regional organization that replaces and updates the current system of fragmented national authorities is expected to result in economies of scale and scope that will allow PASO to become self-financing and to lower costs and improve service quality.

PASO is expected to become self-financing within 5 years of becoming fully operational. Moreover, it is expected to do so while charging lower service fees than is possible on an equivalent basis via ad hoc outsourcing.

Those expected to benefit directly from PASO include

- governments of PASO member countries, which will be able to rationalize their CAA administrations and thereby lower public sector costs;

- the 43 commercial air transport companies operating a total of some 266 aircraft and employing nearly 4,000 licensed staff, through lower regulatory compliance costs and more responsive CAA services; and
- all users of air transport who will benefit from higher safety and security standards.

Indirect beneficiaries include stakeholders in the tourism industry and related earners, due to the lower risk of a serious aviation safety or security incident, with its attendant very high costs and potentially serious impact on tourism.

It is difficult to quantify the economic benefits of improved safety and security regulation and oversight, since the impact of the project is to reduce the probability of serious incidents of unknown frequency and magnitude. However, some indications of the potential impacts of noncompliance are provided by comparable experiences. Major international air disasters cause approximately a 10% decline in aviation for about a year in ADB developing member countries. Since tourism is responsible for about 20% of the Fiji Islands' GDP, for example, this could be equivalent to a loss of 2.5% of gross domestic product (GDP) per year. Denial of international services (if, for example, flights from Australia and New Zealand were prohibited due to noncompliance with regulations) could have an even greater impact. Given that tourism employs large numbers of low-skilled workers, including a high proportion of women, the potential negative social impacts would be even higher and more widespread.

ADB estimated that cost saving and quality increases associated with PASO, as compared with ad hoc outsourcing, would have resulted in an economic internal rate of return of 27% with Tonga included as a member of PASO.[32] Following the liquidation of its airline, Tonga withdrew from PASO membership, with impacts on the project that are as yet unclear. While it can be expected to reduce PASO's variable costs, it will mean that the main overhead costs will be spread over fewer members, thereby increasing the costs per member. Even so, PASO is still expected to yield a significant internal rate of return.

Sustainable Development

Sustainable development is a broad field covering human development, culture, society, and sustainable natural resource management, among other areas. Within the wide range of possible initiatives, this study highlights two that can help promote Pacific regional identity—a regional sports institute, and a regional intellectual property rights office. A strategic initiative is also highlighted that underpins work toward all human development objectives, including the Millennium Development Goals—a regional statistics office.

Creation of Regional Sports Institute

Overview

Sports can play an important role in fostering economic development and social well-being in FICs, as recognized in the current Pacific Plan. At a social level, encouraging widespread, active community participation in sports can improve health outcomes (both physical and psychological), enhance productiveness, reduce antisocial behavior, and generally foster social cohesion. At an elite and professional level, sports can generate economic benefits stemming from individual or team participation in professional sports in developed countries or top-level international sports events.

Frequent sports interaction and competition between individuals and teams, together with suitable sports facilities and expert training, can significantly enhance the potential development and benefits achievable from sports activities. The ability of many FICs to realize this potential, however, is currently severely limited. Their populations are small and widely dispersed. Additionally, most have limited sports facilities and coaching expertise, and few opportunities for sports interaction with people from other islands.

Creation of the Regional Sports Institute is proposed as a means whereby FICs, by acting together, could help realize the potential economic, social, and health benefits to the region from sports. Possible benefits and costs to the region of creating such a facility have been broadly canvassed in a preliminary study commissioned for this report from the Secretariat of the Oceania National Olympic Committees (ONOC).[33]

The Role of the Regional Sports Institute

The primary role of the Regional Sports Institute would be to support

existing regional sports training centers, and similar facilities at the national level. Logistically, it would seem sensible to establish the regional institute as an integral part of the University of the South Pacific network.

As envisaged in the ONOC study, a regional sports institute would focus primarily on developing elite sportsmen and sportswomen as well as their coaches and administrators. It would evolve specialist centers of excellence, and make use of the facilities, talent, and expertise as and where they are already in place. Initial emphasis would likely be on a limited number of sports, probably those with the most popular appeal to young people, current athletes, spectators, sponsors, and broadcasters.

The study emphasizes that before a comprehensive assessment of the likely net benefits of creating such a facility can be undertaken, the following issues would need to be resolved:

- the exact role of the regional sports institute,
- its location, and
- the extent to which its functions should be decentralized.

Qualitative and Quantitative Assessment of Benefits

The study's discussion of the likely benefits and costs of creating a regional sports institute is very general and, at this stage, lacks substantive empirical support. This reflects a general lack of such evidence about the impacts of sports, or sports institutes, on the economic and social well-being of FICs or other developing countries.

While the study envisages the regional sports institute would focus on achieving top-level sporting performances, it cautions that a large base of participation is vital for achieving real success in sports, in terms of the economic and social benefits to the community that make investment in sport truly worthwhile. Achieving this will be a challenge for FICs. To illustrate the kind of positive benefits a regional sports institute could yield in terms of economic production, the study mentions a September 2004 report by the Western Australia Government, which found that "every dollar invested by the State in its Community and Sporting Recreation Fund generated A$2.36 in direct activity and A$6.51 in total activity."

The study implies that creating the proposed Pacific island regional sports institute would help improve public health outcomes by providing incentives for FIC residents to participate actively in sports activities and,

thereby, reduce the risk of health problems well known to arise from physical inactivity. As an indication of potentially "large" health-related economic benefits from such a facility, the study estimates roughly that it could generate “an economic benefit to the region well in excess of US$10 million.”[34] The study notes US research in 1999 estimating that every “US$1.00 spent on physical activity results in a US$3.20 saving in medical costs.”

Qualitative and Quantitative Assessment of Costs

The main costs would comprise substantial funding for incremental and extra capital works for venues, accommodation, and transport, and a “generous” budget for operational purposes for the first 5 years of business. An annual budget of US$30–$50 million is suggested as an approximate estimate of the amount required. The study suggests that this amount is on a par with the current economic benefits thought to be already flowing into the region annually as a direct result of FICs’ involvement in sports.

Conclusion

To advance the idea of creating a Pacific island regional sports institute for FICs will require further consideration of several crucial issues, including the underlying objectives for the facility, the scope and prime focus of its role, where it would be located, and the extent to which its functions would best be decentralized (and where). Resolving such issues would enable a fuller, more rigorous assessment of the case for creating a facility. These decisions will also allow for a more systematic analysis of its potential benefits.

Creation of a Regional Statistical Office

Overview

Relevant, reliable, and timely statistical information is an essential element in informed decision making by FIC governments. Such data provide government policy makers and advisors an objective basis to assess social and economic developments. Statistics also help to indicate the need for policy intervention, and the impact of existing interventions. Persons in business and private sector investors often use statistics to help them assess the merits of potential business or investment opportunities. For example, statistics can be used to derive plausible assumptions to underpin analysis of a business opportunity.

Typically, however, FICs find it difficult to attract and retain staff with the necessary skills and experience for compiling and updating the range of statistics needed.

Two possible options are reviewed for creating a regional statistical office to complement those provided nationally by FICs.[35] The discussion is based on a recent preliminary study commissioned for this report from Michael Andrews.[36] Links to the Regional Economic and Statistical TA Facility proposal discussed earlier in this chapter are acknowledged. The scope of statistical tasks discussed here is significantly broader than for that proposal. Nevertheless, the relationship between the two proposals would need to be kept under careful review.

Options for Creating a Regional Statistical Office

Comprehensive Regional Statistical Office. This office would undertake all aspects of statistical functions, such as: (i) collecting base data, like carrying out censuses and other surveys; (ii) compiling "middle level" statistics, such as on migration, employment, external trade, and a consumer price index; (iii) compiling economic statistics required by the IMF; and (iv) compiling social statistics required for poverty studies and the measurement of progress toward the Millennium Development Goals.

Specialist Regional Statistical Office. This office would specialize in a narrower range of functions, such as compiling (i) high-level analytical economic and social statistics, like national accounts and balance-of-payments data, price indexes, and productivity measures; and (ii) major social and economic surveys and data indicators, such as data needed for the Millennium Development Goals presentations. In addition, the office could advise national statistical offices on basic data collection methodology, including development of censuses and household or industry surveys. If adequately funded, the office could take over some statistical activities, particularly balance-of-payments data, now handled by central banks.

By far the preeminent provider (apart from donors) of statistics for the region is the SPC, which both maintains a regional online database Pacific Regional Information System (PRISM) and provides technical assistance to member countries. SPC thus essentially fulfills a number of tasks outlined above. Upgrading SPC's capacity to fulfill a wider range of functions may be an option for a regional statistical body.

Qualitative and Quantitative Assessment of Benefits and Costs

The preliminary study identifies the following potential benefits of implementing either of the above two options for a regional statistical office:

- **greater comparability of statistics** between countries in the region, resulting from opportunities for the office to apply consistent methodologies, classifications, legislation, revisions policy, etc.;
- **more reliable, timely, and accessible statistics**: The publication of such data on a common website may raise the quality (accuracy, consistency, timeliness) and dissemination of major economic and social statistics to national policy makers and the general public, thus improving the economic and social debate in the Pacific region;
- **enhanced management of statistical functions**: The standard of administration of statistical organizations in the Pacific region may be improved by greater attention to priorities, staff recruitment, and training and career paths of national statisticians; and
- **focus to attract development assistance**: The organization would also provide donors with an obvious mechanism for the focus of coordinated assistance to statistics development in the Pacific.

As an indication of the potential value of these benefits, if it is assumed that improved statistical data contributed to better decision making, which, in turn, increased GDP by only 0.1%, the annual flow of benefits to FICs would amount to about US$7 million.

Of the two options, the specialist regional office is favored for several reasons. First, and most importantly, it would be likely to achieve quality improvements in economic and social statistics more quickly. Second, it may be more practicable in view of the difficulty of coordinating all data collections for FICs. As a result, the specialist option is seen as likely to be the more realistic, at least in the near term.

The total annual cost of FICs' existing statistical services is estimated to be in the range of US$7.5–10 million, of which about 60% is funded by FICs.

The comprehensive regional statistical office is estimated to entail an extra cost of about US$4–5 million annually, in addition to the aggregate cost of FICs' existing statistical services, for a total annual cost of US$13–15 million. Simply pooling existing resources in the region thus would not be

sufficient to meet the full costs of providing effective statistical services for FICs in the region.

Table 5.10 indicates that a specialist regional statistical office would involve an estimated total annual cost of about US$5.5 million.

Issues

Establishment of either a specialist or comprehensive regional organization would require attention to a number of issues, many of which relate to the national and regional structure of responsibilities that would need to be resolved.

- **Legislation and Management Issues**. These are confidentiality, compulsory supply of data, ownership of source and output data, regional vs. national priorities, coordination with donors and TA providers, and solutions to statistical problems involving organizations other than national statistical offices (NSOs).

Table 5.10: Estimated Total Cost of Specialist Regional Statistical Office (US$'000)

Cost Item	Number of Staff	Costs
Supervisor and Deputy	2	150
Managerial Advisors (statistics, law, planning, advocacy, etc.)	2	80
Source Data Specialists (e.g., survey design, processing systems development, supervision of survey staff, logistics, survey validation and analysis, etc.)	10	400
National Accounts Specialists	3	150
Balance-of-Payments/IIP Specialists	3	150
Publications and Publicity Specialists	1	40
Social Statistics Specialists	5	250
Support Staff	4	80
Steering Committee		50
Communications		4
Travel		200
Other		6
Subtotal	30	1,560
External Advisors		4,000
Total		**5,560**

Source: Andrews 2005.

- **Diversity of FICs and Existing Statistical Operations**: FICs' differing size, physical characteristics, etc., and the differing size and capabilities of statistics operations, spread across different organizations, etc. Diversity may necessitate varied solutions.
- **Staffing**: Qualified staff are scarce and in high demand, and higher salaries are available in other agencies. Staffing a regional statistics office with existing NSO staff would have serious implications for the remaining functions of NSOs.
- **Existing TA Providers**: These have a strong affinity with SPC, with regional statisticians recently requesting that SPC create more economic statistics positions. Also, the proposed upgrade of Pacific Financial Technical Assistance Centre (PFTAC) would undoubtedly play a complementary role in the provision of data and analysis outputs. Overlaps in their functions must be avoided.

Creation of Regional Office to Protect Intellectual Property Rights

Overview

Protecting intellectual property rights (IPRs) may not, at first glance, seem an important issue for small Pacific countries, in contrast to industrialized countries. But the issue is relevant for FICs, due to the Trade Related Aspects of Intellectual Property Rights (TRIPS) agreement reached during the Uruguay round of the GATT. This international agreement calls for the standardization of IPR protection among all members of the WTO and potential new entrants. It effectively requires all developing countries that are WTO members to raise their intellectual property protection level to the standard in force in industrialized countries at the time of negotiation. The requirement is thus a condition of WTO membership.

Fiji Islands, PNG, and Solomon Islands are already WTO members, and Samoa and Tonga have WTO observer status—a precursor to possible future membership. These five countries clearly have an interest in meeting the TRIPS international standard in the most cost-effective way. Each currently has national laws and systems in place to protect IPRs, although they do not yet comply fully with international standards.

For these five FICs at least—and in time others—it is worthwhile assessing the likely net benefits of creating a regional office to provide IP services more cost-effectively in the region. The aim would be to avoid duplication of services and take advantage of potential economies of scale

and scope in order to reduce service and compliance costs in the region by harmonizing IP standards and procedures.

In a study commissioned for this report,[37] Susan Farquhar reviewed IPR systems in place in four of the above-mentioned five FICs (Fiji Islands, PNG, Samoa, and Tonga), and assessed the likely financial impact of several options for creating a regional IP facility. The main findings of her cost-benefit analysis are summarized below.

Main Components of IPR Protection

IPR elements include copyright, patents, trademarks, industrial designs, circuit layouts, geographical indications, protection of undisclosed information, and control of anticompetitive practices in contractual licenses. The most important of these for the four FICs reviewed are copyright and trademarks.[38] Systems to protect these IPRs are essentially as follows.

- **Copyright** is generally protected as an automatic right, requiring no application process leading to registration.
- **Trademarks** (along with patents and industrial design), on the other hand, are granted on the basis of an application and examination process, consisting of at least an assessment of compliance with formality requirements and usually also an assessment of compliance with substantive requirements for registration.

The main focus for a regional IP office should therefore be the administration of trademark applications and registrations, with the capacity for their examination as to formality and substantive requirements, and only formal examination of what patent applications might be received.

Current State of IP Operations in Fiji Islands, Samoa, Tonga, and PNG

The IP operations of three of the four countries studied (Fiji Islands, Samoa, and Tonga) may be characterized as having limited resources in both staff and operational equipment, lacking modern administration systems and record management, and largely lacking in relevant personnel skills and training.

PNG differs from the other three in that it has an agency with sole responsibility for IP, and does not have dual responsibility for other registration systems, such as company and business names. The PNG IP office is adequately resourced and is meeting its national requirements efficiently and effectively. It has a modern computerized system for administering

trademark applications and registrations and for monitoring the time frames and deadlines associated with their processing. Its staff has high entry-level qualifications and receive adequate training in IP operations.

Options for Creating a Regional IP Office

The preliminary study examined four options for creating a regional IP facility. The options differ in terms of (i) partial or full devolution of national functions (except for enforcement) to the regional office; and (ii) whether the regional office is created from scratch as a new entity, or by transforming an existing national IP office that is already well developed. The options analyzed relative to the status quo (Option 1) are

- **Option 2: Partial devolution** of national IP functions to an existing agency mandated to act for FICs regionally—i.e., receive and process IP applications up to the point of granting registration, but with national agencies still deciding whether to grant registration;
- **Option 3: Partial devolution** of these national IP functions, as in Option 2, but to a new regional facility created to act for FICs regionally;
- **Option 4: Full devolution** of national IP functions, including registration decisions, to an existing agency mandated to act for FIC regionally; and
- **Option 5: Full devolution** of national IP functions, including registration decisions—as in Option 4—but to a new regional facility created to act for FICs regionally. National agencies would be disbanded.

Qualitative Assessment of Options

Partially devolving national IP functions to a regional office (options 2 and 3) would yield similar benefits in terms of reducing duplication of work in national offices, reducing costs to applicants, harmonizing standards, and optimizing IP skills and resources. The main difference between them is that the setup cost of creating a new office from scratch would be considerably greater. If an existing IP office were to be mandated to act regionally for FICs, as envisaged in Option 2, PNG's dedicated national office (Intellectual Property Office of PNG) would be well placed to take on the role of a regional office.

Fully devolving national IP functions to a regional office (options 4 and 5) would be the most complex and costly to establish, but once established would provide the most efficient and effective regional administration of IPRs, with greatest benefits to users of the system. A single application

would have effect throughout the region, with consequential simplification and cost reduction of registration, renewal, assignment, and other procedural actions.

For local users of the IP system some form of regional processing of IP applications (whether option 2, 3, or 4) will bring benefits in the form of simpler application procedures. Ideally this would be a single application for the relevant IPR, which would be examined centrally and then, if eligible for registration, could result in protection throughout the region, instead of multiple applications with often varying standards of registrability for the same IPR. The fourth option would bring the additional benefits for IPR owners of single granting and renewal processes instead of the multiple processes required for nationally granted and maintained IPRs.

Quantitative Assessment of Options

The preliminary study undertook an analysis of the changes—compared with the status quo—in financial flows estimated for each of the above four options for providing IP services on a regional basis on behalf of Fiji Islands, PNG, Samoa, and Tonga. The analysis is based on a detailed series of plausible assumptions about the likely changes in staff and costs under the options relative to the status quo.

Based on estimated costs, the study estimates the cost recovery period (in nominal dollar terms) for each of the options as shown in Table 5.11. The income from the collective management of the rights in musical and literary works, as well as that of related rights, would start in the region of half a million US dollars, rising to US$1 million per annum. There would be benefits in the form of annual costs savings, starting at US$24,000 (partial devolution, with an existing IPR agency) and rising to US$61,000 (full devolution, with a new IPR agency).

Wider Economic Benefits

The study was unable to address the wider, much-debated, but difficult issue of how effective protection of IPRs would contribute to FICs' economic well being. For example, there is a long-running international debate about whether industrialized countries are the main economic beneficiaries of IPRs at the expense of consumers in developing countries.[39] One of the major issues in the debate is whether the costs of IPRs for consumers in developing countries is more than offset by direct foreign investments in such countries which is encouraged by IPR protection.

Table 5.11: Cost Recovery Period for Regional International Property Rights Office Options (years)

Option	Cost Recovery Period
Status Quo	
Partial Devolution, with Existing Agency	2
Partial Devolution, with New Agency	15
Full Devolution, with Existing Agency	2
Full Devolution, with New Agency	4

Source: Farquhar 2005.

But regardless of the answer to this wider question, the fact remains that FICs that wish to gain the benefits of WTO membership will need to bring their IPR protection systems up to international (TRIPS) standards. Finding the most cost-effective, acceptable way of doing so—e.g., one of the above four regional options—should be of more than a passing interest to these countries.

Security

The protection of personal safety, freedom of speech, the upholding of fundamental human rights, liberty to travel without undue restriction, and protection of legitimate property rights, affect the economic and social well-being of FICs. The maintenance of law and order is one important contributor to producing national and regional security outcomes, which are true "public goods" (as discussed earlier). As with all such public goods, public financing of their provision is required as it is impracticable to charge beneficiaries for their enjoyment of such security.

Examined below is the potential for FICs to intervene collectively to create a regional training facility to supply services that would contribute directly to achieving international security, with potential spillover benefits for countries in the region.

Creation of Police Training Facility for External Peacekeeping

Overview

One possible area where regional intervention may be able to enhance the economic and social well-being of FICs is in pooling resources to create a regional training facility to supply civilian police training for international peacekeeping. While the prime beneficiaries of deploying these police in

peacekeeping operations overseas would be the residents of the host country, FICs could also benefit directly from the supply of more skilled and widely experienced police in FICs when these peacekeepers return home. The increased level of FIC peacekeepers deployed would also yield private benefits such as extra income for peacekeepers and their families during deployments and secondary effects on the economy, including collection of extra taxes.

The Pacific Islands Chiefs of Police (PICP) Secretariat was commissioned for this report to study the benefits and costs to the region of creating such a regional training facility.[40]

Envisaged Regional Police Training

This potential regional intervention entails creating a police-peacekeeper training facility to equip existing FIC police officers with the skills necessary to fulfill international peacekeeping duties.[41] The essential idea is to create within the ranks of FICs' national police forces a pool of officers who have been trained and attained the requisite skills for police-peacekeeping duties as part of an international peacekeeping deployment group. While officers from this regional pool were deployed overseas, their positions in the national police forces would be filled by other police officers. When officers return home at the end of a peacekeeping tour of duty (assumed to be 1 year), they would be reabsorbed into their respective police forces.

This pool of trained police peacekeepers would provide a potential regional response capability from which to draw upon as required internationally, subject to the requirements of national policing. The pool would not be a special "standing police force" group.

Key Assumptions for Assessment Purposes

For the purposes of assessing the costs and benefits of this potential regional intervention, the PICP study used the following assumptions.

- **Location of Training Facility**:A regional police-peacekeeper training center would be established in a FIC, most likely the Fiji Islands given its size, infrastructure, support services, and status as an international air transport hub.[42] As discussed below, facilities could be shared with other regional police or legal training programs.
- **Eligibility Criteria**: Nominees for this training would be accepted only if they clearly already have sufficient skills that training would be expected to enhance to meet United Nations (UN) standards

for police-peacekeeping deployment, including language as well as basic police skills.

- **Training Capacity**. The regional facility would run one training course at a time, with a duration of 4 weeks and catering to up to 50 trainees.
- **Target Response-Capability Pool**. The target outcome of the intervention would be to enable the region to develop and maintain a total police-peacekeeping response capability of 250 civilian police members who would be available for deployment at any one time.

Qualitative and Quantitative Assessment of Benefits and Costs

The study identifies three beneficial outcomes arising from the proposal.

1. **Improved Social and Economic Well-Being for Overseas Trouble Spots**: Law and order and peace would be restored in other areas of the world where peace is fragile, thereby helping provide a climate in which improved social and economic well-being is possible for residents of those areas.
2. **Extra Income for FICs**: The deployment of civilian police-peacekeepers from FICs would result in extra private income by those deployed in international peacekeeping missions, benefiting them and their families at home via remittances, and yielding additional tax income for FIC governments.
3. **Increased National Police Capabilities for FICs**: Both the training and actual international-peacekeeping experience would enhance the ability of the pool of police-peacekeeping graduates to serve their own communities as police officers when not overseas on a peacekeeping mission.

While the first set of benefits are important, from a regional perspective they should be excluded from consideration, except to the extent that contributing to peace abroad also contributes indirectly to peace in the Pacific region. Measuring the value of the latter contribution would be very difficult.

The study suggests that a Pacific peacekeeping force of 250 officers has the potential to yield about US$3 million per annum in extra private income as remittances home by these officers and savings from salary. It sees this extra income entering FIC economies and leading to wider economic benefits to local communities, including extra tax revenue.

The study notes that creating a regional civilian police-peacekeeping training facility in an FIC would also provide an opportunity to make

broader use of the facility for general police training in FICs. Additionally, the practical benefits of common training would be further enhanced through delivery to multiple agencies, and multiple disciplines, in a multi-agency environment, such as a regional law enforcement training center. The study was unable to estimate the likely value of such benefits, however.

Costs

The study identifies two main sets of costs arising from this potential regional intervention:

- training facility setup and operating costs, or the direct costs of establishing and operating the training facility, including intraregional travel to and from the facility, and living costs during training; and
- backfill costs—the costs of "backfilling" police positions vacated by members of the pool while deployed on international peacekeeping missions.

Table 5.12 shows estimates of these costs.

A major issue for individual FICs initially would be to recruit and train enough new police officers to backfill personnel deployed on peacekeeping missions.

Another issue that could arise is that staff in the police-peacekeeping pool, in light of their exposure to opportunities overseas, may be interested and able to exit from policing in the region and seek what they see as more lucrative opportunities elsewhere. This is a risk that would need to be managed by national police administrations.

Who pays?

The income generated through deployment in overseas civilian police peacekeeping missions would not be sufficient to recover the costs. This is mainly because the funds generated in payments to officers on peacekeeping missions would be paid to the officers themselves, not to the government of the country providing them. The study states that even if a percentage of the payment were deducted to offset development and operating costs of the facility, this is unlikely to be sufficient to achieve cost recovery within a reasonable time frame.

Table 5.12: Cost of Establishing and Operating a Regional Police-Peacekeeping Training Facility (US$ million)

Activity	Initial Cost	Ongoing Costs
Construct self-contained training facility	10.00	1.5
Salary/backfill costs @ US$6,000 per person per annum	1.50	1.5
Airfares (return economy) @ US$1,500 per person	0.225	0.225
Meals/incidental costs @ US$30 per person per day	2.80	2.80
Uniform and equipment @ US$500 per person	0.125	0.125
Training costs (including training staff) @ US$500 per day x 200 days	1.00	1.00
Training Center personnel costs (excluding training staff) x 10 persons @ US$35,000 per annum	0.350	0.350
Vehicle leasing costs	0.150	0.150
Computer leasing costs	0.125	0.125
Predeployment costs—Selection Criteria (6 x PIC) @ US$5,000	0.030	0.030
Deployment costs (airfares return economy) @ US$2,000 per person	0.50	0.50
Total Costs	**16.805**	**8.305**

PIC = Pacific country.

Donor funding, therefore, would be required, both to establish the regional training center and also to finance its ongoing operational costs. In reaching this conclusion, the study presumes that no individual FIC would consider a long-term, ongoing financial commitment to support this potential intervention. The study envisages that once the training facility is operating, the UN might fund its recurrent costs, although no approach has been made to the UN.

The study concludes that without initial and ongoing direct financial support, the envisaged regional police-peacekeeper training facility would not be financially sustainable. In light of the study's findings, the likely net benefit to FICs of exporting civilian police-peacekeeping services is uncertain, and intervention feasibility would be dependent on financing by other parties.

Summary of Indicative Costs and Benefits of Potential Regional Interventions

	Regional Intervention	Expected Costs (Indicative)	Expected Benefits (Indicative)
1	**GOOD GOVERNANCE**		
1.1	*Regional Economics and Statistical TA Facility*: Merger of currently dispersed economics and statistical TA resources into one regional **TA facility** to bolster national capacities	An indicative estimate of the cost of such a merger is about F$8 million per annum.	While there is *no panacea* for good governance, these four potential regional interventions—both individually and together—could help encourage open and accountable public-sector management practice.
1.2	*Regional Customs Facility*: An *independent* regional customs **inspection team** to complement national agency roles by providing on-the-spot inspections of customs practices and related training, and by sharing information	An indicative estimate of cost of independent inspection team based in 1 FIC & visiting others for on-the-spot inspections and training calculated to be about F$1million per annum.	*Strengthening* **public-sector governance** in this way could be expected to lead to more effective public-sector action and public-expenditure outcomes.
1.3	*Regional Panel of Auditors*: Strengthen phased in a manner of FIC national public-sector audit capabilities via: (i) **training** and **common standards**; (ii) creating an **OAG federation** and funding regional training through it; and (iii) perhaps then creating a **regional panel of auditors** that could audit regional agencies	An indicative estimate of strengthening phases is calculated be Phase 1 = about F$2.3 million Phase 1–2 = about F$29.0 million Phases 1–3 = about F$40.0 million.	These interventions could help FICs avoid the potential high economic costs of poor governance—in terms of future GDP foregone—estimated to potentially total some US$13 billion over 10 years for 3 FICs alone (i.e. PNG, Fiji Islands, and Solomon Islands). These particular cases were studied in view of their past governance failure.
1.4	*Regional Ombudsman Office*: Create an *independent* regional **ombudsman** office to hear citizens' complaints about public-sector actions and decisions in FICs with no such office, and to recommend how to resolve them	Salary costs at F$200,000 (including administrative support) for a single resident ombudsman. Additional costs of country visits and hiring of short-term experts (if needed) should not exceed F$300,000, for total annual costs of F$500,000.	

	Regional Intervention	Expected Costs (Indicative)	Expected Benefits (Indicative)
2	**ECONOMIC GROWTH**		
2.1	*Liberalize regional labor markets.* Increase quotas of unskilled workers from FICs to work in Australia and New Zealand on a temporary basis. Promote sector-specific arrangements for skilled and semiskilled labor.	Cost for regional skills development in FICs would be significant initially (see 2.2), but would return net economic benefits over time. Welfare losses for FICs due to lost skills of US490 million over 3 years.	Total welfare benefits of US$1.1 billion over 3 years. Private benefits for Pacific Islanders of US$1.5 billion over 3 years. Welfare benefits to Australia and New Zealand of US$326 million
2.2	*Pacific Regional Nurse training Facility*: Create a publicly funded regional nurse training facility primarily to train nurses to standards that would enable them to work offshore where nurses are in short supply.	Estimated *total cost* of tuition fees per nurse graduate at the proposed Pacific island regional facility would have an NPV of about F$33,100 (@ a 3% discount rate).	By contrast, a nurse graduate's extra income due to training at this regional facility and 10 years employment overseas as a nurse is estimated to have an NPV of about F$200,000.
2.3	*Further Harmonization of Fisheries Access Arrangements*: (i) Review whether more harmonization of fisheries access fees would create more value for FICs jointly; (ii) Adopt open, audited register of all bilateral fisheries access arrangements (including fees); and (iii) Review longer-term sustainability of FICs' current basis for access fees charged.	Analysis of reviews of existing fisheries access arrangements and the development of the WCPTC—which includes coastal FIC states and DWFNs—raises questions about the *opportunity cost* of the **status quo** continuing and, indeed, its *sustainability* over the longer term.	The suggested **reviews**—and the creation of an open, audited **register** of bilateral fisheries access arrangements of all FICs—are expected to enable answers to these questions, and enable informed proactive action to improve public economic benefits from fisheries.
2.4	*Liberalization of Telecommunications Market*: Create a **regional telecommunications authority** to promote in FICs telecom market liberalization, fair competition, harmonized regulations and policies, universal service, and fair pricing.	Study suggests that the costs of regulatory changes envisaged would be quite small.	Market liberalization as envisaged would benefit FIC consumers over a 5-year period by an estimated US$285 million (@ 5% discount rate).

	Regional Intervention	Expected Costs (Indicative)	Expected Benefits (Indicative)
2.5	*Joint Procurement of Petroleum Products*: Create: (i) a regional **regulatory agency** to regulate private petroleum suppliers; and (ii) **SOE ownership and operation** in FICs of petroleum terminal facilities, and subregional bulk petroleum supply arrangements.	If the **status quo** petroleum supply situation for all FICs continues over the next 15 years, *total opportunity cost* for them estimated to be about US$27 million in NPV.	Creating the regional regulatory agency alone is estimated to yield a very small total net benefit, with an NPV of about US$0.1 million. But implementing both stages, would yield a sizable total net benefit, with an NPV of about US$104 million for the countries assessed.
2.6	*Pacific Aviation Security Office (PASO)*: Create and operate PASO—a regional agency to provide **aviation security services** for the region, encompassing airworthiness, flight operations, security and aerodromes.	Estimated total cost of the PASO operations with 6 member countries is estimated to be about US$800,000 per annum (initially about US$900,000 per annum, before the withdrawal of 1 member).	PASO is a more cost-effective solution to the need for better safety and security regulation in FICs. It was estimated to yield cost savings of 10% yearly with 7 members, and total savings with an NPV of about US$458,000 over 20 years, for an internal rate of return of 27%. With 1 less member, cost savings will be smaller, but sizeable positive net benefit.

	Regional Intervention	Expected Costs (Indicative)	Expected Benefits (Indicative)
3	**SUSTAINABLE DEVELOPMENT**		
3.1	*Regional Sports Institute*: Create a regional sports institute to support (i) *sports-specific regional training centres*; and (ii) *national sport-development units* in FICs.	Study suggests that US$30–50 million yearly would be needed to fund extra **costs** of *capital works* for venues, *accommodation,* and *transport* and *other operational expenses* for the first 5 years of sports institute's operations.	Study estimated that the regional sports institute could generate health-related economic benefits to the region well in excess of US$10 million. Study also suggested that the estimated costs of the institute would be similar in amount the economic benefits already believed to be flowing into the region annually as a direct result of FICs sports involvement.
3.2	*Regional Statistical Office*: Create: (i) a **comprehensive regional statistical office** including all aspects of statistical functions; or (ii) **specialist regional statistical office** with a narrower, more specialized range of functions to complement national statistical services.	Total cost of these two regional statistical office options estimated at comprehensive office = between US$13million and US$15 million per annum, specialist office = about US$5.5 million per annum.	Either intervention's main benefits would be: (i) greater comparability of statistics between FICs; (ii) more reliable, timely, and accessible statistics; (iii) better management of statistical functions; and (iv) a focus to attract development assistance. These results would be expected to lead to better public-sector management decisions in FICs and, thereby, better economic and social outcomes.
3.3	*Regional Office for Intellectual Property Rights (IPR)*: Create Pacific island regional IPR office with partial or full devolution of national functions, in conjunction with an existing IPR agency or as a new one.	Estimated *range* of costs of these regional IPR office options would be: Partial devolution, with an existing IPR agency: initial *extra one-time cost* of about US$80,000. Full devolution, with a new IPR agency: Initial *extra one-time cost* of about US$410,000.	Corresponding to the extra one-time cost, estimated benefits in the form of ongoing costs saving, viz: Partial devolution, with existing IPR agency: *ongoing cost savings* of US$24,000 per annum. Full devolution, with a new IPR agency: *ongoing cost savings* of US$61,000 per annum.

	Regional Intervention	Expected Costs (Indicative)	Expected Benefits (Indicative)
4	**SECURITY**		
4.1	*Regional Training Facility for Police Peacekeepers*: Pool resources to create a regional training facility to provide a response capability of 250 civilian-police for international peacekeeping duties.	*Initial one-time cost* of this facility would be about US$17 million, and have an *ongoing cost* of about US$8 million per annum.	*Private benefits* in the form of remittances home total an estimated US$3 million per annum. Without external funding, the benefits did not cover costs.

FIC = Forum island country, F$ = Fijian dollars, GDP = gross domestic product, IPR = intellectual property rights, NPV = net present value, OAG = Office of the Auditor General, PNG = Papua New Guinea, SOE = state-owned enterprise, TA = technical assistance, US$ = United States dollar, WCPIC = Western Central Pacific Tuna Commission, @ = at, & = and.

ENDNOTES

1 The independent studies, or working papers, are listed at Appendix 1 and can be viewed on the web site of the Asian Development Bank (ADB) (www.adb.org/publications) or at www.pacificplan.org.

2 Adapted from Boardman, A.E., D.H. Greenberg, A.R. Vining, and D.L. Weimer. 1996. *Cost-Benefit Analysis: Concepts and Practice*. Prentice Hall: Upper Saddle River, New Jersey.

3 This section is based on analysis and findings in a study Professor Ron Duncan undertook for the Pacific Islands Forum Secretariat (PFIS). See Appendix 1.

4 The Pacific Financial Technical Assistance Centre (PFTAC) was created in 1993 with funding from the United Nations Development Programme (UNDP), International Monetary Fund (IMF), ADB, Australia, New Zealand, and Japan. It is managed on behalf of donors and Forum Island Countries (FICs) by the IMF.

5 For example, the head office in Suva could service Vanuatu and New Caledonia as well as Fiji Islands. Subregional offices could be set up in Port Moresby, Apia, and Majuro.

6 This section is based on analysis and findings in a study Professor Ron Duncan undertook for the PIFS. See Appendix 1.

7 This finding is based on an analysis of import and export statistics using *standard international trade classification* (SITC) codes at the one-digit level.

8 This section is based on analysis and findings in a study Professor Michael White undertook for the PIFS. See Appendix.

9 The South Pacific Association of Supreme Audit Institutions is an embryonic federation of the regions' offices of auditor generals (OAGs).

10 While the Fiji Islands OAG is well developed, it still does not have the capacity to undertake all desirable audit functions.

11 HarperCollins. 1995. *Collins Concise Dictionary*. Third Edition. City: HarperCollins Publishers.
12 Walmsley et al. 2005.
13 In December 1988, members of the World Trade Organization (WTO) decided to include labor mobility in the Uruguay round of the General Agreement on Trade on Services. In particular, they discussed the idea of enabling *temporary* movement of natural persons ("mode 4") between member states.
14 The model does not distinguish between permanent migration and temporary labor movement.
15 Duncan, Ron. 2005. Benefit-Cost Analysis of a Regional Nurse Training Facility. See Appendix 1.
16 By contrast, countries like the Philippines, with a reasonably long history of their nurses working overseas, have been able to establish a reputation for their nurses, and therefore new immigrants find a well-established route for gaining employment as a nurse.
17 This is the extra income *less* the opportunity cost of employment in the Fiji Islands and less the difference in basic living costs between Australia and the Fiji Islands.
18 van Santen and Muller 2000.
19 For example, Principle 4 regarding contracts states that "All government and public sector contracts [are] to be openly advertised, competitively awarded, administered and publicly reported."
20 I.e. with the fee expressed as a percentage of reported value of landed catch.
21 E.g. a total allowable catch quota for a defined period of years.
22 McMaster, James. 2005. *Costs and Benefits of Deregulating Telecommunication Markets in the Pacific*. Prepared for PIFS. The study makes use of the tariff and revenue data available in the April 2005 edition of the International Telecommunications Union Data Base, the *Asia-Pacific Telecommunity 2004 Yearbook*, and many research publications and case studies from websites.
23 This estimate assumes that (i) the telecommunications markets are fully competitive with strong price competition among the providers operating on a level playing field; and (ii) the regulator will ensure that new entrants have access to the fixed line network owned by the former monopoly provider at fair access rental rates.
24 The benefits to New Zealand consumers were improved service availability, in terms of access to new services, fault service response, and new service installation times.
25 Typically such services are subsidized from profits on international calls.
26 The experience of the Eastern Caribbean Telecommunications Authority, which has such a role, supports this view.
27 Morris 2005.
28 It assumes public ownership of such assets would be achieved by building or buying new assets, whereas an obvious lower cost option would be to buy existing privately owned assets. Similarly, the assets owned by state-owned enterprises could be privately operated under a suitable long-term contract (e.g., lease and manage contract).
29 The costs and benefits are expressed in constant dollar terms and do not include nominal increases due to inflation.
30 This section is based on ADB staff analysis and reports on the proposal. See Guild and Costello 2004.
31 This is not feasible for individual civil aviation authorities reliant on outsourcing simply to supply core services.
32 The internal rate of return is the discount rate which if applied to the stream of financial flows of benefits and costs over the project life of the Pacific Aviation Security Office, would result in a net present value (NPV) of zero. In other words, applying any lower discount rates (such as those applied in other studies reported on in this chapter) would still produce a positive NPV.

33 See Appendix 1.
34 This is based on gross domestic product (GDP) per capita data and an assumption that increased participation in sports would on average increase life span by 5 years.
35 Unlike the Regional Economics and Statistical Technical Assistance Facility discussed earlier in the chapter, this statistical body would be focused primarily on compiling and publishing statistics, not providing technical support.
36 See Appendix 1.
37 See Appendix 1.
38 The Fiji Islands and Papua New Guinea each receives in excess of 600 trademark applications per year, most being filed by foreign applicants. Anecdotal evidence suggests many filings are common to the four countries.
39 See Naghavi 2005.
40 See Appendix 1.
41 Experience suggests that such duties would mostly be carried out under the auspices of the United Nations (UN).
42 Indeed the UN has recently announced the Fiji Islands will host one of three regional peacekeeper training centers.

CHAPTER 6

The Political Economy of Change

Overcoming the Barriers to Change

Our analysis in previous chapters has suggested that poor economic governance in a number of FICs—and the instability and occasional insecurity that followed—have imposed very substantial economic burdens on the citizens of those countries. The estimates undertaken by consultants and summarized in Chapter 2 indicate that the benefits of addressing governance issues—estimated at some US$8 billion over 10 years—dwarf by a considerable order of magnitude the benefits from any other key goal of the Forum considered in the Pacific Plan.

There are, moreover, compelling economic and social reasons for addressing this issue on a regional basis, rather than attempting to just strengthen national institutions through bilateral or multilateral programs. In many FICs, existing institutions of governance are themselves underfunded and too small to function in the manner required to address complex governance problems. Even in larger societies there is a reluctance to impose sanctions against those who violate normal international standards of good governance. External strengthening of FIC governance structures through bilateral donor programs carries considerable risk for the donor. *Regionalism offers an effective way of strengthening such institutions.*

Similarly, we have seen that the economic benefits of a policy of providing temporary market access to labor markets of all Pacific Islands Forum members would create very substantial economic benefits for all parties—FICs, and Australia and New Zealand. In the example of nursing, an area of very substantial shortages, a trade and development initiative has been suggested. It is estimated that the benefit to the region from a 1%

opening of labor markets in developed Forum members—filled by FIC workers—would be equivalent to US$1.6 billion, accruing over 3 years.

If these estimates are even approximately correct, then why have the potential beneficiaries of measures aimed at temporary labor movement and improved governance not implemented them on their own? The answer lies in what economists term a "political economy of change" problem. This problem is very much at the heart of the challenge of creating a new regionalism through the Pacific Plan. Like the benefits of trade liberalization, the benefits of good governance and market liberalization are shared by many while the costs are imposed on a few. However, the few losers are often well organized and vocal, and in position to oppose reforms that will result in improvements in governance, or more liberal markets. The potential beneficiaries of good governance are widely dispersed, and often have limited or no understanding of the relationship between their predicament and the absence of good governance.

The question, then, is how to manage the change from the current situation to superior circumstances. In economic theory, the resolution of such a problem is simple enough: the gainers compensate the losers. Such an approach to changes in governance arrangements clearly would be inappropriate. Other methods are needed. Where group consensus is required to reach agreement, however, only one participant need support maintenance of a poor governance regime to block development of alternative governance arrangements that may benefit all.

The region's development partners and the donor community have a significant interest in good governance. Table 6.1 shows that major donors to the region, such as Australia, New Zealand, the European Union, and Japan have devoted substantial amounts of development assistance to FICs where governance and security have been problematic. They can be expected to continue to provide further such assistance for the foreseeable future.

When the donor community acts on a bilateral basis to address governance issues, however, such action is too often seen as direct interference in the internal affairs of sovereign island states. The manipulation of such perceptions by those who benefit from poor governance through orchestrated nationalist reaction to bilateral intervention has occurred in the Pacific as well as in other regions. Bilateral intervention of this type thus

Table 6.1: Grants from Donors to Fiji Islands, Nauru, Papua New Guinea, and Solomon Islands (constant 1995 US$ million)

	Fiji Islands (1973–2003)	Nauru (1975–2003)	Papua New Guinea (1973–2003)	Solomon Islands (1978–2003)
Australia	318	61	7,400	276
European Community	111	10	594	211
Japan	122	5	227	108
New Zealand	20			16
United Kingdom			44	163
Total	**593**	**76**	**8,300**	**778**

Source: Organisation for Economic Co-operation and Development, Development Assistance Committee, online database.

poses risks for the donor community, and donors have considerable interest in mitigating these risks. Regional institutions, however, should in no way be seen as "political cover" for bilateral or international donors, but as the region's best chance for genuinely regional responses to regional and national economic problems. At present there are no economic institutions or policy bodies in the Pacific region that deliberate on the future economic policy of the region.

On the issue of temporary movement of people to satisfy labor shortages in developed countries, the question is why OECD countries do not voluntarily opt for such arrangements given the aging of their populations and their need for labor. The reason may be that while the proposed liberalization of labor mobility is a "win-win" situation for OECD countries and FICs, the current situation is net win for OECD countries. The migration of skilled labor as currently allowed by OECD countries is in effect a transfer of trained human and economic resources from developing to developed countries. This is true even after considering the net benefit of remittances coming back to the host country. The results of research commissioned for this report (Walmsley et al. 2005) indicate clearly that the current situation—severely restricted access of unskilled FIC labor to Australia and New Zealand combined with relatively unrestricted and permanent movement of skilled labor—is a worst-case scenario from the viewpoint of FIC welfare.

Providing an alternative to the current system, predicated solely on migration and the resulting net transfers of wealth, thus faces barriers

similar to those confronting a move to good governance. In the absence of any international system of compensation, which is unlikely to emerge, a shift away from the current use of migration to a trade and development approach based on temporary movement to deal with labor shortages in OECD countries requires a wholesale shift in thinking.

To manage the change, it is necessary to devise a mechanism or instrument that allows all Forum members to move away from present suboptimal positions to a position where all parties are better off. The two areas where economic benefits will be substantial for all parties are governance and temporary movement of people. Governance is the issue of greatest immediate concern to Australia and New Zealand, while the temporary movement of people is of greatest interest to FICs seeking gainful and remunerative employment opportunities for their citizens. Nevetheless, FIC citizens will gain from better governance at home, and Australia and New Zealand will undoubtedly benefit from reduced bottlenecks in their labor markets. In this dilemma may lay the seed of an agreement between the parties. However, temporary movement of labor is not likely to be of interest to those five countries (Marshall Islands, FSM, Palau, Cook Islands, and Niue) that have virtually unfettered access to either New Zealand or the United States (US). It is principally in Kiribati, Melanesia, and Tuvalu where this proposal will be of greatest economic and political value.

To manage change from the current situation, a narrow focus on governance and labor movement may not be sufficiently broad. The concerns of all Forum members must in some way be addressed to encourage the entire Forum membership to agree to an instrument for change. The concerns of aid and sustainable development should consequently be addressed in such an instrument. Provision of long-term guarantees of assistance in a contractual arrangement should be of interest to all FICs, with the possible exception of PNG, which already has such a contractual arrangement with Australia.

A departure from the current suboptimal situation must draw on the experience of clubs and the lessons learned as discussed in Chapter 3. The pool of benefits must be large if the participants are to remain in the club and the club is to remain viable. An element that has traditionally cemented relationships and created stable clubs in the Pacific is the right of citizens to move where salaries are more remunerative and where economic opportunities are greater. This element will need to be present in the Pacific Plan to ensure its success and stability.

A Legal Structure for the Pacific Plan

A legal structure for the Pacific Plan could provide a long-term vision, and reflect as closely as possible the key goals of the Forum agreed by leaders—governance, security, economic growth, and sustainable development. A legal structure should also group a set of proposed regional initiatives under each of the four pillars. Such proposed initiatives were examined in Chapter 5. Several of the proposed initiatives should be implemented as soon as possible as short-term, confidence-building measures.

The Long-Term Vision

The long-term vision for the Pacific Plan should see *negotiation of an agreement where all members would make commitments toward good governance in return for a renewable 5-to-10-year aid and trade agreement*.

Aid[1]

There are two reasons why aid commitments are a necessary part of any legal arrangement that is developed between Forum members. First, the assurance of a stable aid relationship between the FICs and Australia and New Zealand would be seen as one of the major benefits to all Pacific island countries. It is not necessarily the volume of development assistance, but its stability, continuity, and predictability that are of considerable value to FICs. The second reason is that, as pointed out in chapters 3 and 4, new regional arrangements agreed under the Pacific Plan will require specific, long-term, and additional financing to ensure their effective establishment, ongoing viability, and capability to deliver on the vision of Pacific leaders.

Relative to their size, aid to FICs—while varying considerably—is high by international standards. Nonetheless, there has been a substantial decline (40%) in total aid to FICs (excluding the "US Compact" countries)[2] since 1980, with PNG—arguably facing the greatest development challenges—seeing a 50% decline. Significant increases since 2003 by both Australia and New Zealand, predominantly focused on Melanesia, only partially offset this long- term trend. Insufficient aid levels are clearly not the primary constraint to improved governance and economic growth performance in the Pacific, but this report does concur with the international consensus (Sampson 2005) that (i) aid can promote growth under the right conditions; (ii) aid is more effective in a good governance environment; and (iii) aid can mitigate the negative effects of adverse external shocks and can increase growth in countries vulnerable to such shocks.

In addition to providing certainty and a tangible commitment to partnership with FICs, a long-term aid commitment would therefore

- reduce the vulnerability of FICs to external shocks;
- assist FICs through technical assistance to renew their efforts to address priority governance weaknesses and to implement policy reforms that create an environment conducive to economic growth; and
- support the development of the skills required to take advantage of more integrated regional markets.

More specifically, this report has argued that regional institutions can play a significant role in helping establish an environment in which good governance and economic growth can flourish. Aid commitments to the regional governance pillar of the Pacific Plan (and, indirectly, to the other Pacific Plan pillars) will be essential to help FICs deliver on the governance commitments also proposed under this agreement.

To achieve the twin goals of stability of the aid relationship and adequate additional resources for Pacific Plan initiatives, FICs and Australia and New Zealand should agree on commitments for a 5–10 year period along the following lines:

1. Australia to give at least 0.08% of its GDP and at least 25% of its total aid budget to Pacific Island Forum countries, with FICs excluding PNG to receive at least 0.03% of its GDP;
2. New Zealand to give at least 0.08% of its GDP and at least 25% of its total aid budget to FICs; and
3. at least 25% of Australian and New Zealand aid to FICs to be provided through regional channels, with clearly identified additional financing earmarked for the implementation of priority Pacific Plan initiatives.

The targets do not necessarily represent optimal levels of aid to FICs. They do, however, represent equal burden sharing between Australia and New Zealand while providing adequate resources for both existing bilateral programs and the additional resource demands of the proposed regional initiatives. They are realistic goals based on recent trends in Australia's and New Zealand's aid to FICs.

Trade

In the coming years, FICs have profound decisions that will need to be made on trade relations among themselves, and with the EU, Australia, and

New Zealand. From the perspective of FIC citizens, the single greatest benefit of trade liberalization cannot come from liberalization of agriculture or industry, but rather from liberalized movement of people and the liberalization of services. As noted in Chapter 4, the one resource that the Pacific countries have in great abundance is youth—a resource that is in increasingly short supply in Australia and New Zealand as well as throughout OECD countries. This constitutes a basis for trade that can be made mutually advantageous if Australia and New Zealand open markets in a targeted and market-friendly way, and take a "trade and development" approach to temporary movement, along the lines of the Kiribati-Tuvalu model of training and employing mariners on EU vessels. While FICs seek access to the ANZ market for their nationals, Australia and New Zealand have quite rightly argued that there is only the most limited market demand for unskilled labor, and that skills are required for market access to translate into gainful employment.

While services are normally considered a “second generation” trade issue in regional integration negotiations (usually following a goods agreement), such an approach may not be possible in the case of the Pacific. Further, Chapter 4 case studies showed that many different approaches to regional market integration are possible, and that it is advantageous to begin with the liberalization that yields the largest mutual benefits. In the example of a regional nursing school, we have focused on what we have called a trade and development approach to temporary movement. In this approach, sectors of mutual interest become the focus of market opening commitments along with the development assistance to increase the capacity to supply the necessary labor. There are a number of such sectors. What is needed is a proactive approach to mutually beneficial trade and development agreements involving the training and temporary movement of Pacific nationals.

Governance

Given the difficulties in measuring governance—let alone compliance with vague definitions of "good governance"—this report will not propose specific provisions for governance commitments. However, one vital element of governance commitments is that Forum members accept the proposed regional governance bodies and endeavor to make them a vital part of domestic economic life. The analysis of Chapter 4, particularly that of regional cooperation, suggested that there are multiple ways these commitments can be formulated, ratified, and enforced.

Nonetheless, without bound commitments from development partners to provide acceptable levels of technical assistance, FICs should avoid making legally bound commitments to good governance. This is not because the objective of good governance is not desirable, but rather because such obligations require the implementation of modern methods of economic management that are very often not available in small and isolated FICs. Failure of governance can be the result of a lack of political will to implement what are very often difficult measures, but frequently such failures can be a direct result of the absence of resources and capacity for the implementation of many of the modern standards that are necessary. While providing some services regionally will lower costs of operation, we have seen from several of the prefeasibility studies that these same services—which are currently provided nationally—are very much underresourced. So much so that, in the absence of additional commitments of external resources to regional approaches, FICs making bound commitments to governance could find themselves violating obligations due to inadequate resources.

Short-Term Confidence-Building Measures

A number of proposals highlighted in this report could, if implemented at the earliest opportunity, provide the political momentum necessary to propel the longer-term vision of the Pacific Plan. If properly implemented, they could build on the recommendations of the EPG report and place the "big idea" of Pacific interdependence squarely at the front of the regional political agenda.

The limited time and resources available to the consultants for preparation of this report prevent fully informed recommendations regarding the implementation of any of the projects that have been considered. What has been undertaken are prefeasibility studies that do indicate several projects worthy of full feasibility study. The studies have provided valuable insights into the nature of regionalism in the Pacific. These studies and insights can quickly lead to initial measures that are consistent with the objectives of the Pacific Plan and will genuinely address the concerns and needs of the region.

Projects worthy of full feasibility studies are recommended below. These recommendations, however, should not be construed as a definitive conclusion regarding any particular intervention.

Governance

The Pacific Plan should contain a central focus on governance. This report has emphasized that there is no single panacea for good governance. However, the scale of losses from poor governance argues that action must be taken in strategic areas for good governance if the deterioration in development indicators throughout the Forum membership is to be reversed.

A package of four initiatives is recommended, aimed at improving economic governance. Each initiative requires a regional approach that will strengthen national capacity. Given the importance of governance to the region, this report proposes that all four elements of the governance "package" be implemented as short-term, confidence-building measures. All these projects could be developed within existing regional organizations without creating another regional body. It is vital, however, that (i) clear arrangements are put into place to ensure their proper functioning, their institutional identities, and their separation from existing regional bureaucracies; and (ii) sufficient capacity be put into place so that existing organizations can absorb these new entities.

Reiterating the fuller analysis of Chapter 5, the recommended initiatives include

1. a regional economic and statistical technical assistance facility;
2. a regional facility to assist customs officials in collecting revenue;
3. a regional panel of public sector auditors; and
4. a regional ombudsman

Economic Growth

To increase economic growth and build momentum toward the longer-term vision for the Pacific Plan, two short-term confidence-building measures should be implemented:

1. harmonized regional terms and conditions of fisheries access, and
2. creation of a pacific regional nurse training facility.

Given the importance of economic growth to the region, four other regional initiatives are recommended for consideration:

1. implementing telecommunications liberalization, with an adequate regulatory framework;

2. create a joint purchasing facility for petroleum products and other essential import items; and
3. expanding labor mobility to other areas, apart from nursing.

The creation of a Pacific Aviation Safety Office is already under way, and deserves priority support from Forum member countries to expedite its early, full establishment.

Sustainable Development

As a first-step confidence-building measure, a regional sports institute would have significant net economic benefits, depending upon its success in training a new generation of athletes and in disseminating sports and sports-related leisure in FICs. Given the high incidence of lifestyle-related diseases in the region and their high economic cost, an optimal policy would be one that combines the training of athletes with bringing sports persons into the region's education system as teachers.

Two other initiatives would have a significant positive impact and merit further study:

1. a regional statistical office; and
2. a regional body to protect intellectual property rights.

Security

As with governance, there is no single panacea to counter rising instability and insecurity, particularly while FIC performance under the other three pillars—especially governance—remains weak. One area where regional intervention may be able to enhance FIC economic and social well-being is in pooling resources to create **a regional training facility to supply civilian police training for international peacekeeping**. The success of the Regional Assistance Mission in Solomon Islands has demonstrated the considerable positive impact on quality of life from improved policing. At the same time, the rising demand for police forces abroad presents an opportunity for local police forces to not only generate revenue but also gain crucial experience abroad. At the country level, there is scope for positive feedback into local policing and improvement of the employment situation.

Trade Agreements and the Pacific Plan

It is crucial that the Pacific Plan be considered in the context of the many ongoing bilateral and regional trade negotiations occurring within the Forum. FICs are in the process of, or are about to begin, negotiating and implementing trade agreements on a number of fronts. These include

- implementation of PICTA (entered into force April 2003),
- the Economic Partnership Agreement (EPA) with the EU (negotiations commenced in 2002),
- WTO Doha Development Round (negotiations commenced in 2001), and
- PACER negotiations (2011, but could be triggered by May or October 2006)

This agenda imposes a very heavy negotiating and implementation burden on FICs, and also raises key issues of the sequencing of negotiations, legal precedents, and participation in various negotiating fora. There are also vital issues of how these contractual arrangements are to be implemented and how they relate to the emerging Pacific Plan. A possible way forward is proposed below for the reconciliation of these negotiations with the Pacific Plan. The proposal aims, as a key outcome, to strengthen regional cooperation and integration in trade matters. Figure 6.1 summarizes the inter-linkage between the different trade agreements.

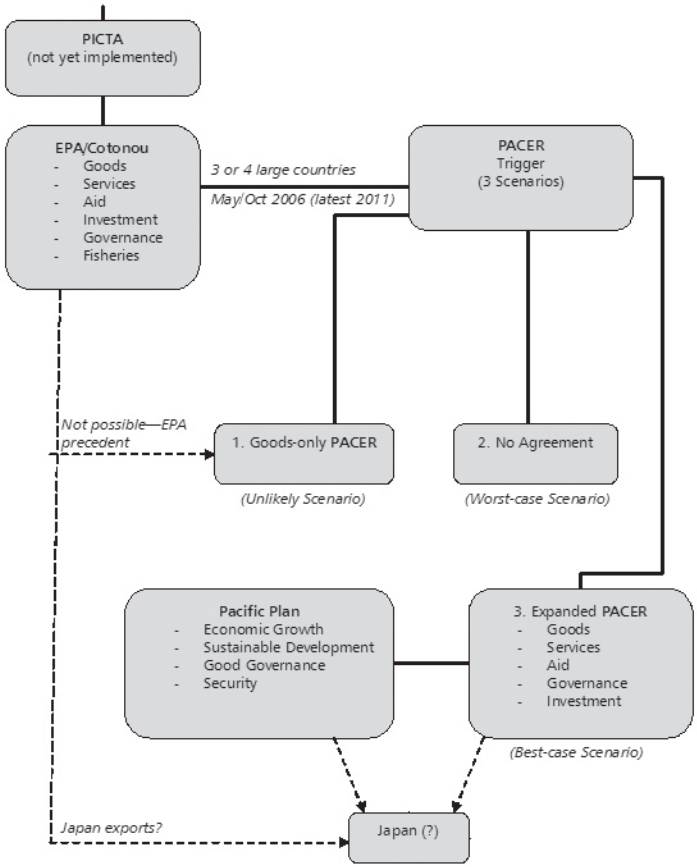
Pacific Island Countries Trade Agreement

While PICTA negotiations are complete, there remain difficult issues over the implementation of obligations under the agreement to eventually establish a free trade area. Implementation of the agreement has slipped due to technical issues, such as rules of origin, and negative lists that have delayed officials.

Economic Partnership Agreements

Pacific ACP (PACP) states have commenced formal negotiations with the EU on a multifaceted agreement covering trade in goods, services, investment, and fisheries. Once the EPA negotiations are completed, PACPs will be party to a contractual EPA/Cotonou agreement that covers aid, trade, political and economic governance, and development. Thus far only three countries are understood to have indicated a desire to negotiate a free trade agreement (FTA) in goods (PNG, Fiji Islands, and Samoa). These negotiations will commence, according to the agreed Road Map, by May or possibly October, 2006. The EPA negotiations envisage a multiple agreement

Figure 6.1: The Pacific Plan and Forum Island Country Trade Agreements



EPA = Economic Partnership Agreement, PACER = Pacific Agreement on Closer Economic Relations, PICTA = Pacific Island Countries Trade Agreement.
Source: Sampson 2005.

arrangement negotiated on an a la carte—i.e., opt-in, opt-out basis—covering goods, services (including temporary movement of persons), investment, and fisheries.

For there to be an FTA in goods between these three, and possibly more, PACPs and the EU, the implementation of PICTA (or the accession of Samoa to the Melanesian Spearhead Group [MSG] trade agreement) is a precondition set by the EU. If the EU and the PACP were to agree to an FTA in goods without first implementing PICTA or extending the MSG to

Samoa, then EU goods would enter PACP markets at a lower rate of duty than that of the PACP neighbors. This would therefore contradict the EU's stated objective of supporting regional trade integration.

Pacific Agreement on Closer Economic Relations

Under the terms of PACER, by April 2011 at the very latest, all FICs need to commence negotiations on an FTA with Australia and New Zealand. If any FIC commences negotiations on a goods agreement with a non-Forum developed country before then, they will automatically trigger the developed country (most-favoured-nation) MFN obligation to enter consultations leading to an FTA under PACER (Article 6.3(a)). For those countries that decide to enter into an FTA in goods with the EU, PACER will be triggered in May or October 2006. At present PACER covers only goods, and there is no obligation on any Forum member to extend negotiations beyond the trade in goods.

If PACER is triggered by Fiji Islands, PNG, and Samoa as a result of EPA in May or October 2006, and there are no changes to the scope of PACER, then Australian and New Zealand trade officials will negotiate a goods-only FTA with these three countries—either bilaterally or as a group. In such case, these three countries can reasonably expect that the negotiations will be more rigorous and concessions required of them more substantial than would be the case if all FICs, including least-developed and small states, negotiated as a group. The remaining FICs will have to negotiate an FTA with Australia and New Zealand by 2011. The precedent established by the negotiations with Fiji Islands, PNG, and Samoa will inevitably determine the shape of the agreement negotiated with the 11 remaining FICs.

A goods agreement with Australia and New Zealand is likely to impose higher adjustment costs on FICs than the EPAs, given the magnitude of Australian and New Zealand imports. Moreover, as the loss of import duties will almost certainly be made up by higher trade-neutral taxes, such as VAT, there is likely to be very limited benefits for FIC consumers and producers. As a result, without a multifaceted trade and development agreement that has sufficient scope and pool of potential benefits to offer mutually advantageous terms to all parties, there is considerable risk that the PACER negotiations based on a goods-only agreement would be unsuccessful.

It must be recalled that the PACER obliges members to commence negotiations on an FTA. If the terms are not deemed to be mutually beneficial, however, then there is no obligation to complete such FTA negotiations with Australia and New Zealand. The likelihood of a goods-only PACER failing will rise the more benefits the EPA negotiations provide. FICs would be reluctant to agree to an FTA with Australia and New Zealand, and incur the very high transition costs, if they receive relatively less benefit than they have achieved in the EU negotiations. In the event of a failure of a goods-only PACER negotiation, Australia and New Zealand exports to those FICs that have goods EPAs with the EU would be permanently disadvantaged in comparison to EU exports. While such an arrangement is WTO-compatible, it is of the most doubtful political viability given the size of Australian and New Zealand economic and political importance in the region.

In many ways the Pacific Plan covers areas currently covered by the Cotonou Agreement. It is this fortuitous and coincidental synergy that creates the possibility for the expanded PACER merging with the Pacific Plan. Indeed the objectives of PACER, as set out in Article 2, state that the parties wish to establish a "framework for the gradual trade and economic integration of the economies of the Forum members in a way that is fully supportive of sustainable development," and "…to provide economic and technical assistance to the Forum Island Countries in order to assist them in implementing trade liberalisation and economic integration." Thus the stated objectives of PACER are similar, though not identical, to the four pillars of the Pacific Plan.

The Integration of Japan into Pacific Trading Arrangements

Following the completion of the EPA in goods, and of PACER as it is currently formulated, imports into the Pacific from the EU, Australia, and New Zealand will be duty free. Japan is the second or third-largest source of imports for many FICs. It would be the only major aid donor to the region with exports subject to any residual import duties that would exist in FICs following EPA and a goods agreement under PACER. FICs should consider whether such a situation is sustainable. Given the high short-term costs of adjusting to FTAs with the EU, Australia, and New Zealand, the extra cost of a similar trade agreement with Japan may be quite low. Until the year 2000, Japan, as a matter of national trade policy, did not negotiate FTAs. Japan has now reversed this position, and is in negotiations with a number of neighboring countries.

FICs should also reflect on the appropriate sequencing of the inclusion of Japan in Pacific trade negotiations. It may be administratively burdensome to include Japan, as FICs are already negotiating on so many fronts. But including Japan early in the process will potentially provide substantially greater net benefits from a more comprehensive treaty arrangement in the context of Pacific Plan/PACER negotiations (see Figure 6.1).

A Two-Track "Critical Path"

If Forum members approach the Pacific Plan as simply a series of projects to be implemented without a complementary negotiating structure, there is the considerable risk that the international and donor community will see such an approach as a "shopping list." This approach will gain limited support. If, on the other hand, the short-term interventions are given a framework leading to a new approach to regionalism, with demonstrable evidence that all parties are willing to make bound commitments that address the region's problems in a rigorous and comprehensive manner, then the process is far more likely to gain credibility and support within and beyond the region. Consequently, it is vital that leaders embark on a "**two-track approach**" to Pacific Plan implementation. This approach is summarized in Table 6.2 below.

Table 6.2 A Time Line for Regional Integration

Date	Confidence Building Measures	Negotiating Track
October 2005	Forum Leaders decide to commence feasibility studies of 6–7 confidence-building measures outlined above	Forum leaders agree to negotiate a binding arrangement covering governance, trade development, and aid
November 2005	Forum Secretariat begins feasibility studies	Forum undertakes legal and economic feasibility studies and commences dialogue to develop terms of reference for PACER negotiations
June 2006	Forum finance and planning ministers consider results of feasibility studies	Forum trade and finance ministers consider draft terms of reference for negotiations
October 2006	Forum leaders consider recommendations of finance ministers and decide on implementation schedule	Forum leaders consider recommendations from finance and trade ministers on terms of reference for negotiations
January 2007		Negotiations commence for the expanded PACER.

PACER = Pacific Agreement on Closer Economic Relations

The *first track* should comprise a range of concrete measures that build confidence in the process, and confidence in an emerging partnership that will be mutually beneficial to FICs and Australia and New Zealand. The interventions must not be seen as random projects of dubious economic benefit. They should be seen as being consistent with and an integral part of the *second* or *negotiating track*. It has been argued that the negotiation of PACER, scheduled to begin in 2006, should be broadened to cover the areas of the Pacific Plan—security, governance, growth (including trade and aid relations), and sustainable development. PACER negotiations of such scope would thereby become a genuine and comprehensive Closer Economic Relations agreement between Forum members

In order for a credible process to emerge from the current dialogue, there is a need to combine short-term confidence-building measures with a **simultaneous decision** to negotiate a contractual arrangement between all Forum members that encompasses all the areas that have been described in the Pacific Plan. **Therefore, Forum leaders should, at the next leaders meeting in October 2005, agree to full feasibility studies on a range of confidence-building measures, and simultaneously announce the commencement of negotiations of the Pacific Plan/PACER.**

Resourcing the Two Tracks

If the Forum is to endorse the timetable proposed above, the Forum Secretariat will need a commitment for expanded resources to implement both the feasibility studies as well as the negotiations. A period of 3–5 years will be required, where a significant expansion of personnel and financial resources will be needed for a successful completion of negotiations. While a European Commission (EC)-style expansion at this early stage would be unfeasible and counter productive without supplementation, failure to address the resource needs of the Pacific Plan would place great strain on the Secretariat's current capacity. Pursuit of the proposed timetable without expanded resources could jeopardize a beneficial outcome for the entire Forum membership.

The Democratic Deficit and a New Pacific Regionalism

Once Forum leaders commence the process of deepening Pacific regionalism based on contractual commitments, as proposed above, then an important lesson must be learned from the experience of other regional integration bodies. The most advanced regional integration body is the EC, which has evolved into an extremely powerful institution. The EC, however, is perceived by an increasing portion of the European population—rightly or wrongly—as beyond the direct democratic control of its own population. It is for this, among numerous other reasons, that approval of a new European constitution has proven extremely difficult and contentious in national referendums. There is increasing concern in Europe about the potential devolution of further power to a body such as the EC.

While regional bodies in the Pacific are by no means as powerful as the EC, the process of negotiating a substantial treaty arrangement will heighten perceptions that many of the region's bodies are open to potential capture by donor interests, or by the international bureaucracy that manages them. The analysis of Chapter 4 suggests there is substantial precedent both in and outside the region for such an outcome. The likely future financing arrangements for many regional institutions—involving continuation of current substantial aid transfers—heighten these concerns. How can concerns be assuaged that structures emerging from a "new regionalism" are democratic, rather than a mechanism for increasing control by aid donors and regional bureaucrats?

No easy assurance can be given, and this is an issue that requires considerable research and reflection to avoid a repetition of the type of political reaction that the European experiment is currently experiencing. If Forum leaders wish to pursue a deeper contractual integration, then this question of a **political track** to the integration process should be considered at the earliest possible time. Indeed, the Forum and the CROP agencies do not have a governing structure that incorporates a permanent sitting body of members that reviews the full range of regional activities. To create such a body, even with instruments of "carbon-copy" democracy, would require assuring that representatives of all Forum members have a permanent representative based in Suva. This is necessary as a very first step to a more representative arrangement. The smaller FICs would need assistance to

assure that each has a voice in a permanent decision-making and oversight body based at the Forum Secretariat. This could be the first step toward an eventual "Pacific Senate" with elected representatives.

If the region is to seriously pursue a deepening of integration, it is incumbent upon the Forum and its members to commence, at the earliest possible time, a public dialogue on future democratic structures, and allow leaders and citizens to reflect on the appropriate mechanisms of democratic governance.

One conceptual issue that needs to addressed is that of "equality of membership." Will a PACER/Pacific Plan have institutions that treat all members equally? The analysis has so far focused entirely upon the needs of FICs, without addressing whether the institutions that would be created by a PACER would apply equally to all members. Such a question would appear to be rhetoric in nature as "equality before the law" lies at the very heart of international public law. However, several interesting possible anomalies might arise. It has been assumed throughout that the institutions that require strengthening are only those found in FICs. Indeed, the institutions pertaining to governance, security, sustainable development, and growth are strong in Australia and New Zealand, but it is not inconceivable that situations may arise where regional institutions could be called upon to undertake analysis or investigation in Australia and New Zealand. It is hardly inconceivable, for example, that a regional ombudsman could, under certain circumstances, be asked to undertake an investigation in Australia or New Zealand and release a nonbinding report. This consideration—applied across all of the proposed regional initiatives—should seek to ensure that the "rules" of the region's institutions apply equally to all members.

ENDNOTES

1 This section draws heavily from Sampson (2005).

2 The three former US territories—Federated States of Micronesia, Marshall Islands, and Palau—receive long-term financing through their Compacts of Free Association with the United States.

Appendixes

Appendix 1: Working Papers Commissioned by the Asian Development Bank and the Commonwealth Secretariat for the Report—Toward a New Pacific Regionalism

CHAPTER 2	
An Assessment of the Scope for Regional Cooperation, Integration, and Collective Provision on Security Issues	**Graham Hassall** Pacific Institute of Advanced Studies in Development and Governance (PIAS-DG) University of the South Pacific Suva, Fiji Islands
Notes on the Economic Performance of Small States 1995–2003	**Thomas Sampson** Research and Analysis Unit Bank of Papua New Guinea Port Moresby, Papua New Guinea
CHAPTER 4	
A Cost-Benefit Analysis of the University of the South Pacific to the Region	**Michael White** University of the South Pacific Suva, Fiji Islands
South Pacific Forum Fisheries Agency: Benefits and Costs	**Michael Hyndman** Pacific Plan Office, Forum Secretariat Suva, Fiji Islands
Retrospective Cost-Benefit Analysis: Air Pacific and Forum Line	**Jesoni Vitusagavulu** Top Tier Management Suva, Fiji Islands
CHAPTER 5	
Quantitative Assessment of the Cost of Governance Failure in Fiji Islands, Nauru, Papua New Guinea, and Solomon Islands	**Ron Duncan** PIAS-DG University of the South Pacific Suva, Fiji Islands
Valuation of Imports into Fiji Islands, Kiribati, and Papua New Guinea and Avoidance of Customs Duty	**Ron Duncan** PIAS-DG University of the South Pacific Suva, Fiji Islands
A Pacific Regional Panel of Auditors: A Cost-Benefit Analysis	**Michael White** University of the South Pacific Suva, Fiji Islands

A Permanent Economic and Statistical Technical Assistance Body for the Pacific Island Countries	**Ron Duncan** PIAS-DG University of the South Pacific Suva, Fiji Islands
Benefit-Cost Analysis of a Pacific Regional Nurse Training Facility	**Professor Ron Duncan** PIAS-DG University of the South Pacific Suva, Fiji Islands
A Regional Sports Institute: Preliminary Cost-	**The Secretariat of the Oceania National** Suva, Fiji Islands
Pacific Islands Police Peacekeeping Operations: A Cost-Benefit Analysis	**Secretariat of the Pacific Islands** Chiefs of Police Suva, Fiji Islands
Small Island States Bulk Procurement of Petroleum Products: Feasibility Study	**Jared Morris** Pacific Islands Forum Secretariat Suva, Fiji Islands
A Regional Statistics Office for the Pacific	**Michael Andrews** Pacific Financial Technical Assistance Centre Suva, Fiji Islands
Costs and Benefits of Deregulating Telecommunication Markets in the Pacific	**Jim McMaster** University of the South Pacific Suva, Fiji Islands
Regional IPR Office for the South Pacific	**Susan Farquhar**
The Impact of Liberalizing Labour Mobility in the Pacific Region	**Terrie L. Walmsley, S. Amer Ahmed,** and Christopher Parsons Global Trade Analysis Project (GTAP) (University of Purdue, United States) and University of Sussex, United Kingdom
Chapter 6	
Aid to the Pacific: Past, Present and Future	**Thomas Sampson** Research and Analysis Unit, Bank of Papua New Guinea Port Moresby, Papua New Guinea

Appendix 2: Defining and Measuring the Four Pillars

It is often difficult to make clear methodological distinctions between the four pillars: governance, economic growth, sustainable development, and security. While each pillar covers a number of unique issues, the overlap between them is substantial. It is often impossible to separate, for example, what is a purely economic growth outcome from a sustainable development outcome. Similarly, any given intervention—such as the creation of stronger statistics capacity, or lower telecommunications tariffs—will have ramifications across all four pillars. Some pillars contain the other pillars as preconditions. For example, most commonly accepted definitions of sustainable development include economic growth, good governance, and to a certain degree security issues. Adding to the methodological problems is the potentially vast literature on any given pillar, greatly complicating any effort to derive common definitions in a brief summary.

Governance

There is no single universal definition of "governance" (let alone "good governance"), largely because governance issues have figured prominently in the research agenda of international finance and development institutions only within the past decade. The definition most recently used by Kaufmann (2003) will be considered here, where governance is defined as below.

> ….the exercise of authority through formal and informal traditions and institutions for the common good, thus encompassing: (1) the process of selecting, monitoring, and replacing governments; (2) the capacity to formulate and implement sound policies and deliver public services; and (3) the respect of citizens and the state for the institutions that govern economic and social interactions among them.

Kaufmann (2003) distinguishes between "poor governance" and "corruption," where the latter is defined as the abuse of public office for private gain, and is a much more restricted notion than poor governance.

The notion of governance remains fairly broad and abstract. The quality of indicators and measurement is thus an issue. The data are largely based on qualitative surveys from a variety of organizations, such as commercial

risk rating agencies, multilateral organizations, think tanks, and nongovernment organizations, which in turn compile responses from experts, firms, and citizens. Despite the substantial country coverage, the data are subject to significant margins of error and a high degree of cross-correlation between individual variables. This implies that cross-country comparisons and country-specific rankings should be interpreted with caution. Further, given that research on governance is still in its infancy, rigorous data about past levels of governance (before 1995) are extremely scarce, especially for the Pacific.

The World Bank Institute (WBI) governance data[1] are considered the most robust and comprehensive available. WBI data cover 209 countries and territories for five time periods (1996, 1998, 2000, 2002, and 2004), and are drawn from 37 separate data sources constructed by 31 different organizations. A similar quantitative measure is compiled by Transparency International,[2] which regularly publishes its composite Corruption Perceptions Index covering 90 countries. Both WBI and Transparency International have data for Forum Island Countries (FICs). However, most ratings are based on a single source, adding further caution to the data caveats previously expressed. Apart from these two global datasets, a number of organizations publish qualitative reports on governance. Such reports for the Pacific are few in number, but often provide a more in-depth picture of governance issues at the regional and country levels.

The WBI data are divided into six indicators:[3]

1. **voice and accountability** measures political, civil, and human rights;
2. **political instability and violence** measures the likelihood of violent threats to, or changes in, government, including terrorism;
3. **government effectiveness** measures the competence of the bureaucracy and the quality of public service delivery;
4. **regulatory burden** measures the incidence of market-unfriendly policies;
5. **rule of law** measures the quality of contract enforcement, the police, and the courts, as well as the likelihood of crime and violence; and
6. **control of corruption** measures the exercise of public power for private gain, including both petty and grand corruption and state capture.

Table A2.1 *from Sampson (2005)* summarizes the WBI data. All countries were ranked for each year and for each governance dimension, and then their percentile rank was calculated (lower percentiles indicating better governance). For FICs, the average percentile ranking was calculated for each year from 1998 to 2004. The table includes only those countries rated on at least five of the six governance dimensions in a given year.

Table A2.1: Forum Island Country Governance Ratings (percentile ranking)

	1998	2000	2002	2004	Average 2000–2004
Fiji Islands	47	56	47	54	53
Kiribati	59	46	44	46	46
Marshall Islands	58	62	55	51	56
Micronesia, Federated States of	56	57	50	41	49
Papua New Guinea	65	67	71	76	71
Samoa	58	40	33	35	36
Solomon Islands	64	81	84	84	83
Tonga	64	60	64	58	60
Tuvalu	–	22	27	42	31
Vanuatu	57	61	58	52	57

– = not available.
Source: Sampson 2005.

Security

The meaning of security has broadened in recent years from a predominant focus on military-political issues. Non traditional issues related to the environment, economics, transnational crime, and human rights have increasingly found their way into the more traditional definition largely focused on military defense of the state.[4] This expanded definition is more commonly referred to as "comprehensive security." Hsiung (2000) characterizes comprehensive security as a two-part shift away from the state as the central unit of analysis. The first shift is toward a focus on the external community and the "global" threats it represents, such as communicable diseases, organized crime, systemic financial crises, and climate change. The second trend is an inward shift from the state toward individual citizens. This notion is more commonly referred to as "human security." The term originated in a 1994 report of the United Nations Development Programme (UNDP) that outlined seven distinct elements of human security:

- economic,
- food,
- health,
- environmental,
- personal/physical,
- community, and
- political.

Clearly there is much overlap between this definition of comprehensive security and the sustainable development pillar—as well as the pillar of economic growth if one takes a narrow definition of "economic security." Hassall (2005) notes that in the Pacific

> …security is closely linked with generating conditions that free people from fear and misery arising from various causes… [where] current threats to stability are more often linked to domestic failures of governance and inabilities to meet aspirations for development and economic advance.

While acknowledging that security has become a multifaceted concept, to avoid overlap with the other three pillars, this report will focus on those aspects of security that relate to dedicated law and order institutions—e.g., police, military, border enforcement, customs, and intelligence services—as well as the more dramatic manifestations of insecurity—e.g., terrorism, transnational crime, civil conflict, secessionist movements, and domestic political instability.

Much like governance, the definition and assessment of human and/or comprehensive security has only recently emerged as a major focus for international institutions. Thus the literature, data, and analysis of security issues are highly limited and sporadic in availability.

There are no global data sets that allow cross-country comparisons, let alone quantitative assessments over time, based on the above definition of comprehensive and/or human security. This is no doubt due to the complexity of the definition itself. However, there is an increasing number of independent rating companies that undertake in-depth country studies and issue country risk assessments (CRAs), expressed in the form of a single index or a rating. These country ratings are usually made publicly available and provide some level of comparability between countries. Wide CRA

coverage is provided by a number of firms including the following.

- Standard and Poors Rating Group
- Moody's Investor Services
- Fitch ICBA
- Control Risks Information Services (CRIS)
- Economist Intelligence Unit (EIU)

These ratings, while echoing the qualitative assessment above, are limited. Given the enormous amount of data and country expertise required, CRAs are largely geared toward investors, and generally focus on factors that might impact a country's ability to repay debt on time and in full. While this financial risk is an important element of security, it covers only a subset of the factors underpinning security.

More useful assessments of security risks and scenarios are provided on a qualitative, country-specific basis by governments, private organizations, and academic institutions. While they generally do not allow comparisons across time or countries, they often provide a richer security analysis than CRAs, and wider coverage for Forum members.

Growth

The methodological debate over economic growth is as old as the economics profession itself. It is beyond the scope of this report to summarize the entire debate over what is considered desirable or undesirable economic growth. One must be cautious about interpreting narrow definitions or indicators as strict measures of economic "health," well-being, or standard of living. For the purposes of this report, growth will be defined as a *sustained increase in per capita gross domestic product (GDP)*, as an indirect measure of the economy's capacity to produce and satisfy the material aspirations of its growing population. A number of related macroeconomic variables will also be considered. This report will also consider the degree to which GDP growth has resulted in a more equitable distribution of income, which is not necessarily captured by the level of increases in per capita GDP.

Numerous macroeconomic growth indicators will be considered:

- growth rate of GDP—overall and per capita, i.e., the level of economic activity;
- trade balance—the economy's reliance on external markets and its vulnerability to external fluctuations;

- government fiscal balance—the balance between expenditure and revenue;
- public debt burden—the financial solvency of the public sector;
- savings level—reflecting the capacity to fund future investment;
- inflation—reflecting changes in the costs of basic consumer items and purchasing power;
- foreign direct investment—the attractiveness of FIC economies to outside capital;
- private sector development; and
- unemployment rates.

As with all four pillars, analysis of economic growth in the Pacific is hampered by a lack of timely, comparable, and accurate statistics. Most analyses reflect data that are in some cases only 5 years old. For many FICs, time series data stretching back a decade are rare, even for commonly cited statistics such as GDP. The availability and level of aggregate statistics are heavily weighted toward larger FICs, such as Papua New Guinea (PNG), Fiji Islands, and Solomon Islands. For inequality and poverty indicators, data are even more scarce and contested. This report will draw on a number of qualitative assessments.

Sustainable Development

Of all four Pacific Plan pillars, sustainable development is arguably the most fluid and all encompassing, with over 100 definitions to date.[5] Perhaps the best known is the definition adopted by the seminal 1991 World Commission on Environment and Development (also known as the Brundtland Commission), which defined sustainable development as that "which meets the needs of the present without compromising the ability of future generations to meet their own needs." More recent formulations define three broad components—economic, social, and environmental, implying that in the search for material well-being (i.e., economic growth) societies should seek to balance the needs of the social and environmental components.

This report will address those aspects of sustainability that are

- not explicitly covered by the governance, security, or growth pillars of the Pacific Plan;
- linked to indicators for which data are available for same FICs; and
- integral to internationally agreed frameworks for sustainable development, especially those relevant to small island states, such

as the 1994 Barbados Programme of Action (BPOA) and the follow-up 2005 Mauritius Strategy.

This definition will address the management of

- climate change, including natural and environmental disasters;
- natural resources, including waste, marine, energy, and biodiversity;
- health, including communicable and lifestyle diseases; and
- social equality, including education and gender.

Much like the other three pillars, there is no single, internationally accepted indicator that addresses every aspect of sustainable development. Perhaps the best known indicator is UNDP's Human Development Index (HDI), drawn from its annual *Human Development Report*. The HDI measures a country's development level in terms of whether its citizens enjoy a long and healthy life, a decent standard of living, and a decent level of education.[6] UNDP also publishes region-specific reports on an intermittent basis. The most recent report for the Pacific is dated 1999. This report will summarize the findings of a number of organizations that compile data on separate subsectors, and a number of reports that take stock of the Pacific for the Barbados Programme of Action (BPOA). It is worth mentioning again, however, that robust data for the Pacific is scarce, especially on health and social issues. Quantitative, comparable, cross-country data sets are virtually nonexistent. Given the importance of natural resources for FIC exports, data on resource management are more widely available, though the presence of conflict in the larger exporters, such as PNG and Solomon Islands, has compromised the quality, coverage, and timeliness of data in these countries.

1 See http://www.worldbank.org/wbi/governance
2 See http://www.transparency.org
3 These are explained in more detail in Appendix D of Kaufmann et al. (2005).
4 This section draws from Hsiung (2000) and ESCAP (2001).
5 For a partial listing, see http://www.gdrc.org/sustdev/definitions.html
6 Available at http://www.undp.org. Summarized from Peebles (2004).

Appendix 3: Growth in the Pacific Islands

Reflecting heavy concentrations in exports and import dependence, *trade balances* in Forum island countries (FICs) (excluding Papua New Guinea [PNG]) are all negative. *Government expenditure* has been a significant portion of GDP (over 70% in the case of Kiribati, Marshall Islands, Federated States of Micronesia (FSM), and Tuvalu) with no discernible downward trend. While this reflects the many inherent handicaps on private investment in FICs, there are signs that this high level of public intervention is unsustainable. *Fiscal balances* of central governments have typically been negative and subject to severe fluctuations. Public debt levels (while small by global standards) have reached significant percentages of exports and GDP in five FICs. While there are little data available, surely *domestic savings* rates have been low, despite nominal improvements in capital markets and modest income levels. While *inflation* has been trending downward in the region, it remains at double-digit levels in Solomon Islands, PNG, and Tonga, with a large increase in the Fiji Islands after the 2000 coup. *Foreign direct investment* (FDI) has remained static or negative, with no FIC maintaining a steadily growing level of FDI. Levels instead show significant volatility, especially in resource-rich economies such as PNG and Solomon Islands (Table A3.1).

Data on *unemployment levels* are scarce for FICs, but available data suggest rates over 10% are common, and that rates for youths aged 15–24 are much higher. Employment opportunities in the formal economy are limited, and FICs exhibit high ratios of economically inactive populations, especially among women (Table A3.2).

Table A3.1: Foreign Direct Investment in Forum Island Countries (US$ million)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Fiji Islands	5.2	103.6	91.2	67.5	69.5	2.4	16	107	-33.2	0
Kiribati	0.4	0.4	-0.8	.04	–	–	–	–	–	–
PNG	117	104	62.0	57	455	111.3	28.6	110	296.5	130
Samoa	3	5	5	3	3	4	4	3	2	0
Solomon Islands	15	14	23.4	2.1	2	5.9	33.8	8.8	9.9	9.9
Tonga	0.4	1	2	2	2	2	3	2	2	2
Vanuatu	25	26	26	30	31	33	30	20	20	20
Total	166	254	208.8	162	562.5	158.6	115.4	250.8	297.2	161.9

— = not available, PNG = Papua New Guinea.
Source: Peebles 2004.

Table A3.2: Economically Inactive Population in Forum Island Countries in 2000 (% of population)

	Female	Male
Cook Islands	52	30
Fiji Islands	62	17
Kiribati	22	9
Marshall Islands	69	20
Micronesia, Federated States of	68	41
Nauru	54	35
Papua New Guinea	32	14
Samoa	60	23
Solomon Islands	20	14
Tonga	59	17
Tuvalu	14	15
Vanuatu	21	11

Source: Peebles 2004.

The level of *private sector development* in many FICs remains low. A recent Asian Development Bank (ADB) report[1] found that the FIC private sector is generally characterized by

- a large informal economy, especially in retailing and services;
- widespread subsistence agriculture and fishing;
- cultivation and export of indigenous root crops;
- export of some specialized agricultural products; and
- widespread but mainly small tourist sectors.

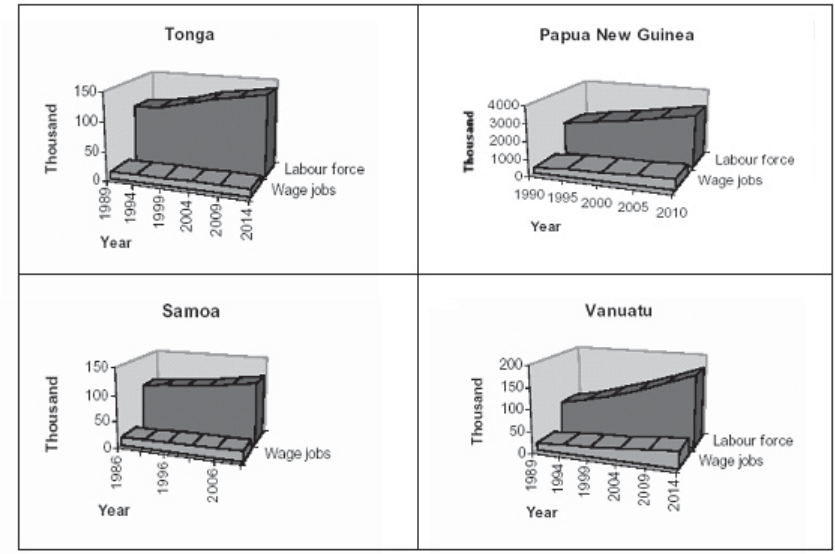
The private sector in many FICs faces high transactions costs, significant regulatory obstacles, and a high level of "crowding out" of investment by the public sector. A large proportion of potentially profitable FIC sectors are effectively monopolized by state bodies to fund general expenditure, further restricting the scope of private sector development.

Comparative quantitative data on *income inequality*, such as the Gini coefficient, are not available for FICs. However, qualitative reports such as Anere et al. (2001), Pacific Island Forum Secretariat (PIFS) (2004), and recent United Nations Development Programme (UNDP) Human Development Report indicate that income gaps are rapidly developing between small pockets of FIC populations with access to education and migration opportunities, and the vast majority of the population who are unable to access these resources. The increasing gaps between haves and have-nots in

FICs have been linked to rising tension and criminal activity. For urban elites with access to the public sector, rent-seeking behavior and poor governance have further fueled tension over unequal distribution of wealth, especially in resource-rich FICs. In PNG for example, the richest 10% of the population enjoys 23 times the share of income of the poorest 10%.

These labor market asymmetries are likely to persist well into the future due to high population growth and a lack of broad-based economic growth. UNDP (1999) projected widening gaps between labor force and wage job growth (Figure A3.1). The largest gaps were not restricted to Melanesian countries, with Samoa and Tonga seeing large projected deteriorations in their workforce-to-jobs ratios.

Figure A3.1: Growth Prospects for Wage Employment in Selected Forum Island Countries



Source: UNDP 1999.

Although extreme *poverty* is generally absent in the Pacific island countries, there is evidence that hardship and hunger not only exist, but are increasing. A recent assessment[2] of the Pacific's progress in reaching the Millennium Development Goals (MDGs) summarized a number of poverty and hardship studies undertaken by ADB. It concluded that hardship is much more widespread than generally thought, with at least 20% of households in 12 of 13 FICs studied suffering from basic needs poverty (defined as the inability to meet the cost of food and other basic needs and services essential for a minimum standard of living). In the most disadvantaged FICs, the proportion is estimated to exceed 33%. Cross-country data (Table A3.3) suggest that the incidence of basic needs poverty averages approximately 28% across all countries studied.[3]

Table A3.3: Percentage of Households Below the National Poverty Line

	National	Urban	Rural
Cook Islands	12.0	–	–
Fiji Islands	25.5	27.6	22.4
Micronesia, Federated States of	27.9	29.5	32.9
Kiribati	50.0	51.0	50.0
Marshall Islands	20.0	–	–
Papua New Guinea	37.5	–	–
Samoa	20.3	23.3	17.9
Tonga	22.3	23.6	22.8
Tuvalu	29.3	23.7	23.4
Vanuatu	40.0	–	–
Country Average	**28.5**	**–**	**–**

– = not available.
Source: South Pacific Commission 2004.

ENDNOTES

1 Available: http://hdr.undp.org/statistics/data
2 South Pacific Commission 2004.
3 This does not imply that 28% of families were going hungry or experiencing absolute poverty. Rather, they regularly faced demands for cash to satisfy basic needs (such as food, school fees, and community obligations) that outstripped their income (South Pacific Commission 2003).

Appendix 4: Smallness and "External" Constraints on Growth[1]

There is strong evidence that the constraints imposed on Forum island countries (FICs) by their smallness—small populations and small domestic markets—combined with remote and dispersed locations, narrow resource endowments, and frequent natural disasters, act as a constraint on growth. This conclusion counters a 2001 paper by William Easterly and Aart Kraay of the World Bank that argued small states did not suffer from their smallness.[2] Controlling for region, oil exporter, and Organisation for Economic Co-operation and Development (OECD) status, Easterly and Kraay concluded that among 157 countries, from 1960 to 1995, small states had higher incomes and relatively similar growth rates compared to larger states.[3]

In order to evaluate these findings in light of the poor growth performance in the Pacific over the past decade, Sampson (2005) reestimated the Easterly and Kraay regressions using more recent data (1995–2003) and a wider data set (197 countries and nonsovereign states). Sampson's data set includes 59 ministates (population less than 2 million), 48 small states (< 1 million), 40 "microstates" (<500,000), 27 "mili-states" (<250,000) and 16 "nano-states" (<100,000). Eleven FICs were included in the data set (no data was available for Niue, Kiribati, and Tuvalu). Sampson found that regressing average growth in GDP per capita on region, oil exporter, OECD membership, and a small state dummy, the latter exerted a negative effect significant at the 5% level. Table A4.1 shows that using an updated dataset, being a small state reduces average growth by 0.81% per year, contrary to the findings of Easterly and Kraay (2001).[4]

How might the supposed disadvantages of smallness have led to lower FIC growth in the past decade? One potential answer is that the costs of smallness are especially punitive for FICs, and that these costs have acted as a brake on investment, growth, and competitiveness. It is worth recalling that the classical gains from trade arise from greater specialization and allocation of resources toward their most profitable and efficient use. This classic notion of trade, however, does not account for the possibility that costs in a trading economy might be subject to a floor high enough that increasing trade results in a narrow set of traded goods and hence lower economic growth. A seminal 2004 study by Alan Winters and Pedro Martins[5] showed that small economies, especially those with the smallest populations, face large and significant cost inflation relative to firms in a median-size country, summarized in Table A4.2.

Table A4.1: Reestimating the Income and Growth Regressions of Easterly and Kray

Variable Dependent Variable	(a) Log of Average GDP per Capita 1995–2003	(b) Average Growth in GDP per Capita 1995–2003
Small States	1.09[a]	(0.181)
	-0.807[b]	(0.394)
Sub-Saharan Africa	6.14[a]	(0.143)
	1.29[a]	(0.340)
Asia	6.89[a]	(0.224)
	2.00[a]	(0.427)
Europe and Central Asia	7.72[a]	(0.216)
	3.48[a]	(0.347)
Middle East and North Africa	7.62[a]	(0.239)
	1.48[a]	(0.522)
Western Hemisphere	7.52[a]	(0.143)
	1.64[a]	(0.339)
OECD Countries	2.40[a]	(0.204)
	-0.669[c]	(0.399)
Oil-Producing Countries	0.828[a]	(0.256)
	-0.548	(0.828)
R2	0.59	0.16
N	194	194

GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development, R2 = Robust standard errors in parentheses.
a Significance at the 1% level.
b Significance at the 5% level.
c Significance at the 10% level.
Sources: Easterly and Kray (2001),and Sampson (2005).

Table A4.2: Product Cost Inflation in Micro and Small Economies (percent inflation relative to firms in a median-size country)

Area of Cost	Micro Economies	Small Economies
Airfreight Average	31.8	4.1
Sea Freight Average	219.6	70.5
Unskilled Wages Average	60.1	31.6
Semi-Skilled Wages Average	22.4	12.1
Skilled Wages Average	38.0	20.3
Telephone Marginal Costs	98.5	47.2
Electricity Marginal Costs	93.1	47.0
Water Marginal Costs	0.0	0.0
Fuel Average	53.8	28.3
Personal Air Travel Average	115.7	56.8
Land Rent Average	-3.5	-17.2

Sources: Winters and Martins 2004 and Horscroft 2005.

What impact might this finding have on small states, and FICs in particular? FICs are especially small. Using the definitions in Sampson (2005), 10 out of 11 are small states and 8 out of 11 are microstates. The same paper found that on average, FICs suffer from higher levels of remoteness than in any other region. Sampson (2005) found that remoteness had a strong and negative effect on growth. Perhaps more importantly, like many small developing states, FICs have enjoyed preferential market access that has allowed them to overcome the cost handicaps of smallness and exploit sufficient value-added for economic activity to exist in their countries. Preferential access generates an income transfer from donor countries (usually more developed countries with large markets) to exporters in the recipient country. This provides an assurance to investors that capital will earn sufficient returns in high-cost economies. Grynberg and Silva (2005) found that for many small states, including several FICs, the additional rents earned through preferential access are significant, totaling nearly United States dollar (US$)1.4 billion annually in sugar, beef, bananas, textiles, and clothing alone. In a preference-dependent economy such as the Fiji Islands, these resource rents from sugar alone total more than 50% of agricultural exports.[6]

Since 1995, however, an ongoing process of multilateral and bilateral trade liberalization has continually eroded the value of market access in preference-receiving countries. Most important for FICs are:

- reforms of the European Union (EU)'s sugar regime under the Common Agricultural Policy (CAP),
- challenges to EU-FIC fisheries agreements, and
- expiration of the Multi-Fibre Agreement on Textiles and Clothing.

The findings of Winters and Martins (2004) suggest that this decrease in the income transfer to small-state exporters will have a negative impact on growth given the large penalties to value-added in a competitive economy. Unfortunately, the hypothesis that removal of preferences has resulted in lower FIC growth since 1995 cannot yet be rigorously tested since the reform of preference regimes has either not yet occurred (i.e., sugar), or has occurred too recently to discern any possible impact (i.e., clothing and textiles). However, data for foreign direct investment in FICs suggest that the removal of preferences may have deterred investors, resulting in largely negative investment flows and low growth. For industries such as tourism, where classical theory suggests that FICs might have a comparative advantage, the cost inflation for microeconomies reaches

57.5%. This implies that new investment has not been able—and may never be able—to fully replace the engine of economic growth once provided by trade preferences.

Poor governance and security have undeniably lowered FIC growth. However, Sampson (2005) finds that dropping the three FICs that have experienced internal conflict since 1995 (Fiji Islands, Papua New Guinea, and Solomon Islands) and reestimating the growth equations, improves the growth of the remaining Pacific island countries only marginally. Overall growth is still significantly worse than that of any other region. While many observers attribute the low growth to poor governance, as noted earlier in this chapter, governance in the Pacific is on average no worse than in other regions. Governance alone is insufficient to explain why countries that have seen relatively large increases in their governance indicators—such as Samoa and Tuvalu—have still failed to attract significant levels of investment and remain at less developed countries levels of per capita income. This suggests that other factors not necessarily related to intra-FIC conflict and poor governance are constraining FIC growth.

ENDNOTES

1 This appendix draws heavily on Sampson (2005).

2 Easterly and Kraay 2001.

3 Easterly and Kraay concluded that the positive effects of greater openness were largely offset by the negative effects of income volatility and higher initial income.

4 Sampson (2005) found that country coverage partly explains the difference between his results and those of Easterly and Kraay (2001). The income effect of small size remained highly significant for the subset of countries not included in Easterly and Kraay (2001). However, there was also evidence that the more recent time horizon, covering a period of poor performance in Forum island countries (FICs) in particular, may have also been a factor. Using a data set drawn from the World Bank, Sampson (2005) found that there was a positive and significant relationship between smallness and growth for the period 1980–1994, but a negative and significant relationship for the period 1995–2003. A factor in this shifting trend is the especially poor performance of FICs. Non-oil exporting and non-Organisation for Economic Co-operation and Development Pacific states are poorer than similar small states in all other regions except Sub-Saharan Africa. A mili-state and microstate had similarly significant negative effects to small state, while the impacts of ministate and nanostate status were not significant.

5 Winters and Martins 2004.

6 Grynberg and Silva 2005.

Appendix 5: Club Theory—Basic Concepts and Conclusions and a Technical Summary

Basic Concepts and Conclusions

Club theory rests on a number of crucial assumptions. First, economic agents form groups to confer cost-sharing benefits upon each other. Second, collective action entails costs that limit the size and scope of a club. From this tension between the costs and the benefits of collective action, the final *optimal club* is derived.

To begin with an intuitive example, consider the choice between a private good and a club good: a private backyard and a community park. (This draws from an analogous "swimming pool" example in Holcombe [2004]). Each provides "green space" that gives a certain amount of pleasure to the consumer. One key difference between the choices lies in the financing. In a private backyard, all costs are fully paid by the owner. In a community park, on the other hand, the costs of purchase, maintenance, and upgrade are paid collectively through taxation. Let us assume that at the outset all users have their own backyards. Each person derives an individual benefit from having his or her own backyard—the ability to dictate its exact design, a wish to feel more secure walking outdoors at night, and so on. These are *benefits of sovereignty*—the value of individual ownership.

When a user moves from a private backyard to a community park, he or she can no longer dictate its shape or design—they forgo the benefits of sovereignty. But if one assumes that all users have the same taste in park requirements and park use, and *if there are only a small number of park users*, then moving from a private to a public good might not be a wholly negative switch. In fact, moving to a public good means that the enjoyment of the outdoors is now cheaper, thanks to the collective, cost-sharing arrangement. Materials used for the maintenance of the park can now be bought in volume, group, often at lower cost. Maintenance crews can be hired collectively, again often at a lower rate than if they were hired individually. These benefits are known as *economies of scale*, the decreases in cost that come from larger volumes, or a higher concentration, of production.

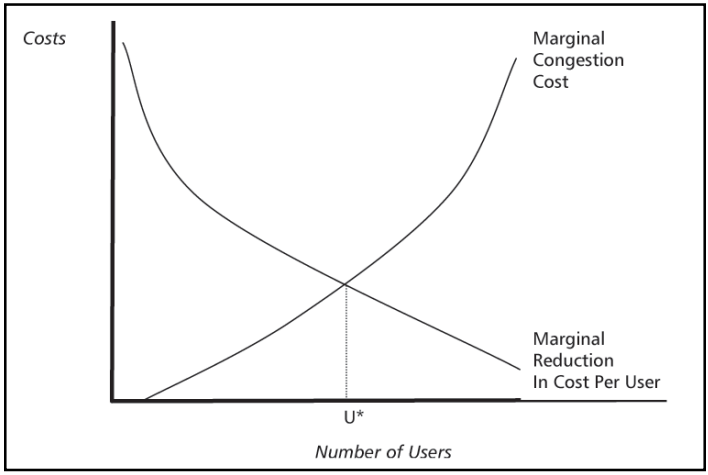
When more members of the community make use of the park, then the park may become overcrowded. These costs are known as *congestion costs*.

These costs can rise to the point where they begin to overwhelm the scale benefits. In the extreme, when the park becomes very congested, a potential user may cease to use it and instead consume the private good—even though more and more people are sharing the costs. Using the typology developed thus far, the economies of scale have failed to compensate for both the congestion costs and the loss of the benefits of sovereignty. There is thus an optimal size of the sharing group that can use a public good.

A simple graphical representation of the basic model described above is shown in Figure A5.1, which presents the basic trade-off between economies of scale and congestion costs (sovereignty benefits will be included later). Congestion costs are represented by *the marginal congestion cost curve*, which is upward sloping since increases in the club membership impose greater and greater crowding costs on the rest of the members. (The MC curve intersects the horizontal axis due to the assumption that low numbers of users impose little or no crowding costs.)

The economies of scale are represented by the *marginal reduction in cost per user curve*, which is downward sloping since pooling productive capacity into a collective club good brings cost-reducing benefits. Intuitively, as the club expands—as U becomes larger and larger—costs per user decline due to burden sharing, but congestion costs increase. There is an optimal number of users, U*, where the two costs are balanced. In a sense, the club is breaking even at this point. If club size is less than U*, further expansion of a club could still bring net benefits. Above U*, congestion costs begin to overwhelm cost savings from additional users.

Figure A 5.1: Club Theory: Basic Model



The above analysis implicitly assumes a fixed club "facility"—a park of a certain size, or a swimming pool that lets in a certain number of users. The club facility size can always be increased to lower congestion costs. Of course the costs of expanding and maintaining a larger facility will have to be spread among the club members. In the extreme, as the facility expands more and more, it may not be feasible to continue increasing its size indefinitely. In the community park example used earlier, users may elect to limit its size for safety considerations. Similarly, one cannot continue to add lanes of traffic to accommodate additional cars on a highway because it makes it too difficult to change lanes and use entry and exit ramps. Eventually, the best solution is not to continue expanding the amount of the public good, but rather to build a second one. Eventually, two smaller clubs will be more cost-effective than one gigantic club, as two smaller roads will be more cost-effective than one large road.

Technical Summary

Club theory lies between the neoclassical models of private property—where all goods are privately consumed and used, and exclusion is costless—and purely public goods, where consumption is not rivalrous and exclusion is not feasible.[1] Nobel Laureate James Buchanan's seminal 1965 paper set out to map a "general theory… which covers the whole spectrum of ownership-consumption possibilities" between the purely private and public extremes. It also aimed to "determine the membership margin, so to speak, the size of the most desirable cost and consumption sharing agreement." This appendix sets out the basic Buchanan (1965) model and two useful extensions—membership heterogeneity and efficient tolls.

Basic Buchanan Model

The basic Buchanan model assumes two goods (a private good and a club good) and agents whose tastes and endowments are homogenous.[2] The private good is the *numeraire* good, while the club good is the impure public good. The representative agent i has a utility function indicated by

$$U^i = U^i(y^i, X, s)$$

Consumption of the private good is denoted by y^i. The per-member club good utilization rate xi is the same for all members and is equal to provision (i.e., no wastage). Thus $Ex^i = X$, where X denotes the size of the club facility. The utility function is assumed to be increased in X and y^i. Membership size s, however, is assumed to have initially positive effects

(the "camaraderie" effect), but these decrease after a threshold membership is attained (the "crowding" effect). Here the Buchanan model departs from traditional neoclassical notions of private property by stating that the utility an individual receives from the consumption of a club good depends upon the number of other persons with whom he/she must share its benefits.

Each member maximizes his or her utility subject to a resource constraint,

$$F^i (y^i, X, s) \geq 0$$

which, by intuition, depends positively on X and y^i and negatively on s, due to the cost-sharing properties of club goods.

Assuming continuity and twice-differentiability, the representative member chooses optimal levels of yi, X, and s subject to the resource constraint Fi (•) yielding two first-order conditions,

$$MRS_{iXy} = MRT^i_{Xy}$$
$$MRS_{i\,sy} = MRT^i_{sy}$$

for $i = 1,\ldots,s$ yielding respectively the provision conditions (optimal X) and membership conditions (optimal s).[3] The provision condition states that each member equates the marginal rate of substitution (MRS) between the club good and the *numeraire* private good to the marginal rate of transformation (MRT) between the two goods. Put differently, each member equates his/her marginal benefit of the club good to the marginal cost to the club of providing an additional unit to him/her.[4]

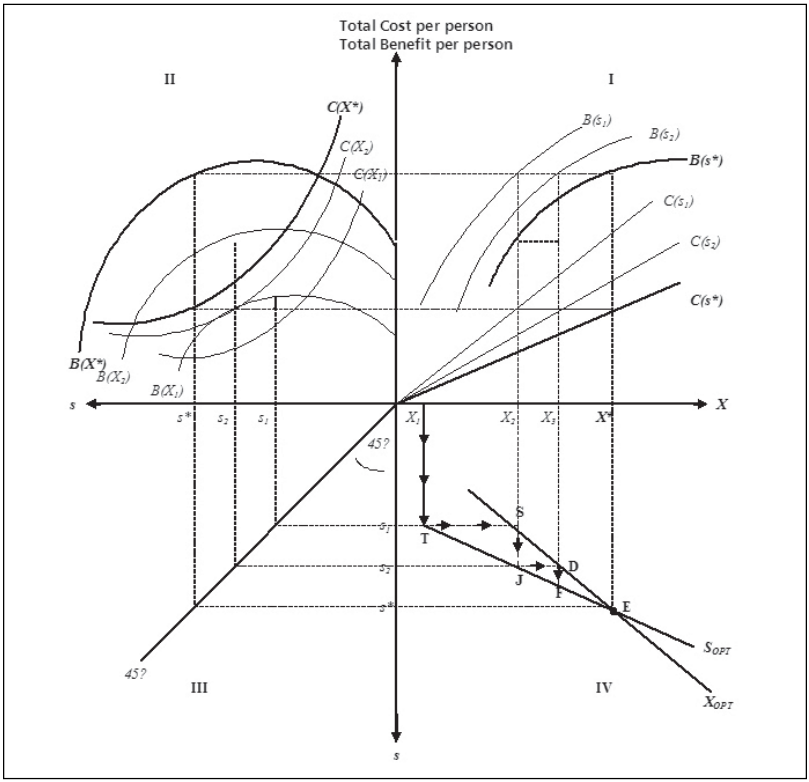
The membership condition equates the MRS between membership size to the analogous MRT. In order to be induced to join at the margin, the cost-sharing benefits of joining must be offset by the additional crowding costs imposed by an additional member.[5]

The graphical representation[6] in the Figure A5.2 shows the interaction of the membership and provision conditions. It depicts the equilibrium conditions of the Buchanan model in a four-quadrant setting. The axes are labeled according to X, s and the total cost/benefit per user. The cost and benefit curves reflect the above assumptions of diminishing marginal benefits and constant returns to scale for the cost function.[7] The

upper right-hand quadrant I describes the provision condition. A given membership size (s_1) dictates the position of the benefit and cost curves $B(s_1)$ and $C(s_1)$. The tangency of the slopes of these two curves determines the optimal level of provision X_2. The increase in provision of the club good attracts more members (s_2), which lowers the benefit and cost curves to $B(s_2)$ and $C(s_2)$. The optimal combinations of X and s satisfying the provision condition trace out an X_{opt} curve in the lower-right hand quadrant IV.

The upper left-hand quadrant II describes the analogous membership condition. Here the focus is on optimal membership sizes that maximize per-person benefits. Benefit curves $B(X)$ now exhibit negative returns once crowding sets in, and the cost curves $C(X)$ are rectangular hyperbolas, reflecting the cost-sharing assumption. Increasing membership size s shifts both curves upward, causing the benefit curve to become increasingly

Figure A 5.2: Graphical Representation of the Buchanan Model



Source: Sandler and Tschirhart 1980.

concave. Similarly, the tangency points of *B(X)* and *C(X)* determine optimal *X** and *s** that satisfy the membership condition, tracing out an s_{opt} curve in quadrant III. At this tangency point, the club is both solvent and provides incentives for each of its members to remain part of the club.

The tangency point of the X_{opt} and s_{opt} curves gives the equilibrium satisfying both first-order conditions. The progression from the initial (X_I, s_I) to the optimal (X^*, s^*) is denoted by the path $X_I TJSDF$.

Financing and Tolls in the Buchanan Model

In the homogenous-agent Buchanan model, the implicit price of membership or toll[8] is equal for all agents at *C/s*, where *C* is the cost of providing the good, *s* denotes membership size, and $Eci = C$ for for $i = 1,\ldots,s$ by assumption. The provision cost *C* can be expanded into a cost function *C(X, s)* that is analogous to the utility function in that it captures both the provision and crowding effects.

The first-order Buchanan provision conditions state that the club is solvent if members' payments $(E^s_i = 1\ MRT^i_{Xy})$ equal the club's marginal cost of provision *(MRTXy)*. This "finance condition" or "toll condition" can be expressed as

$$kT = \mathrm{MRT}_{Xy}$$

where *k* is the average utilization rate and *T* the average per unit toll. Under assumptions of homogeneity this finance conditions yield efficient tolls and a solvent club.

Membership Heterogeneity

The relaxation of the homogeneity assumption adds a degree of complexity to the basic Buchanan model. The symmetrical relationship between utilization and cost sharing is no longer valid once club members have different incomes, tastes, and/or willingness to pay for the club good. Different members will derive different utility from consuming the same unit of the club good. Decisions surrounding membership, provision, and cost sharing become more difficult to reach owing to the aggregation of diverse preferences.

Following models by Sandler (1984) and DeSerpa (1977), the population is now assumed to be uniformly distributed over a vector [1, s] so that

membership size is now continuously differentiable. The population is ordered along [1, s] by their willingness to pay for the club, as measured by their net gain from membership, which is assumed to be invariant from the size of the club or the degree of congestion. Since utilization rates differ, member utility is now denoted by

$$u\ y(i),\ x(i),\ f\ (1^{s} x(i)\ di,\ X\ ),\ i$$

where the integral is the club's total visitation rate. An analogous non-members' utility rate (which is by assumption not impacted by visitation) is derived. Once the rank ordering *[1, ?]* is put forward, a social welfare function that weights members' and non-members' utility (subject to a resource constraint) is maximized.[9]

The membership and provision conditions are essentially analogous to the Buchanan model: members still join if they see net benefits to doing so, and if the club remains solvent after they join. It is the toll condition that differs:

$$\mathrm{MRS}^{i}_{Xy}. = -\ 1^{s} f_{1}\ \mathrm{MRS}_{fy}\ (i)di$$

The toll condition is now subject to the visitation rate. With heterogeneous agents sharing a club good, all individuals pay the same congestion-internalizing toll (they all feel the "pinch" of rising congestion), but total tolls paid by various members differ according to each member's revealed intensity of utilization (the number of visits made). High demanders visit more often but may or may not pay more in total tolls, given the distribution of income or willingness to pay among the club membership.[10]

Another formulation in Oakland (1972) considers the toll condition expressed earlier:

$$kT = \mathrm{MRT}_{Xy}$$

where k is the average utilization rate and T the average per-unit toll. When members are heterogeneous, a club satisfying this condition is solvent. When heterogeneity is introduced, however, the toll may fail to self-finance the club. This occurs whenever average costs exceed marginal costs (increasing returns are present). The condition stated above assumes that no individual consumes the entire amount of the shared good, i.e., that $x^{i} < X$

for all *i*. When this does not occur, financing problems can arise from free-riding behavior by the group of full utilizers.[11]

Discriminatory Clubs

A further extension of the heterogeneity literature (in a nongame-theoretic setting) is the formation of so-called *discriminatory clubs*, in which members consume both the shared good and the characteristics or attributes (e.g., income) of the other members. In the basic model by DeSerpa (1977), each member brings a vector of characteristics that can increase or decrease utility, according to each member's taste. Heavier users provide the club with more of their attributes than less heavy users. Intuitively, the total level of any given membership attribute depends on (i) the utilization rate of each member and (ii) the endowment of the given attribute to each member.[12]

DeSerpa models a club in which there is a preexisting membership. Each member must decide a level of usage from zero to one and each pays according to usage level. The club produces a public good that the membership exactly pays for. However, the membership itself creates a second public good, consisting of a usage-weighted sum of the characteristic vectors of each member. Thus the utility of a single member depends on the level of the club-produced public good, the level of the member-characteristics public good, and the cost of membership.[13]

As with the earlier heterogeneity extensions, the discriminatory club model does not fundamentally change the Buchanan first-order provision conditions. A member will still choose to consume the club good only if their marginal benefit of participation equals the club's marginal cost of providing the shared good to that additional member. The difference is that each member is now consuming a "club package" consisting of the original shared good *as well as other members' characteristics*.

A further extension by Basu (1989) notes that these club packages, or "association goods," provide utility both in the form of a club facility and the status associated with being admitted. In this scenario, a purely financial profit-maximizing club entrepreneur may choose to raise fees from members with higher incomes but less desirable social qualities in order to cross-subsidize the membership of poorer but more desirable attributes. There is, however, a dilemma: since the club membership is an association good, the act of admitting less desirable members may change the status

rating of the club, and make everybody less willing to pay the lower membership fee. Thus excess demand may exist in equilibrium with profit-maximizing agents, and any attempt by the club to eliminate this excess demand by taking in more members may make people less eager to join and thus lower the club's profits.[14]

ENDNOTES

1 This section draws heavily on Buchanan (1965), Scotchmer (2002), Sandler and Tschirhart (1980), and Sandler and Tschirhart (1997). The following exposition of the Buchanan model follows Sandler and Tschirhart (1997).

2 The Buchanan model and its subsequent variations in the literature also deal with issues of partitioning of agents within an economy between different clubs. This strand of analysis has not been included in the following exposition. Similarly, the literature on exclusion costs in clubs is not summarized; it is assumed that in the Pacific context the club goods are a priori restricted to countries in the region and the exclusion costs are negligible.

3 Both are expressed in terms of the *numeraire* private good.

4 This is alternately known as the "break-even" condition: if at the margin the club is self-financed when providing the club good, the sum of its member payments must equal the club's marginal costs (Sandler and Tschirhart 1980). This assumption will be relaxed later.

5 These marginal benefits are normally negative due to crowding, while the corresponding marginal costs are also negative due to the cost-sharing assumption.

6 From Sandler and Tschirhart (1980).

7 Recall that the cost curves reflect the "break-even" condition at the club level rather than the personal level, so they exhibit constant returns to scale. Similarly, the benefit curves exhibit diminishing returns but remain positive as the club as a unit benefits from a larger membership, even if it causes discomfort at the agent level from higher "crowding."

8 This term is likely derived from the earliest papers on self-financing highways as collective goods by A.C. Pigou (1920) and Frank Knight (1924), considered a precursor of the modern literature on clubs.

9 See Sandler (1984) for all equations and derivations.

10 Sandler and Tischart (1997). It is worth mentioning that most models with heterogeneous agents fail to find a Pareto-optimizing competitive equilibrium. This issue is explored in depth in Sandler and Tischart (1980). It will not be explored in the Pacific context as a heterogeneous club is assumed as given.

11 Sandler and Tischart (1980).

12 Sandler and Tischart (1980). The recognition of nonhomogenous agents within a group is known as nonanonymous crowding, versus the anonymous crowding formulation in the Buchanan model.

13 Biglaiser and Friedman (2004).

14 Basu 1989.

Appendix 6: Selected Excerpts from Forum Communiqués 1980–2004

Development Policies

1989: The Forum considered reports from the Committee on Regional Economic Issues, and from the Regional Committee on Trade. These addressed a broad range of economic and development matters of concern to member countries. The Forum agreed there was a need for member governments to explore new trade and investment policy initiatives to promote national development. It recognized the importance of the GATT/ Uruguay Round of Multilateral Trade Negotiations. **(Para 7)**

1994: The Forum stressed the need to adopt a global perspective in regard to the development of economic policies, in particular ensuring the achievement of maximum sustainable economic returns on the region's resources, enhancing development of the private sector, responding to changing global economic conditions, increasing the level of value-added production, and developing regional approaches to international trade. **(Para 13)**

1995: The Forum supported a number of national policy measures and regionally based activities which would contribute to the aim of *Securing Development Beyond 2000*. These included:

(i) Securing the potential benefits of globalization by enhancing competitiveness through promoting price stability (low inflation); avoiding artificial distortions to the prices of domestic resources (land, labour, capital); reducing trade taxes and import duties, which adversely affect export competitiveness; and removing implicit and explicit barriers to foreign direct investment.

(ii) Adopting and implementing the investment principles agreed to by APEC members, as a signal to potential investors of the region's serious intentions to promote and encourage foreign direct investment.

(iii) Working towards implementation of trade reform measures as required by GATT/WTO, including by replacing nontariff barriers with tariffs, and setting a time frame for minimizing tariff levels.

(iv) Promoting trade both within and outside the region by harmonizing and standardizing administrative procedures in the areas of customs and quarantine, labeling and packaging, phytosanitary and other sanitary requirements, export/import controls, exchange controls and technical standards.

(v) Improving public sector efficiency and cost-effectiveness by rationalization of public services; attention to policy coherence and commitment to the principle of good governance; and strengthening cooperative relationships between government Ministries and agencies.

(vi) Improving aid management and regional cooperation by endorsing the Proposed Regional Strategy.

(vii) Recognising the valuable contribution of the agricultural sector to domestic food security, export development, incomes and employment and the need for positive measures in support of agricultural development, including minimising price distortions and promoting agricultural research and information dissemination, for both marketable and subsistence crops.

(viii) Enhancing development by the adoption and maintenance of appropriate and sustainable fiscal policy settings.

(ix) Placing greater emphasis on population management strategies as a fundamental way of accelerating development.

(x) Ensuring that development strategies place appropriate emphasis on the promotion of outer island and remote community development. **(Para. 18)**

1998: The Forum recognized the special circumstances of the smaller Forum member countries in the implementation of economic reforms under the Action Plan and the need for strong support for their reform processes by regional organizations and the donor community. **(Para. 14)**

Regional and Global Trade Issues

1984: The Forum agreed in principle to promoting duty free and unrestricted access for handicrafts traded between Forum Island Countries, to be implemented on a bilateral basis. **(Para. 16)**

1988: The Forum noted members' dependence on the export of certain agricultural and other commodities. It expressed concern that the proliferation of trade distorting policies that characterize the present international trade regime represents a substantial trade and economic burden, particularly on the economies of the developing countries in the region. The Forum noted the importance of the Uruguay Round in addressing the question of reform of the agricultural and commodity trading systems. It called for participants in the negotiations to take full advantage of the mid-term review of the Round by agreeing to early reform action, particularly in tropical products and agriculture. **(Para. 11)**

1996: Leaders agreed that tariff policies should be reviewed in the light of the need to liberalize trade in the region, consistent with the global liberalization focus, and supported measures that countries can undertake without compromising other national policy objectives. **(Para. 8)**

1997: Leaders acknowledged the importance of public accountability to economic development and agreed to implement legislation, supported by administrative measures to counteract undesirable financial activities in the region, noting that such activities undermined development. Leaders reaffirmed their commitment to free and open trade among the Forum Island Countries through tariff reform and to ensuring investment transparency. They confirmed their support for the creation of Free Trade Area amongst Pacific countries. They agreed to cooperate closely particularly at the sub-regional level in improving air and shipping services and in addressing other impediments to increased trade and investment. **(Para. 6)**

1999: Leaders recognized the "spearhead" role of the Melanesian Spearhead Group (MSG) Trade Agreement in liberalizing trade and agreed that one of the key strategies for dealing with globalization and trade liberalization is to establish a regional free trade agreement. **(Para. 7)**

Leaders endorsed in principle a free trade area among Forum members noting that this would be implemented in stages over a period of up to 2009 for developing Forum Island Countries (FICs) and 2011 for the smaller island states and least developed countries. The Forum tasked the Officials to negotiate the details of the draft agreement, including negative lists and measures to provide for the application of the arrangements to Australia and New Zealand. **(Para. 8)**

2001: Leaders, at this historical 30th anniversary meeting of the Forum, endorsed the outcomes of the Forum Trade Ministers Meeting held in Apia, Samoa, from 27 to 28 June 2001, in particular the recommended texts of the Pacific Agreement on Closer Economic Relations (PACER) and the Pacific Island Countries Trade Agreement (PICTA), which were opened for signature at Nauru on 18 August 2001. The Forum hailed these agreements as providing a basis for increasing regional integration and as a means to effectively prepare members' economies to respond to globalization. It looked forward to ratification of the agreements as soon as possible by sufficient states to enable them to come into force by the next Forum. **(Para. 7)**

Governance and Accountability

2000: Leaders endorsed the outcomes of the 2000 Forum Economic Ministers Meeting (FEMM), held in Niue from 24–25 July and the FEMM review. In particular, the emphasis on supporting a whole-of-government approach, applying rigorous impact assessment, and undertaking consultation in the design and implementation of economic reform was supported. The Forum also reiterated its commitment to the FEMM Eight Principles of Good Governance and pursuit by members of the Forum Economic Action Plan, which is intended to improve members' environment for sustained growth. **(Para. 19)**

The Forum noted the economic impact analysis of the unrest in the Fiji Islands and Solomon Islands, which highlighted the economic and social costs and the collateral impacts for members on trade, transport services, and use of regionally owned infrastructure. It also endorsed the importance of the following additional measures identified by FEMM as having a role in ensuring political and economic stability:

(i) pursuit of economic reform in an effort to provide a sound economic basis upon which social development can be based;

(ii) consulting widely with all stakeholder groups to improve transparency and promote ownership of development;

(iii) assessing and addressing the full range of economic and social impacts of policy proposals to minimize socioeconomic disparities;

(iv) progressive implementation of measures to promote good governance, including the Forum Eight Principles of Accountability; and

(v) addressing land issues that remain unresolved. **(Para. 20)**

2002: The leaders endorsed the FEMM's report and their efforts to improve economic management in the Pacific. They agreed that there was pressing need to address the internal economic weaknesses in island economies to better withstand international economic downturns and take advantage of global growth. They also agreed to a need to refocus attention on issues of good governance, use of broad-based consultation and socioeconomic impact assessments, and improving the business environment. **(Para. 3)**

Private Sector

1992: The Forum stressed the importance for member governments to recognize the impact of global macro-economic trends on their open economies and their susceptibility to external change. It again stressed the importance of putting in place effective, domestic economic policies, with recognition of the vital role that an effective private sector should play in ensuring economic growth. A sound investment strategy was vital for ensuring the maximum development of local resources and for encouraging foreign investment into FICs. The Forum noted the critical need to maintain substantial resource flows to FICs. **(Para. 31)**

Of critical importance to the region was the development of its people. In this regard, the strengthening of educational opportunities particularly vocational and postsecondary education is critical. **(Para. 32)**

The Forum stated that while many issues needed action at the national level there was a vital role for regional action, in support of national objectives. It reiterated that regional development activity was best addressed through the application of a regional development strategy for the Forum Island Countries which is being developed by the Forum Secretariat. This would encourage the optimal use of resources directed to the areas most in need. The Forum noted the importance of dialogue and consultation in the development of the strategy, particularly with member governments and in cooperation with the South Pacific Organizations Coordinating Committee and the region's partners. **(Para. 35)**

1994: The Forum agreed that the private sector had an important role to play in the reforms now being undertaken in the region and for this reason the private sector needed to be strengthened to enable it to lead the next stage of growth. It recognized that if the private sector is to play its role in

full, the appropriate critical mass is necessary and because of differing circumstances, the rate of private sector development will vary from country to country. The Forum directed the Forum Secretariat to undertake a greater facilitating role in providing policy advice to member governments in these areas. **(Para. 11)**

1997: In the first FEMM which was held in Cairns, Australia, on 11 July 1997, leaders agreed that the implementation of the Action Plan would require strong commitment by all members to create a policy environment to encourage private sector development and enhance the competitiveness of their economies. This should include the development of tourism particularly in the Forum Island Countries with limited and no exploitable resources, noting the potential of the coming millennium to tourism development in the region. **(Para. 5)**

1999: The Forum recognized the value of lessons learnt through sharing the experiences of its members and how these could enhance the success of members' economic reform programs. The FEMM process provided a valuable opportunity for peer review in this area and should therefore be continued. Leaders reaffirmed their support for private sector action in ensuring sustainable development and the importance of engaging the private sector in economic policy discussions. The Forum also highlighted the need to ensure that economic reform discussions take account of social safety net needs and the desirability of enlarging the dialogue to involve consultation with civil society. **(Para. 11)**

Leaders recalled their discussions in Pohnpei on the fundamental importance of education and training in enhancing the adaptability of Pacific islanders to a rapidly changing world and region and, in particular, to economic reform. **(Para. 12)**

Regional Air Services

1995: Leaders endorsed the outcomes of the Joint Meeting of Aviation Authorities and Operators, and the recommendations of ministers responsible for aviation meeting as the South Pacific Regional Civil Aviation Council. Leaders considered these recommendations provided an appropriate framework within which governments and airlines could work together, both at a national level and regionally, to improve further the performance of

the aviation industry in supporting national economic development and social needs in the South Pacific.

Telecommunications

1998: Recognizing the importance of efficient and effective communications services for both national and regional development, the Forum agreed to convene a Forum Communications Policy Ministerial meeting. The aim of the meeting will be to promote competitive telecommunications markets and, taking into account social and rural/urban equity concerns, discourage unwarranted cross-subsidization between service sectors; work toward the development of a cooperative approach to information infrastructure and regulatory services; and examine developments in relation to international settlement rates for telecommunications services. **(Para. 12)**

Small Island States

1985: The Forum recognizes that special emphasis on meeting the needs of the Smaller Island Countries should be given through support of their national development strategies and through preferential treatment in regional programs. The Forum noted the critical need for whatever economic potential exists in the SICs to be explored and developed to the full. **(Para. 25)**

1987: The Forum reaffirmed its support for the special measures to be taken to assist in the development of those of its member states classified as Smaller Island Countries. **(Para. 30)**

1991: The Forum recognized the special development requirements of the Smaller Island States of the Forum and recommended that the international donor community take these into account when providing assistance to those Forum members. **(Para. 10)**

Forestry

1994: The Forum warmly welcomed the agreement between the prime ministers of Australia, Fiji Islands, New Zealand, Papua New Guinea, Solomon Islands, and Vanuatu:

(i) to work toward a common code of conduct governing logging of indigenous forests, to which companies operating in their countries will have to adhere;

(ii) on the need to increase urgently monitoring of logging and exports of timber;

(iii) that senior officials will meet within the next 2 months to begin implementing these decisions. **(Para. 6)**

1996: The Forum endorsed action to date by member countries to implement the South Pacific Code of Conduct for Logging of Indigenous Forests in Selected South Pacific Countries, and called for continuing efforts by all Forum members to manage their forests sustainably.

Fisheries

1989: The Forum expressed its profound concern at the damage now being done by pelagic drift net fishing to the economy and environment of the South Pacific region. Given the catastrophic effects of this fishing technique on the lives of the peoples of the South Pacific, the Forum adopted the Tarawa Declaration. Through the Declaration the Forum

(i) resolved for the sake of this and succeeding generations of Pacific peoples to seek the establishment of a regime for the management of albacore tuna in the South Pacific that would ban drift net fishing from the region; such a ban might then be a first step to a comprehensive ban on such fishing;
(ii) determined, to this end, to convene an urgent meeting of regional diplomatic, legal, and fisheries experts, to develop a convention to give effect to its common resolve to create a zone free of drift net fishing;
(iii) called on the international community to support, and cooperate in, the urgent conclusion of a convention establishing the zone;
(iv) resolved that individual member states of the South Pacific Forum will take all possible measures in the interim to prevent drift net fishing within their waters, and to otherwise actively discourage operations of driftnet fishers;
(v) further resolved that member states acting individually and collectively will take what action they can within relevant international organizations to contribute to the cessation of this harmful form of fishing;
(vi) commended the Republic of Korea for its decision to cease drift net fishing in the region; and
(vii) called on Japan and Taipei,China to follow this example, and abandon immediately their damaging drift net operations. **(Para. 10)**

The Forum recognized the urgent need for closer cooperation among all Forum members in order to protect and preserve their fishery and other marine resources as effectively and cost-efficiently as possible. The Forum therefore directed the Forum Fisheries Agency to investigate, promote, and

implement the design and development of an Integrated Programme of Regional Fisheries Surveillance. **(Para. 12)**

1990: The Forum continued to give high priority to the more effective management and better utilization of marine fishery resources in the region and adopted a number of decisions on issues of immediate concern and importance.

(i) **Control of Long Drift nets in the South Pacific**: The Forum (a) endorsed the Convention for the Prohibition of Long Driftnets in the South Pacific; (b) called on all interested parties to accede to the Convention or its protocols as appropriate; (c) welcomed Japan's decision to cease drift neting 1 year in advance of the date stipulated in UNGA Resolution 225; and (d) directed that every effort be made to find means to involve Taipei,China in negotiations for a management regime for South Pacific Albacore Tuna.

(ii) **Multilateral Fishing Arrangements with Japan**: The Forum (a) recorded its disappointment at Japan's continuing reluctance to enter into substantive negotiations toward the conclusion of a multilateral fisheries access arrangement, which would protect fisheries resources and the interests of all parties; (b) renewed its call to Japan to resume negotiations; and (c) directed the FFA to strengthen and develop regional strategies for improved fisheries management.

(iii) **Minimum Terms and Conditions for Access by Foreign Fishing Vessels**: Forum members agreed to give high priority to the implementation of the revised Minimum Terms and Conditions as the basic standard of access to the FFA members' EEZs.

(iv) **Western Pacific Purse Seine Fishery**: The Forum (a) noted with concern the potential threat to the western Pacific fisheries by the increased purse seine effort and (b) endorsed the need to control the number of purse seine vessels licensed to fish within the EEZs of FFA members in the western Pacific fishery.

(v) **Ratification of the Law of the Sea Convention**: The Forum urged all member countries, as a matter of priority, to take measures to ensure the entry into force of the Law of the Sea Convention. **(Para. 10)**

1992: The Forum having recognized the urgent need for closer cooperation amongst Forum members to protect their fisheries, noted the work completed on a treaty on reciprocal and joint surveillance and enforcement at the 22nd Forum Fisheries Committee meeting in Niue in May 1992. It confirmed support for the Niue Treaty on Fisheries Surveillance and Law Enforcement in the South Pacific Region. Forum members in a position to do so signed the Treaty. **(Para. 46)**

1994: The Forum agreed that multilateral approaches will be strengthened to promote the sustainable exploitation of fish stocks within the region. Toward this end, there is the need to define sustainable catch levels for all fisheries based on the precautionary principle; for countries to work together to enhance the monitoring and policing of fishing; to obtain fair prices for the fisheries resource; and to exploit opportunities for value-added production. The Forum urged all member countries to continue to play an active role in the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks. **(Para. 8)**

1995: In the light of the outcomes of the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks, the Forum considered that comprehensive regional fisheries management arrangements, and a structure consistent with UN Conference outcomes to administer them, should be developed as a matter of urgency. The Forum registered its view that these management arrangements must be based on a precautionary approach to ensure the sustainable exploitation of the region's valuable tuna resources. **(Para. 11)**

2004: Leaders, recognizing the importance of fisheries to the Pacific economies and people, agreed to seek increased sustainable returns from fisheries resources including through the increased participation of resource owners in the fishing industry. Domestic industry development was seen as an important means of increasing returns to Pacific countries.

Cooperation with External and Regional Partners

1991: The Forum recognized the importance of continuing high level economic discussions between Forum Island Countries and the region's major development partners. It was pleased to note the firm resolve shown by all those interested in South Pacific development to foster greater levels of cooperation, coordination, and policy dialogue. In this regard a number of

important issues were identified for further development of policies and programs. These included the role of the private sector recurrent cost issues of aid delivery, progress in the development of strategic planning and policy formulation capacities, human resources development including higher education and training and refinement of aid consultative mechanisms. It was fundamental that all agencies involved in these activities in the region continued to work closely together, coordinating their efforts to the greatest extent possible. **(Para. 4)**

The Forum agreed that the region should continue to promote links with the rest of the world, including non-Forum territories in the Pacific, that links should continue to be strengthened with groupings such as APEC and PECC and that the relationship between the Secretariat and the ASEAN Secretariat should continue to be fostered. The Forum joined others in the international community in urging all participants in the Uruguay Round to commit themselves to a comprehensive and successful end to the negotiations this year and underlined the importance of fair trading systems to Forum member countries. **(Para. 6)**

Appendix 7: The Economic Optimality of the "Pacific Way"[1]

Club decisions can either be made by unanimity/consensus or by some departure from unanimity, ranging from majority rule to a dictatorship. In a cooperative setting, what is the optimal way of making decisions? Political decisions are usually made by majority rule, thus the majority who supported a policy expect to benefit from it, and the minority who opposed the policy will be worse off. Majority rule is thus imposed on a minority. Majority rule is arguably cost-effective. Since only 51% of the countries need agree, the cost of decision making is lower than if 100% were required to agree. However, there is often no way of guaranteeing that the benefits received by the majority are greater than the costs imposed on the minority, so an inefficient, or suboptimal, decision may be made.

In a club that seeks to avoid inefficient decisions, or does not want its decisions to make any individual member worse off,[2] the alternative is unanimous agreement by consensus. Here every country agrees to any change, and by their agreement, each member signals that the change improves their well-being. Consensus brings the benefits of higher group cohesion, even if the resources required in such things as meeting time and negotiating capital are greater.

Pacific cooperation has been guided in principle by consensus decision making. This approach is widely known as the "Pacific Way," described below by a former Deputy Secretary-General of the Forum:

> When formed in 1971 [the Forum] adopted an informal style based on the "Pacific Way." There were no formal rules for the conduct of its meetings, and that is still the case today… Among these are shared principles of engagement (consultation, consensus, unhurried decision-making, taking care not to cause offence and resolution of disputes by diplomacy rather than adversarial contest) as well as core values (collective well-being, mutual respect, reciprocity, sensitivity to individual conditions).[3]

Besides its obvious cultural resonance for Pacific Islanders, the "Pacific Way" reflects an optimal economic logic for a regional club as diverse as the Forum membership. Given the heterogeneity of Forum members in terms of

income, geography, history, and ethnicity, it would be difficult to envision a majority voting system that, over repeated interactions, different external and domestic contexts, and different issues, would ensure that the costs to the minority are consistently less than the benefits to the majority. In the Forum, consensus has likely meant that meetings have required more time and resources than would be required with simple majority rule. However, given that the additional per-day costs of meetings are relatively minor compared to the fixed setup costs, the strong additional benefit of a consensus-driven approach is undeniable.

ENDNOTES

1 This section draws from Holcombe (2004), from a framework developed in Buchanan, James, and Gordon Tullock. 1962. *The Calculus of Consent*. Ann Arbor: University of Michigan Press.

2 In the language of economics, this is known as a Pareto-optimal decision-making process.

3 Sutherland 2004.

Appendix 8: Lessons in Regionalism from Other Regions'

There is strong evidence that moving away from a purely voluntary model has enhanced the benefits of regional cooperation in regions outside the Pacific. The MERCOSUR grouping in Southern America, the European Union, and Economic Community of West African States (ECOWAS) all have used binding cooperation to reinforce their commitment to shared principles.

MERCOSUR[1]

The Mercado Común del Sur (MERCOSUR) was formed in 1991 by four countries in southern Latin America: Argentina, Brazil, Paraguay, and Uruguay. Along with the creation of a common market, a common concern in the region was the protection of democracy, reflecting its members' experiences with military dictatorship in the 1970s and 1980s. From its founding, MERCOSUR members maintained an informal rule that made democracy a condition of membership. This commitment was put into practice in April 1996 when the commander of Paraguay's armed forces was said to be contemplating a military coup. The bloc's four presidents reportedly quelled the rumored coup with a strong joint statement that democracy was a condition of membership in the bloc, the "Presidential Declaration on the Democratic Commitment in MERCOSUR."

Two months later MERCOSUR amended its charter to formally exclude any country that "abandons the full exercise of republican institutions." Its protocols set the full validity of democratic institutions as an indispensable condition for the existence of the MERCOSUR agreements, and set procedures for consulting on violations. If there is rupture of the democratic order in one of the states, the other countries will consult with the affected state. If these consultations prove ineffective, the other countries will decide on the nature and extent of measures to apply. Sanctions, from suspension of the right to participate in the organs of the various agreements, up to suspension from MERCOSUR, may be applied. The protocols specify that measures will be adopted by consensus and communicated to the affected state, which will not participate in the decision-making process. Such measures will cease once it has been verified that democratic order has been fully reestablished.

European Union and the ACP Group

The 4-decade old aid partnership between the European Union (EU) and the 77 countries of the African, Caribbean and Pacific (ACP) Group yields useful lessons for strengthening regional cooperation between countries. The EU-ACP relationship is noted for its nonreciprocal trade benefits for ACP states with additional aid packages. However, beginning with the Lomé IV conventions in 1990–2000, the consensus that good governance was essential to development prompted many observers to call upon the EU and the ACP to make aid allocations conditional upon recipient countries' respect for governance principles.

The results are enshrined in the Cotonou Agreement, the successor to the Lomé I–IV agreements. The Cotonou Agreement is a multifaceted aid, trade, and investment agreement that is predicated on ACP countries' respect for human rights, democratic principles, rule of law, and good governance. The Cotonou Agreement was approached with caution due to the complexity of arriving at universally accepted criteria for assessing governance, and the danger of allowing too much scope for arbitrary opinions in this assessment. The compromise reached was that the first three elements (human rights, democratic principles, and rule of law) were seen as "essential elements," where failure to implement these norms could provide grounds for suspension of EU aid. After a common definition was established, good governance was included as a "fundamental element." Contrary to the "essential elements," a state facing governance problems will not have to fear a suspension of aid, with the notable exception of "serious cases of corruption." Consultations, requested by either party, can be organized. If these do not result in solutions, measures appropriate and proportional to the seriousness of the situation shall be adopted. Suspension would be a measure of last resort.[2]

ECOWAS

ECOWAS joins 16 West African countries from Cape Verde to Nigeria.[3] ECOWAS was conceived as a means to advance economic integration and development, and is intended to lead to the eventual establishment of an economic union in West Africa. There were concerns during its formation that chronic political instability in some ECOWAS member countries and internal conflicts could prove even greater obstacles to economic development than market barriers.[4]

To address this issue, ECOWAS leaders adopted two important defense protocols in 1978 and 1981. These protocols call for mutual respect and

noninterference in internal affairs, and the establishment of a regional mechanism for mutual assistance in defense matters. Uniquely, these protocols place equal weight on threats from without and within. They state in Article 4 that ECOWAS is compelled to intervene in "internal armed conflict within any Member State engineered and supported actively from outside likely to endanger the security and peace in the entire Community." The protocol thus allows for legitimate intervention in the internal affairs of member states.

These provisions have facilitated efforts aimed at the resolution of regional conflicts initiated by ECOWAS. The ECOWAS Monitoring Group (ECOMOG) was established initially on an ad hoc basis as a multinational peacekeeping/peace enforcement force, and was the first such group to be established by a regional body. ECOMOG teams are normally comprised of military units or technical experts from ECOWAS member states. ECOMOG was principally responsible for the restoration of peace in Liberia in 1997. In addition, ECOMOG forces have been deployed to Guinea-Bissau, Sierra Leone, and Cote d'Ivoire to address conflicts in those states.[5]

A further demonstration of the strong commitment of ECOWAS to shared principles—and its willingness to impose a cost for members that violate them—is its response to recent developments in Togo. In response to an attempted coup d'etat in Togo in February 2005, ECOWAS voted to impose sanctions that included travel bans against members and officials of the Togolese Government; suspension of all diplomatic, military, and civilian links; recall of ambassadors of member states of ECOWAS in Togo; and the enforcement of an arms embargo.[6] Within a month, the sanctions were lifted with immediate effect following the announcement of elections in Togo and assurances of transparency by the Togolese Government.

ENDNOTES

1 This section summarizes the findings of World Bank. 2000. *Trade Blocs*. Washington DC: World Bank.

2 *Cotonou Infokit: Essential and Fundamental Elements (20)*. Maastricht: European Centre for Development Policy Management.

3 Economic Community of West African States (ECOWAS) members are Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo.

4 ECOWAS paper.

5 From: Bureau of African Affairs. 2002. *The Economic Community of West African States (ECOWAS)*. United States (US) State Department Fact Sheet. Washington DC: US State Department.

6 See *The Guardian (Nigeria)*. 2005. Togo: ECOWAS Sanctions May Start on Monday. 20 February. Available: http://www.afrika.no/Detailed/8461.html.

Appendix 9: Economic Arguments for Regional Service Provision

Can Services Be Provided by Pacific Island Markets?

For the purposes of this report, "the market" is loosely defined as any "agent"—firm, private citizen, or voluntary organization—that lies outside the public sector (i.e., governments and intergovernmental bodies). The economic arguments for market provision are well known and will be summarized only briefly.

- There is an *efficiency* argument: because nonpublic sector agents operate—in principle at least—in a competitive environment, they have an automatic incentive to allocate resources to the use that has the highest value for consumers. If market entry is free, then the number of service providers will increase up to the point to where total supply meets total demand and the price of services equal the break-even point for the service providers. All excess profits are whittled away by higher competition. Companies will sell their products at a price equal to the cost of production (marginal cost). There is a stronger incentive for the private sector to be more efficient and generate a better return on capital.
- There is a *cost* argument: since market participants are (again, in principle) not dependent on taxpayer funds for their existence, their costs are private rather than public. As such, the failure of any single firm or voluntary organization is not a direct cost to society via increased taxes.

The number of services provided by the market in the Pacific is arguably less than in many larger, more developed countries. Political considerations, and the colonial structure inherited by many Pacific island economies—in itself a "big government" model—have undoubtedly played a key role in this. Yet, there are also structural reasons, largely a product of the unique geography and characteristics of the region. (Many of these characteristics were examined in Chapter 2.)

1. **Small, High-Cost Markets**. The high transactions costs in the Pacific, stemming from the islands' small, isolated, and internally fragmented markets, greatly constrain the ability of market agents to bargain and hence capture the gains from trade that are usually associated with

market activity. This problem of "incomplete markets"[1] implies that activities left purely to the voluntary or private sector will be as small, fragmented, and isolated as the markets they are serving. Even where market opportunities exist, credit markets may be too shallow or underdeveloped to provide finance to market participants at interest rates that permit sustainable investment.

2. **Asymmetric Information**: The classic gains from trade are based on an assumption of full information. That is, market agents (producers and consumers) are fully informed of prices in the market, product characteristics, etc. Again the isolation, fragmentation, and difficulties in communicating across the large distances of the Pacific mean that information about price changes, profit making opportunities, and competitive threats may be intermittent and of low quality.

3. **Equity**: The market outcome promises efficiency, but it offers no guarantee of justice or fairness. While this is not normally classified as a market failure, redistribution and equity are often as important, if not more important, socially than prices that are above marginal cost. Entrusting services to the market makes their availability to citizens more dependent on income.

4. **Natural Monopolies**: If markets are inherently isolated and high-cost, the number of firms that are necessary to bring about a zero profit competitive market outcome will be unsustainable. The economic structure will converge to a natural oligopoly (a small number of firms) or a monopoly, since only larger firms will be able to produce on a scale large enough to overcome the market constraints.[2] Prices will be above marginal cost and so-called "monopoly rents" will exist. The normal competitive mechanisms that keep producers focused on consumer needs—such as free entry and full information—will be weakened.

If services are left to the Pacific market, economic theory suggests that private "natural monopolies" might emerge. Such a monopoly (or oligopoly) would produce too few goods and charge prices that are too high. Also, a narrower range of products than would be socially optimal would be produced. If the service in question is inherently fragmented, production levels are low, and the service is required by only a small number of people, then this outcome is not necessarily problematic. However, if the service is considered essential and has universal coverage—provision regardless of

ability to pay—is highly valued, then leaving service provision to the market in the Pacific implies high, monopolistic prices and a greatly restricted scope of provision.

One alternative is to subcontract services to market providers who are based outside the region. Large private multinationals, for example, are generally based in developed economies where the size of their home market creates the necessary scale benefits. They then establish low-cost subsidiaries to serve smaller, more fragmented or underdeveloped markets. In many developing countries these private multinationals are the only nongovernment bodies that have the critical mass of resources to operate profitably in high-cost countries. Many Pacific island governments already subcontract services, such as audit and research, to private multinationals. However, there is evidence that the cost of this type of market-provided service is prohibitively high relative to national budgets. The cost of hiring the services of a partner of a major multinational auditing firm, for example, can run into several thousand United States dollars per day.

Can Services Be Provided by Pacific Island Governments?

The case for national provision of services rests on the assumption that governments can aggregate enough resources to overcome the problems posed by small and isolated markets. By taking provision away from the market, the necessary cost-reducing scale can be reached, overcoming the chronic risk of gaps in the market coupled with high prices. By creating centralized capacity, countries can instill the bargaining and information sharing that would occur in a more integrated, contiguous market. A common, public institution can use monopoly rents to cross-subsidize markets and attract higher levels of financing to ensure more universal, uniform coverage of essential services. Creating national institutions can allow countries to provide services to pursue social goals that are not necessarily related to profit maximization. For essential services such as education and health care, there is the added dimension of service reliability.

> For you as a consumer it is always a good thing to have a permanent supplier to serve you, particularly if the good in question is an individualized service where quality depends on the supplier's knowledge about your personal characteristics. For most ordinary consumer goods this is a matter of little importance. If your hairdresser or local pizza supplier decides to close down or goes bankrupt, it does not seriously upset your life. The situation is

> likely to be different with your school, hospital, or retirement home. In some areas of life we might attach some value to institutional stability, and this may more easily be ensured by government than by private ownership.[3]

Why might national provision not be optimal to deliver services in the Pacific? First, governments in the region often do not have the capacity to overcome the cost constraints imposed by their countries' demography and geography. While the internal fragmentation of many Pacific island countries means that central governments may provide services such as utilities, budgeting, and infrastructure more efficiently and widely than the market, they are still constrained by the smallness of their countries—eight Forum members have populations below 100,000. Twelve FICs have populations below 500,000.

Unless the government has the capacity to produce the inputs into its services—e.g., medical equipment, or heavy infrastructure—the cost of service provision is usually at market prices or above market prices (if inputs are imported). However, governments are often subject to universal service obligations and legal requirements to charge below-market prices for their services. As a result, the diseconomies of scale that hamper service provision at the national level in the Pacific do not manifest themselves in high prices, as the usual economic theory would predict. They are manifest in underprovision. For many Pacific island countries, the reality of public service provision is that of "shell providers." In this situation, fixed costs are largely underwritten by donors or government funds, but the service does not generate enough revenue or attract sufficient external funding to maintain an adequate ongoing level of service. In this scenario, prices are slow to adjust and resources are scarce, and it is the level of the service that inevitably adjusts downward.

Service provision thus becomes a fiscal "black hole," where often significant amounts of funding are directed to the service infrastructure, yet these resources never reach the critical mass needed to overcome the basic cost constraints of the economy. Governments can attempt to shift the burden by taxing other parts of the economy. This often results, however, in nothing more than a transfer of the cost burden to another, perhaps more vital, part of the economy. National provision may not solve the market failure problem. By adding another layer of cost, it may in fact exacerbate it.

The second reason why national provision might be inadequate in the Pacific context is institutional capture and inefficiency. Public sector production is not inherently inefficient, but costs are not independent of organizational behavior. Recall that an element of subsidiarity is that public providers must still follow optimal pricing, otherwise the benefits of removing services from the market will fail to materialize (and other undesirable costs may emerge). Moving services from the market to national provision brings the risk of institutional capture, where the incentives at the national level are strong. This is due to a number of factors, including the smallness of Pacific island countries, the difficulty in overcoming principal-agent problems in closely knit societies, and the ongoing political turmoil in some FICs. This is not to imply that services should automatically be devolved to either the market or to regional bodies. Rather, that institutional governance is essential to ensuring that national provision delivers desirable social outcomes at the lowest possible cost. Policy failure is as intrinsic to subsidiarity as its market failure counterpart.

Can Services Be Provided by Pacific Regional Institutions?

The case for regional provision of services rests on many of the same arguments as national provision, but on a larger scale. Regional service providers have access to several member countries' resources as well as to donor funds (which in some cases have a special regional component that can be accessed by regional bodies). The economies of scale implied can be several orders of magnitude larger than the national level. The potential for gains in information sharing increases exponentially as regional institutions may have a wider perspective on the shared challenges of the region, and can transmit best practices more easily and effectively.

In the case of the Pacific island countries, this argument has special relevance. Many of the smallest and most vulnerable Forum members lack a critical mass of domestic capacity to provide ongoing services to their populations. Given the high fixed costs of many essential services, this implies that in the Pacific context regional institutions can provide services where national governments simply would be unable to do so. Pooling national capacities of Pacific island countries alone could create a service provider that enjoys the scale benefits of a service base of approximately 6 million people, rather than (in some cases) less than 100,000. If the regional service provider incorporates Australia and New Zealand, then the potential scale benefits increase 4-fold—likely more given the higher per capita incomes and broader tax base in these countries.

There is also scope to reduce policy failure. Since regional bodies are in principle institutionally separated from national governments, they can prevent many of the costs associated with institutional capture. If regional bodies are perceived as being better governed than their national counterparts, their larger size can attract more finance into the region, both private and donor. Also, regional bodies are often the only nondonor institutions in developing countries that pay salaries between those of national governments and private sector firms. They are thus able to retain expertise and lessen the "brain drain" of talented public sector officials.

Intuitively, the costs of regional provision are higher. With the benefits of larger economies of scale come larger diseconomies of isolation. Regional bodies must provide services across the entire region, rather than within just a single country. Given that in most cases the diseconomies of isolation are larger between countries than within them (Kiribati being the primary exception), the costs of regional provision can be much higher than a simple sum of national provision. Furthermore, given the reality that services in the Pacific are often under-provided or not provided at all, creating regional institutions will require more than pooling resources currently flowing into national provision. In many cases, these resources will be insufficient. Pooling them may simply reinforce the market failure, but at the regional level.

This implies that resources for regional institutions will have to be additional, especially for short-term fixed costs and medium-term recurring costs, as the institutions develop their capacity and expertise. The promise of regional institutions lie not so much in saving governments and donors money in the short term, but ensuring that future expenditures are more effectively spent in the longer term. The key lesson is that the need to create regional institutions that create large benefits is especially pertinent for the Pacific, since cost recovery and self-sufficiency will only be a possibility in the longer term, if at all.

Another key cost may be a regional version of institutional capture. This could originate from either member states or from the regional bureaucracy itself. While regional institutions are technically separate from governments, there is always the possibility that governments will pursue their national interests within and at the expense of regional institutions. Avoiding this "political capture" requires a healthy relationship between the governing body—usually comprised of member states and often weak at seeing the

"big picture"—and the management/staff of regional institutions. Analogous to its political counterpart is "bureaucratic capture." Even where regional institutions have the best of intentions and are subject to no special sociological constraints, the diverging incentives of regional bureaucracies and their national constituencies can create additional costs.[4] Again, a key lesson is that institutional governance is absolutely crucial to effective service provision. To ensure objectivity, regional bodies usually are not subject to the same electoral influences and oversight mechanisms as many of their national counterparts. Yet this presents an additional risk of capture that derives not from the closeness of bureaucracies to socioeconomic influences at the national level, but from their distance.

ENDNOTES

1 Based on Arrow (1971).

2 In the economic literature, this argument is known as "increasing returns": where average cost is decreasing throughout the range relevant for market equilibrium (or at least through a substantial portion of that range).

3 Sandmo 2002.

4 For an theoretical illustration, see Banerjee, Abhijit. 1997. A Theory of Misgovernance. *The Quarterly Journal of Economics* 112: 1289–1132.

Appendix 10: Case Studies in Regional Integration and Cooperation from Other Regions

The European Union Common Market

The European Union (EU) is widely considered to be the most successful modern experiment in regional market integration. The removal of the internal market barriers within the EU, the largest market in the industrialized world, has been a nearly 5-decade process. It is a process that is still very much ongoing, as evidenced by the recent debate over the proposed EU services directive.[1] Nonetheless, the gains achieved thus far have been considerable. Studies conducted by the European Commission (EC) *ex-ante*[2] provided partial estimates—by type of barrier and industry—that market integration could provide up to 4–7% of GDP in welfare gains. Similar results were forecast for employment (an increase of 1.8 million jobs) and budgetary/external balances. European Commission (EC) studies forecast that the largest gains came not from the initial dismantling of customs procedures, but from reductions in non-tariff barriers: technical (product standards, technical regulations), fiscal (value-added tax (VAT) rates, accounting standards), and protected public sector procurement.

The *ex-post* benefits, while not as large as the initial EC reports predicted, have been impressive nonetheless. As early as 1996, the EC estimated a cumulative net gain of 174–207 billion ECU for the period 1988–1994 as a direct result of EU market integration. This, according to the Commission's figures, resulted in an increase of 1.1–1.5% of GDP for 1994–from ECU 3.83 trillion in 1989 to ECU 4.12 trillion in 1993, an increase of ECU 290 billion.[3] While the creation of the single market has not led to the full convergence of per capita incomes, the economic impact on poorer accession countries has been dramatic. Expressed in terms of the EU-15, GDP per capita has increased from 1960 to 2000 in Spain (59% to 81%), Portugal (39% to 74%), Greece (43% to 67%), and Ireland (64% to 96%).[4] The impact on Ireland is even more dramatic considering that it has nearly converged with the more developed EU founding members.

The experience of EU labor market integration provides some interesting additional insights. Despite nominally free movement of labor within the EU, cross-border residence has remained very low, despite the fact that many countries (e.g., Portugal) acceded to the EU when their per capita incomes were well below the EU average. While the impact of tight immigration laws after the 1970s has certainly influenced this outcome, it also

suggests two lessons. First, other factors apart from economic opportunity—such as language and ethnicity—influence decisions about whether to migrate or not. Secondly, the income-enhancing effects of market integration may provide a strong incentive to remain in the home country, as Ireland, Spain, and Portugal—formerly large net exporters of labor, and now net importers—clearly demonstrate.[5]

The Caribbean Community's Single Market Economy (SME)[6]

Regional market integration is one of three stated objectives in the founding 1973 Treaty of Chaguaramas.[7] The lessons from market integration in the Caribbean provide a number of cautionary lessons for the Pacific. The original founding treaty only covered the initial stages of integration (free trade in goods and a common external tariff). Following a period of stagnation in the 1980s, however, spurred by other regional initiatives such as the North American Free Trade Agreement (NAFTA), Caribbean Community (CARICOM)[8] members took concrete steps to revitalize their integration process. Members set the goal of a CARICOM single market and economy, with accompanying harmonization of macroeconomic policies and monetary integration. Yet, a decade later, progress has been slow. Goods trade continues to face barriers, and liberalization of services, capital, and labor has barely begun.

Jessen and Rodriguez (1999) outline a number of factors behind the slow pace of market integration.

- While many CARICOM members share similar characteristics (smallness, openness, narrow export base, heavy reliance on trade taxes), there is still significant variation within the region. Three of its 15 members (Trinidad and Tobago, Jamaica, and Barbados) account for almost 80% of the common market's GDP. The members of the Organisation of Eastern Caribbean States (OECS)[9] account for 10%. As most intraregion exports originate from the relatively larger and more developed countries, the issue of the distribution of benefits from market integration has been a critical obstacle.
- The export mix among CARICOM countries is concentrated in a small number of commodities (fuels, minerals, sugar, and bananas), implying that the gains from trade between CARICOM states are limited. While intraregional trade appears to be more diversified than extraregional exports, it is still highly asymmetrical. One country (Trinidad and Tobago) accounts for almost 70% of total intraregional exports.

- A key factor in the slow pace of liberalization in goods and the virtual stagnation of negotiations toward greater services, labor mobility, and capital is the presence of larger non-CARICOM trading partners in the region. Jessen and Rodriguez note that while efficiency and welfare gains undoubtedly exist within the region, the scarce negotiating capacity in CARICOM is often focused on more lucrative market access in North America and the United Kingdom.

The CARICOM experience in many ways echoes the FICs' difficulties with The Pacific Island Countries Agreement (PICTA). Part of the reason for the slow pace of integration lies no doubt with institutional constraints, and the fact that integration in the Caribbean was often undertaken in a context of national protectionism and economic stagnation. However, Jessen and Rodriguez conclude that

> . . . a regional market of United States $15 billion cannot act as a primary engine for the Caribbean countries, since it offers only limited opportunities for the development of tradable goods and services at competitive prices and quality… CARICOM members have been acutely aware of the limitations posed by their small markets.

Asia-Pacific Economic Cooperation[10]

Since the first ministerial meeting in Canberra in 1989, APEC has evolved from an intergovernmental cooperation forum to a regional mechanism to implement trade and investment liberalization and facilitation. Among its many successes was the collective response to the currency crisis of 1997, and the coordinated security measures implemented after September 11th. Many observers note that these successes stem from (i) the fact that APEC is still guided by its Heads of Government meetings, obviating the need for time-consuming hierarchy of approval for proposals; and (ii) the relatively small bureaucratic burden of the APEC institutional structures themselves.

However, APEC has been notably less successful in attaining its stated goal, trade liberalization, in part due to the very success factors listed above. The APEC vision of “open regionalism”—unilateral domestic liberalization coupled with nondiscriminatory external arrangements, once hailed as the future of regionalism, has thus far failed to increase intra-APEC trade flows. Oxley (2005) notes that two key factors have slowed APEC trade liberalization.

- APEC has a relatively lean bureaucratic structure vis-à-vis other regions. While this helps to reduce the costs of cooperative activities, it has often meant that there is no institutional structure to back up liberalization measures and monitor commitments by member states. These capacity constraints mean that APEC has focused on voluntary liberalization based on self-assessment and little external oversight.
- The effects of the Asian currency crisis, while partially muted by quick APEC action, were still significant. The negative shocks from the crisis diverted significant political attention away from market liberalization. APEC members were unwilling to liberalize their trading regimes during often-severe recessions. Thus, even a market integration holding potentially large benefits is still hostage to external events.

Despite the slow pace of liberalization in goods, services, and investment, there is one area in which APEC has forged ahead: labor mobility. The APEC Business Travel Card (a multiple entry visa in "credit card" form) has been introduced in a number of APEC states, accompanied by the streamlining of visa entry processes for short-term visitor visas and temporary residence applications for key business personnel. While this initiative is still restricted to business executives and intracorporate transferees, many World Trade Organization observers have recognized the significance of the APEC scheme for global and regional negotiations on the temporary movement of labor.[11]

ENDNOTES

1 See BBC News Online, *Services Liberalization Sparks EU Row*. Available: http://news.bbc.co.uk/2/hi/business/4277511.stm.
2 Emerson et al. 1988.
3 Davidson 2000.
4 Barry 2003.
5 Hoeller and Louppe 1994.
6 This section summarizes the findings of Jessen and Rodriguez (1999).
7 The other two objectives are (i) to coordinate members states' foreign policies and (ii) to pool together scarce resources through functional cooperation.
8 Caribbean Community members: Antigua and Barbuda, the Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Monserrat, Saint Lucia, St. Kitts and Nevis, St. Vincent and the Grenadines, Surinam, and Trinidad and Tobago.
9 Organisation of Eastern Caribbean States: Antigua and Barbuda, Dominica, Grenada, Monserrat, Saint Lucia, St. Kitts and Nevis, and Trinidad and Tobago.
10 This section summarizes findings from Oxley (2005).
11 See for example Chaudhuri, Mattoo and Self. 2004. Moving People to Deliver Services: How Can the WTO Help? World Bank Policy Research Working Paper No. 3238. Washington DC: World Bank and Winters, Walmsley, Wang, and Grynberg. 2002. Negotiating the Liberalization of the Temporary Movement of Natural Persons. Discussion Paper 87. Brighton: University of Sussex.

Appendix 11: Conceptual Basis for Measuring Costs and Benefits

Inputs Purchased: Value as Opportunity Costs

Potential regional interventions by FICs member country governments inevitably use resources that could be used to produce other goods or services. For example, the suggested Regional Panel of Auditors would require resources to operate (e.g., factor inputs such as labor, materials, land and equipment). Because these resources would be unavailable to be used for other purposes, the Panel's operations would involve opportunity costs. In concept, these opportunity costs are equal to the value of the goods and services that the resources would have produced if used in the best alternative way.

In practice, as Boardman et al[1] explain, the normal way to measure the value of such resources used is to rely on the direct budget outlay required to purchase them. In some circumstances the direct budget outlay does equate with the conceptually correct measure of opportunity costs, but not in others. The suitability of direct budget outlay data as a measure of opportunity cost—and any adjustment needed to convert it into a suitable measure—depend-largely on conditions in the market where the resources are purchased. The situation may be summarized as follows (based on Boardman et al):

(i) *Efficient market for resource with minimal price impact*: Where a resource used in the intervention is purchased from an efficient market and the purchase has minimal impact on its market price, the budget outlay is a suitable measure of its opportunity cost.

(ii) *Efficient market for resource but noticeable price impact*: Where a resource used in the intervention is purchased from an efficient market but the purchase affects its market price, this price change needs to be taken into account in calculating the opportunity cost. Typically budget outlays will overestimate slightly its opportunity cost in such cases.

(iii) *Inefficient market for resource*: Where there is a market failure in the market supplying a resource required for the intervention, budget outlays may substantially overstate or understate the opportunity costs of an intervention. The budget figures would overstate the cost if monopoly rents were being charged, but understate it if prices were heavily subsidized.

In summary, Boardman et al state that

The general rule is that opportunity cost equals expenditure less (plus) any increase (decrease) in social surplus occurring in the factor market. . .[2]

In this definition, the change in "social surplus" due to an intervention is defined as the *sum* of any change in *producers' surplus* as a result of the intervention[3] *plus* any resultant change in *consumers' surplus* as a result of the intervention.[4]

An important general point to remember is that opportunity costs relate solely to resources that must be forgone today and tomorrow for an intervention to occur. Resources whose use have already been forgone are sunk costs that no longer can be used in alternative uses and so no longer have an opportunity cost.

Outcomes: Value Costs and Benefits as "Willingness to Pay"

People's willingness to pay is the correct conceptual basis for measuring a regional intervention's outcomes in terms of benefits and/or costs to producers and consumers. Boardman et al defines the value of these benefits and costs as follow:

> Benefits are the sums of the maximum amounts that people would be willing to pay to gain the outcomes that they view as desirable; costs are the sums of the maximum amounts that people would be willing to pay to avoid outcomes that they view as undesirable.[5]

In valuing the impact of a regional intervention, analysts need to consider its impact in *primary markets* (i.e., markets that are directly affected by a regional intervention) and *secondary markets* (i.e., markets only indirectly affected), and to distinguish whether such markets are *efficient* or *inefficient*. Based on Boardman et al,[6] the general rules for valuing outcomes in these different market circumstances are essentially as follows.

(i) *Impacts on Efficient primary Markets*: Benefits or costs arising in an efficient primary market as the direct result of a regional intervention should be valued as the change in social surplus plus (less) any increase (decrease) in revenue to the governments of the member countries involved, and their regional entity.

(ii) *Impacts on Inefficient Primary Markets* If market failures[7] or government interventions[8] distort product markets affected by a regional intervention, value any benefits or costs similarly. Reliably calculating the social

surplus, however, is now more difficult. In principle, some adjustment will need to be made to offset these shortcomings in reflecting willingness to pay.

(iii) *Impacts on Efficient Secondary Markets*. If a regional intervention's impact on primary product markets do not cause a secondary market price change, the secondary market can be ignored. But if it does result in changes in secondary market prices, then

- if primary-market impacts are measured using a demand curve with other prices held constant, social surplus changes in the secondary market will need to be deducted from those calculated in the primary market to yield the correct impact on the primary market; otherwise
- if primary market impacts are measured using a demand curve that does not hold other prices constant, the secondary market impacts can be ignored.

(iv) *Impacts on Inefficient Secondary Markets*. If a regional intervention's impacts on primary product markets do not cause a secondary market price change, the secondary market effects can be ignored. But when secondary markets are distorted, its full impact (costs and benefits) cannot be measured solely from effects in primary markets. In principle, this means that impacts on distorted secondary markets should be valued separately, although in practice this may be very difficult to do.

Boardman et al conclude:[9]

> The concept of opportunity cost helps us to value the inputs that policies divert from private use; the concept of willingness-to-pay helps us to value policy outputs. The key to valuing outputs is to identify the primary markets in which they occur. When outputs are not traded in organized markets, ingenuity is often needed to infer supply and demand schedules… For this purpose, various shadow pricing techniques … are often needed. Costs and benefits that occur in undistorted secondary markets are typically very difficult to value, but generally need not, indeed, should not, be added to costs and benefits that are measured in primary markets. Doing so will usually result in double counting.

A basic point to bear in mind—as noted by Boardman and Hunt 1997[10]—is that cost-benefit analyses generally assume implicitly that (i) resources used in a target intervention otherwise would have been used in their most best productive uses, and (ii) the target intervention uses (or would use) the resources most productively.

ENDNOTES

1 Boardman, A.E., D.H. Greenberg, A.R. Vining, and D.L. Weimer. 1996. Cost-Benefit Analysis: Concepts and Practice. Prentice Hall: Upper Saddle River, New Jersey.

2 Ibid, p.69.

3 "Producers' surplus" is defined as the aggregate total revenue less the aggregate total variable costs of the market supplying a given level of output. Note this concept differs from aggregate profit which equals aggregate total revenue less aggregate total costs (not just total variable costs).

4 "Consumers' surplus" is defined as the difference between the aggregate sum consumers actually paid for a given level of good or service less the aggregate sum they would have been willing to pay for the good or service, if required.

5 Ibid. p.76.

6 Ibid., see Table 3.1 "Rules for measuring social benefits and costs of government interventions in markets," p. 93.

7 A market failure exists, for example, where a supplier can obtain monopoly rents in a product market, or where the market price does not reflect the value of an external cost (e.g., pollution) or benefit.

8 A government intervention, for example, could be a subsidy that masks the true willingness to pay for a product.

9 Ibid., p.92.

10 Boardman, A.E. and A.L. Hunt. 1997. *Review of Methodologies for Estimating the Welfare Impacts of Corporatisation and Privatisation*. Auckland: Uniservices Ltd., p.36.

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An Assessment of the Scope for Regional Cooperation, Integration and Collective Provision on Security Issues

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Preface

This report was prepared for the Pacific Islands Forum Secretariat (PFIS) in Suva, Fiji Islands. The report is one output of an Asian Development Bank (ADB) technical assistance project (TA 6226 REG): "Developing and Implementing the Pacific Plan for Strengthening Regional Cooperation and Integration." The Commonwealth Secretariat provided funding to the project.

The lead author of the report was Dr. Roman Grynberg, Deputy Director of Trade and Regional Cooperation at the Commonwealth Secretariat. He was assisted by Michael Hyndman, a cost-benefit analyst contracted by ADB, and Sacha Silva, an economist contracted by the Commonwealth Secretariat. Consultants from PIFS and the Pacific region provided valuable inputs for the report. Bill Costello was the ADB task manager.

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I. OVERVIEW: TOWARD A DOCTRINE OF COMPREHENSIVE HUMAN SECURITY

One of the major dilemmas of the present time for Pacific Island Countries (PICs) is determining the conditions under which responsibility for security rests with the nation-state and when it rests with a wider (regional) community. Associated questions concern the definition of security, determining the conditions under which the "normal" governance of security are transformed into "extraordinary" conditions requiring the implementation of additional security interventions, and determining the characteristics of such interventions available to the security community.

Although some PICs have experienced civil war and unrest in recent times, security is no longer viewed in the narrow sense of merely defending a state from external or internal threats of a military nature. Rather, it is now realized that security is closely linked with generating conditions that free people from fear and misery arising from various causes. This is particularly the case for security assessments of Pacific states, where current threats to stability are more often linked to domestic failures of governance and inabilities to meet aspirations for development and economic advance. Security assessments therefore continue to be interested in external threats of a military, political, social, or economic nature, but are also interested in the capacity of states to implement effective, efficient and equitable economic and political governance at all levels, and to handle conflicts as they arise – or preferably, prevent the emergence of conflicts by forestalling the conditions in which they arise.

With the emergence of vigorous dialogue on "regionalism" there is need to more precisely define the terms "national security" and "regional security". In a region of 14 small Pacific Island Countries there is potential for the emergence of considerable instability within nation-states in a region that is basically stable. Similarly, there is potential for some Pacific states to view themselves as relatively stable and secure states within an increasingly unstable region.

The proposed "Pacific Plan" lists security as one of the principle goals, together with economic growth, sustainable development, and good governance. "Security" has been considered in a number of earlier Pacific Forum documents without being fully defined in any one of them. The Aitutaki Declaration (1997) referred to the region's "vulnerability to natural disasters, environmental damage and unlawful challenges to national integrity and independence" and reaffirmed a commitment to a "…comprehensive, integrated and collaborative approach to maintaining and strengthening current mechanisms for cooperation among members in dealing with threats to the security, broadly defined, of states in the region and of the region as a whole". The Biketawa Declaration (2000) identifies a range of "difficult and sensitive issues including underlying causes of tensions and conflict" (ethnicity, socio-economic disparities, and lack of good governance, land disputes and erosion of cultural values). The notion of "comprehensive security" is thus an existing part of the Forum's thinking: the challenge is to make progress with the implementation of enhanced collaboration and integration.

The "National Security Assessments" undertaken for the Forum Secretariat 2000-2004 provide adequate analysis of the internal and external security threats facing PICs.[1]
The reports on Melanesia and Polynesia settle for broad but undefined definitions of security.

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[1] Crocombe, R. (2000). Enhancing Pacific Security. Port Vila, Vanuatu, Forum Regional Security Committee, Anere, R., R. Crocombe, et al. (2001). Security in Melanesia: Fiji, Papua New Guinea, Solomon Islands & Vanuatu, Pacific Islands Forum Secretariat for the FORUM REGIONAL SECURITY COMMITTEE (FRSC) MEETING 25-26 June 2001 Suva, Hassall, G. (2004). Micronesian Security Assessment: The Marshall Islands, The Federated States of Micronesia, and The Republic of Palau. Suva, Pacific Islands Forum.

The security report on Micronesia notes the emergence of two broad typologies of security "human security" and "comprehensive security". These three reports focused on the integrity and security of individual Pacific nations rather than on prospects for regional security. They identify concerns at national and sub-national level but say less about issues at supra-national or regional level. None of these reports suggests the existence of an external military threat to a Pacific Island Country, while each of them suggests a range of domestic issues having a high probability of leading to insecurity. The issues presented have been classified as "governance", "crime and violence", "socio-economic disparities", "ethnic tensions" and "land".[2]

Although these reports have been presented to meetings of the Forum Regional Security Committee their recommendations have not been pursued in a systematic manner with member states to this point in time.

Numerous additional reports on security issues in the Pacific region have been issued by international agencies and regional scholars.[3]

International agencies such as the United Nations Development Programme (UNDP), Asian Development Bank (ADB), UNIFEM, the World Bank, etc, have identified such threats to the security of Pacific states as:

- Political instability (frequent changes of government, removal of Ministers and corruption)
- Economic and social inequities (denial of human rights and lack of access to services)
- Land pressures
- Environmental Degradation
- "New" threats to society such as of HIV/AIDS and drugs
- Poor governance[4]

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[2] Calvert, I. (2005). "Forum Secretariat: What assistance does it provide for Regional Peace Building?" GLobal Partnership Consultation on the Prevention of Armed Conflicts, Lagoon Resort, 18-22 April.

[3] Tanham, G. K. and E. S. Wainstein (1988). Security trends in the South Pacific : Vanuatu and Fiji. Santa Monica, Rand Corp, Firth, S. (2001). "A reflection on South Pacific Regional Security, mid-2000 to mid-2001. (Political Chronicles)." Journal of Pacific History, Ross, K. (2001). "South Pacific Recent Political and Security Developments." The Round Table **361**(September 1): 633-638, Wainwright, E. (2001). Our Failing Neighbour. Australia and the Future of Solomon Islands, Australian Strategic Policy Institute, Halapua, W. (2002). The role of militarism in the politics of Fiji, The University of the South Pacific, Hegarty, D. (2003). "Peace Interventions in the South Pacific: Lessons from Bougainville and Solomon Islands, Paper for Asia-Pacific Center for Security Studies Conference Island State Security 2003: "Oceania at the Crossroads" Session IV: "Ways Out" Honolulu, Hawaii, 15-17 July 2003, Ball, D. (2004). Security Cooperation in Asia Pacific: Official and Unofficial Responses. Searching for Peace in Asia Pacific: An Overview of Conflict Prevention and Peacebuilding Activities. A. Jeijmans, N. Simmonds and H. v. d. Veen. Boulder and London, Lynne Reinner**:** 9-22, Hegarty, D. (2004). "Intervention, Regionalism, Engagement: New Forms of Security Management in the South Pacific." 18th Asia Pacific Roundtable: 30 May Malaysia, also given at PIPSA Conference Noumea, December 3-5.

[4] United nations Development Programme (UNDP) (1994). Pacific human development report : 'Putting people first'. Suva, United Nations Development Programme, Westcott, C. (1996). "UNDP. Preparatory Assistance Phase. GOvernance for Sustainable Human Development in the Pacific Islands. First Quarter Report. 19 Sept - 31 December 1996.", UNDP (1999). Pacific human development report 1999: Creating opportunities, UNDP (2000). "Pacific Regional Conference on Governance for Parliamentarians 27-30 March 2000.", UNDP (2004). Support to Demobilization of Special Constables in the Solomon Islands. Inception Report, Status of Field Activities. Asian Development Bank (2003). "Millennium Development Goals in the Pacific: Relevance and Progress," South Pacific Applied Geoscience Commission (2003). Pacific regional action plan on sustainable water management. Suva,

The general thrust of these diverse security assessments is that threats to the stability and security of states in the Pacific region derive more from their internal dynamics than from an external source.

This is notwithstanding the degree of instability that has been, and might potentially be, generated by such geo-political tensions as the struggle between the People's Republic of China and Taipei,China.

II. CURRENT SECURITY COORDINATION ARRANGEMENTS

The main instruments for coordination of security at regional level are normative platforms agreed by Pacific Island leaders, and followed up by committees of the Pacific Forum on an *ad hoc* basis. Military security is coordinated through quite separate agreements and agencies, while security from natural disasters (natural disaster preparedness and recovery) is coordinated by CROP agencies and other international networks.

In the context of the Pacific Forum, Secretary General Urwin has recently described the Forum Regional Security Committee (FRSC) as **"**the main regional consultative forum which identifies threats to security (broadly defined) and agrees on strategies for addressing them". The Forum Economic Ministers Meeting (FEMM) has also established standards for "good governance" that seek to improve economic security in Pacific states.

The FRSC is a meeting organised by the Pacific Forum Secretariat for Forum members. It had commenced with a focus on law enforcement issues but since the 1997 Aitutaki Declaration the Committee has considered "broader security issues" and has therefore become **"**one of the most important Forum committees".[5] The agenda for the June 2005 meeting includes:

1. A presentation on a joint report (PIF, OCO, PIDC and SPCPC Secretariats) on outcomes of Pre-FRSC Law Enforcement Meeting
2. Presentation of a joint report (PIF, OCO, PIDC and SPCPC Secretariats) on Trans-national Organized Crime (Drugs, Electronic Crime, Financial Crime, Fraud, People Smuggling/Trafficking, trade in wildlife, sex crimes, small arms, terrorism, sale and use of chemicals, the Pacific Trans-national Crime Coordination Centre, Pacific Islands Regional Security Technical Cooperation Strategy, Pacific Region Identity Protection Project)
3. Counter Terrorism
4. Pacific Regional Policing Initiative
5. Advanced Passenger Information System
6. Statements by Regional Specialised Law Enforcement Agencies (Pacific Immigration Directors' Conference, South Pacific Chiefs of Police Conference, Oceania Customs Organization, and Pacific Islands Law Officers Meeting)

7. The regional Security Environment (global security threats and their impact on the Pacific region)
8. National Security Issues

South Pacific Applied Geoscience Commission (SOPAC) and Asian Development Bank (ADB), Asian Development Bank (2004). Responding to the Priorities of the Poor: A Pacific Strategy for the Asian Development Bank 2005-2009. Manila, Asian Development Bank, Holden, P., M. Bale, et al. (2004). Swimming Against the Tide? An Assessment of the Private Sector in the Pacific. Manila, Asian Development Bank, Mellor, T. and J. Jabes (2004). Governance in the Pacific: Focus for Action 2005-2009. Manila, Asian Development Bank. World Bank (2004). "Pacific Regional Strategy."

[5] Address to the 2004 Attorney General's Conference, 3-4 December 2004.

9. Implementation of the Biketawa Declaration (RAMSI, PRAN)
10. Other Secretariat Initiatives (Regional Workshop on Human Rights Machinery, UN/PIFS Regional Conference on Conflict Prevention and Resolution, Leadership code development)

In addition to such high-level regional meetings it can be assumed that the military, intelligence and security forces in the Pacific engage in a high degree of cooperation and collaboration. Joint Naval exercises in June 2005 ('Operation Kurukuru'), for instance, involving vessels from Fiji Islands, Australia, New Zealand, France, Samoa, Tonga, Tuvalu and Vanuatu, were labelled "the largest maritime exercise hosted by a South Pacific nation".[6] In the North Pacific military aspects of security are coordinated by the United States (US) Military.

Such consultations, reporting arrangements, and military exercises, suggest the existence of several 'communities of practice' within the security sector – principally:

- law enforcement (national and trans-national crime; customs & immigration);
- trans-national terrorism;
- national security;
- regional security;
- environmental security; and
- socio-economic and political security.

III. SCOPE FOR REGIONAL COOPERATION, INTEGRATION, AND COLLECTIVE PROVISION OF SECURITY

Given that future conflicts are most likely to surface as reactions to economic disparities, land pressures, and ethnic cleavages, security responses must be re-oriented to meet such internal threats rather than external ones.

This re-orientation of responses to "security threats" must focus on threat-reduction through enhancement of conditions of access, capacity, knowledge, and opportunity. This is essentially a "security through improved governance" approach.

There is a generally accepted view that engendering principles of "good governance" into the values of public life in the Pacific states will promote security in the long term. The draft Pacific Plan identifies a set of common values and approaches that includes *justice*, *integrity, financial management, harmonisation of laws, human rights, and democracy.*

The attainment of good governance and security at *regional level* requires the adoption of these core values particularly within regional specialist organizations as well as by individual nation-states. Good regional governance for security requires enhanced sharing of information, collaborative planning, rationalisation of resource use, and more coordinated implementation. As stated in the draft plan:

> Regional security will further improve in the medium term by strengthening relationships between and alignment of the strategic planning regimes of regional specialist organizations; better intelligence services; identifying potential regional stresses and drivers of conflict; and common policing standards, policies and values to underpin regional security work. Other security dimensions, such as bio-security will also continue to be

[6] "Fiji Hosts Unprecedented Multi-country Naval Exercise", PACNEWS 2: Wed 01 June 2005.

improved through the medium term.

One challenge is to determine the benefits of enhancing the activities of existing communities of practice, and determining the extent of any transformation – from greater collaboration through to joint provision.

The pressing fundamental challenge of a conceptual nature concerns the content of "national sovereignty". The options for cooperation between states in the provision of security will be determined by the extent to which PICs remain separate political communities, and the extent to which they agree to share sovereign powers and relationships through an alternative or additional form of political association.

In making this determination, it must be remembered that many Pacific states comprise significant *sub-national* groupings and that the success of future political associations may require the consent of these sub-national communities as well as communities at nation-state level. Future dilemmas facing the Pacific community may include claims to self-determination or separatism, and coups d'etat – military or otherwise. The dilemmas in some of these cases will concern the possibility of distinguishing between the interests of "the state" and those of communities.

A. Security Monitoring and Assessment

The establishment of regional information systems, monitoring, and assessment, is an essential first step for the Forum Secretariat. Without collection of relevant data in a timely and systematic way the Forum cannot be well-positioned for early intervention. Much of the relevant data exists but remains dispersed in the information systems of member states, CROP agencies, other international or inter-governmental organizations, or even nongovernment organizations (NGOs). A specific project to identify "security indicators" for the Pacific states and the Pacific region would rectify this information deficit and enhance the "early-warning" decision-making capacities of the Forum Secretariat and member states alike. One recommendation of the Crocombe report (2000) was for enhancement of the membership of the Forum Regional Security Committee and the instigation of an annual security assessment: formalization of this suggestion would build awareness of this regularly updated security assessment.

<u>Specific recommended actions:</u>

- Review the composition and terms of reference of the Forum Regional Security Committee, to provide for:
    - A change of name to something like "Peace-building and security", in keeping with developments within the UN at global level
    - A full-time committee secretariat to ensure continuity in security monitoring
    - high level participation by member-states;
    - greater impact of Committee decisions on national security policy and implementation
    - an annual survey of Pacific Islands' security
    - formalization of early warning feedback to member states as well as to regional bodies.

B. Information Sharing

Access to accurate information is an essential part of conflict reduction. In the context of the Pacific States security issues this information may concern social, economic, legal, and even demographic data of concern to policy makers and the public alike. Lack of information can contribute to distortion of information disseminated concerning such sensitive areas as access to and use of resources. Since access to relevant and accurate information also contributes to good planning and decision-making, the type of information to be disseminated for these purposes includes regional, national and sectoral development plans and reports. Information on the security sector, such as military expenditure in the region, should also be made transparent. The Forum Secretariat should develop the capacity to share accurate information about key sectors and encourage similar capacities in member states.

Specific recommended actions:

- Establish at regional level a digital resource for dissemination of security-related data. This may be facilitated in collaboration with CROP agencies already having considerable digital capacities, although under a specifically "security-related" project identification.
- Review "regional deposit library" policies and practice, to ensure that official documentation from the various agencies within PICs is systematically made available in regional collections.
- Enhance cooperation with civil society actors and media agencies in the collection of security-related data.

C. Enhancement of the Traditional Security Sector

The draft Pacific Plan already includes proposals for strengthening such security sectors as Maritime security and Aviation Security. It calls for the "development and implementation of a regional strategy for maritime security, including ensuring compliance with the IMO International Shipping and Port Security (ISPS) Code, and development of a coordinated regional strategy to improve regulation of aviation security, initially through regular compliance audits." This requires: "Strengthened relationships between regional specialist organisations", "Better intelligence services", and "Identification of specific indicators for identifying potential regional stresses and drivers of conflict to assist responses to emerging issues before they develop into serious conflicts."

Similarly, the draft Plan calls for strengthening regional security "through the implementation of the Forum Secretariat's Pacific Islands Regional Security Technical Cooperation Strategy (PIRSTCS), including support for national implementation of the Biketawa, Nasonini and Honiara declarations (e.g. support for sustainable development in Solomon Islands under RAMSI and the proposed Pacific Regional Assistance for Nauru)." This requires "Increasing the effectiveness of national police forces through regional training and networks (e.g. the Pacific Regional Policing Initiative and the Pacific Trans-national Crime Coordination Centre) and short-term attachments."

Specific recommended actions:

- coordination of information sharing amongst traditional security sector agencies through the Security Committee secretariat, recommended above.

D. Quiet Diplomacy

A recent study of the peace-making processes in Bougainville and Solomon Islands[7] suggests that greater use of quiet diplomacy in the early stages of these disputes may have reduced the impact of these conflicts to a significant extent. Such "quiet diplomacy" was not fully used for a number of reasons, including a lack of readily identifiable parties possessing the appropriate skills in mediation, negotiation, diplomacy, and impartiality. This deficiency can be remedied through the cultivation of these skills and an effort to learn from recent experience in the Pacific.

Specific recommended actions:

- Establish capacity at regional level for "quite diplomacy" through an agency such as the "Peace-building and Security" secretariat recommended above.
- Equip this Peace-building agency with human resources skilled in conflict assessment, mediation, and diplomacy.
- Establish a register of such regional human resources as retired diplomats, judges, academics, senior public servants, and other public figures having capacities in early intervention.
- Ensure the development of diplomacy training within the region, at an agency as the USP.

E. "Track II" Diplomacy

"Track II" diplomacy refers to conflict-reduction measures that are achieved through non-official channels. As such, it is listed as a separate capacity to "quiet diplomacy", which may well be nonetheless official. The development of informal capabilities is particularly significant in communities where non-governmental organizations have considerable presence and influence. Ironically, "Track II" diplomacy may be directed at those currently in power in some Pacific states, given the analysis that a range of threats to national security originate in current state policies and practices. Enhancing security in the Pacific is related to improving public sector accountability and parliamentary responsibility.

Specific recommended actions:

- Encourage the development of Track II activities by such CROP agencies as USP (possibly thought its nascent "Peace and Conflict Studies" program at PIAS-DG, but also in collaboration with civil society partners.

F. Enhancing Regional Governance

The machinery of regional governance requires strengthening if the aspirations of the Biketawa Declaration and other protocols are to be met. While this has depended to date on regional consensus, future threats to the security and stability of Pacific states may not receive similar uniform approval. Similarly, whereas the regional missions to Bougainville and Solomon Islands did not encounter armed resistance and were able to operate as peace monitoring forces, future missions might be confronted with peace-enforcement responsibilities and thus be in a different relationship with international law.[8] Prior to any such eventuality, the Pacific states will need to

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[7] Hassall, G. (2005). "Peace Agreements in the Pacific Islands." Regional Workshop on Conflict Prevention & Peace-building in the Pacific. Pacific Islands Forum Secretariat, United Nations DPA, Nadi, 25-27 April.

[8] Graham, K. and T. Felicio (2005). Regional Security and Global Governance: A Proposal for a

determine their level of commitment to such a regional security arrangement.

The thrust of this assessment is that the Forum Secretariat should promote a “comprehensive security” approach to the wellbeing of the peoples of the Pacific, and to develop capacities for early assessment and early intervention. This is a pragmatic approach based on multiple reports suggesting that internal tensions pose a greater risk to security than do external forces. This analysis requires re-conceptualisation of the nature of interventions required to reduce or eliminate perceived threats to security.

Regional-Global Security Mechanism. Brussels, Royal Institute for International Relations & Academia Press.

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Toward a New Pacific Regionalism

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Joint Report to the Pacific Islands Forum Secretariat

VOLUME 3: WORKING PAPERS
Working Paper No. 2

Notes on the Economic Performance of Small States 1995−2003

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Preface

This report was prepared for the Pacific Islands Forum Secretariat (PFIS) in Suva, Fiji Islands. The report is one output of an Asian Development Bank (ADB) technical assistance project (TA 6226 REG): "Developing and Implementing the Pacific Plan for Strengthening Regional Cooperation and Integration." The Commonwealth Secretariat provided funding to the project.

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I. INTRODUCTION

This note provides empirical evidence on cross-country growth rates since 1995, focusing on the performance of small states. It finds a negative and significant relationship between being a small state and average growth over 1995-2003. An unsuccessful attempt is made to link this negative growth effect to the erosion of the preferential trade arrangements enjoyed by many small states.

Theoretical work assigns both advantages and disadvantages to small economies. Advocates of the benefits of being small argue that small states have greater social capital, are more open to trade and can obtain higher per capita income from sovereignty rents. On the other hand it has been argued that small states' inability to take advantage of economies of scale in either the private or the public sector, particularly in combination with the isolation of many small states from economic centres, and their greater vulnerability to external shocks place small states at an economic disadvantage.

Theoretical reasoning tells us neither the magnitude of these posited effects nor what their net effect on economic performance will be. For this we must turn to empirical work. Previous studies of the implications of being a small state have failed to find a negative relationship between size and economic performance, regardless of whether it is measured in terms of income or growth. Milner and Westaway (1993) find no link between country size and growth using 1975-85 data for a sample of 48 countries. Armstrong et al. (1998) using 1980-93 data for 133 countries also find no link between size and growth and using a range of datasets covering years from 1991-94 find that small states display a range of income levels similar to that of the entire population of countries. Our approach will follow that of Easterly and Kraay (2001).

Easterly and Kraay (E&K) ask whether "small states suffer from their smallness?" and conclude that they do not. Using per capita gross domestic product (GDP) data on 157 countries at purchasing power parity from 1960-1995 they find that controlling for region and whether a country is an oil exporter or an Organisation for Economic Co-operation and Development (OECD) member small states have higher incomes than, and do not grow at a significantly different rate from, larger states. They attribute the insignificant effects of size on growth to the positive effect of greater openness being offset by the negative effects of greater income volatility and higher initial income. We update E&K's work by reestimating their regressions using data for 1995-2003.

The note is organised as follows. Section II outlines the analytical approach that will be used to estimate the effects of country size. Section III describes the dataset used and defines what we mean by a small state. Section IV reestimates E&K's regressions using our dataset and explores whether the different results obtained are a consequence of our dataset having broader country coverage or of it covering a different time period. Section V examines whether the negative relationship between size and growth found in section IV is due to size proxying for some omitted variable. Section VI asks whether there is any link between countries in receipt of trade preferences and poor growth performance. Section VII focuses on the performance of Pacific Island states and section VIII concludes and suggests some policy implications of our findings.

II. ESTIMATING THE EFFECT OF BEING SMALL

The factors that may affect a country's economic performance can be divided up into three stylised categories.

a) Natural endowments, e.g. factor endowments, size, climate, island, landlocked.
b) Relations with other countries, e.g. remoteness, relative income level, aid flows, trade preferences.
c) Economy and governance, e.g. physical capital, human capital, technology, institutional framework, openness to trade.

Some factors could be placed in more than one category. For instance it could be argued that aid flows are endogenous to a country's governance. However, broadly speaking this framework captures the fact that factors affecting economic performance may be exogenous, may be relational or may result from the organisation of country's society. The first two categories mirror the first order and second order geography discussed in the economic geography literature and we will refer to factors belonging to these two categories as geographic factors.

In order to investigate the effect of size on economic growth we must first decide which other effects to control for. In this study factors considered to belong to the economy and governance category will be treated as being endogenous to factors in the other two categories and will not be included in regressions. For our purposes it does not matter whether the economy and governance factors are caused by the geography factors or are uncorrelated with them; what matters is that it is possible they are determined by the geographic factors and therefore it would be inappropriate to control for them.

In their work Easterly and Kraay include regional dummies, an oil exporter dummy and an OECD dummy alongside the small state dummy. The use of these supplementary variables attempts to control for some of the geographic factors mentioned above. Oil exporter captures factor endowments, the regional dummies act as proxies for climate, remoteness and relative income levels, and the OECD dummy will also capture initial income effects. Since our main interest lies in ascertaining whether E&K's results continue to hold using recent data we will start by replicating their specification. We will then proceed to introduce some of the other geography variables in explicit form. We will not investigate how size affects economy and governance variables.

III. DATASET

Data was collected on 210 countries and non-sovereign states for the period 1995-2003. GDP data was obtained from UN Statistics and population data from the IMF International Financial Statistics and UN Statistics. Average GDP per capita, average GDP per capita growth and average population were calculated. Dropping those countries with fewer than six observations of GDP per capita growth left a sample of 197. Following E&K, five regional dummies were assigned based on World Bank regional classifications and an oil exporter dummy was defined using the 1996 World Bank World Development Report classification of oil exporting countries.

Liberia, Bosnia and Herzegovina and Equatorial Guinea all had average per capita GDP growth rates in excess of 15% and were dropped from the sample as outliers. This left a sample of 194 to be used in estimation.

What is the definition of a "small" state? A variety of options have been proposed, but they can all be characterised as requiring some property of a country[1] to be less than some arbitrarily chosen threshold. E&K's small state dummy variable includes countries with a population of

[1] Properties suggested include population, GDP, area and share in world trade.

fewer than 1 million. We endogenise choosing a definition by defining a country to be "economically small" if its population size has a negative effect on its economic performance. This definition leaves open the possibility that there are no economically small states.[2] We use population instead of GDP, or any other variable, for both practical and philosophical reasons. Practically population is preferable because it can reasonable be taken to be exogenous to economic performance. Philosophically, we consider population to be the most suitable variable for measuring country size in economics because the agent is the irreducible economic unit.

We test for whether population size affects economic performance using the dummy variables in Table 1. When referring to small states in this note we mean states with a population of less than 1 million.

Table 1: Definitions of Population Dummy Variables

Variable	Definition	Number in Dataset
Mini state	<2,000,000	59
Small state	<1,000,000	48
Milistate	<500,000	40
Microstate	<250,000	27
Nanostate	<100,000	16

IV. REESTIMATING EASTERLY AND KRAAY

Column (a) in Table 2 shows that small states have significantly higher income levels than other countries. Controlling for region, oil exports and OECD membership small states have 197% higher GDP per capita than other countries. This estimation replicates regression 1 in E&K. They found that small states were 50% richer than other countries. Since cross-county income differences vary only slowly over time it is no surprise that E&K's finding that small states have higher incomes is true for our data. The magnitude of the difference between the estimates may result from the different coverage of the two datasets. This will be discussed further below. Running the regression using the other four population size dummies gives similar results.

Column (b) shows the results from regressing average growth in GDP per capita on region, oil exporter, OECD member and the small state dummy. This mirrors regression 5 from E&K. E&K found that the small state dummy was positive, but insignificant, and therefore concluded that small states do not suffer a growth disadvantage. However, we find that the small state dummy exerts a negative effect on GDP growth that is significant at the 5% level. Being a small state reduces average growth by 0.81% per year.

[2] Or that 'economically small' states are those with large populations.

Table 2: Reestimating E&K's Income and Growth Regressions

Variable	(a)	(b)
Dependent variable	Log of average GDP per capita 1995-2003	Average growth in GDP per capita 1995-2003
Small state	1.09*** (0.181)	-0.807** (0.394)
Sub-Saharan Africa	6.14*** (0.143)	1.29*** (0.340)
Asia	6.89*** (0.224)	2.00*** (0.427)
Europe and Central Asia	7.72*** (0.216)	3.48*** (0.347)
Middle East and North Africa	7.62*** (0.239)	1.48*** (0.522)
Western Hemisphere	7.52*** (0.143)	1.64*** (0.339)
OECD	2.40*** (0.204)	-0.669* (0.399)
Oil	0.828*** (0.256)	-0.548 (0.828)
R^2	0.59	0.16
N	194	194

GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development..
Robust standard errors in parentheses.
* indicates significance at the 10% level.
** indicates significance at the 5% level.
*** indicates significance at the 1% level.

Table 3 shows that milistate and microstate have similar significant negative effects to small state, but mini state and nanostate are insignificant. These results mean that for 1995-2003 data states with a population of fewer than 1 million meet the definition of economically small in section 2.[3]

[3] For the remainder of the note we only report results using the small state population dummy variable. We estimated all the reported regressions using the other population dummies and obtained results broadly consistent with those in Table 3. Typically we found that when small state was significant so were milistate and microstate, but mini state and nanostate were insignificant.

Table 3: Growth Regression with Different Population Dummies

Dependent Variable	Average Growth in GDP per capita 1995-2003				
Population dummy	Mini state	Small state	Milistate	Microstate	Nanostate
-0.440 (0.366)	-0.807** (0.394)	-0.939** (0.421)	-1.06** (0.510)	-0.731 (0.741)	
0.14	0.16	0.16	0.16	0.14	
194	194	194	194	194	

GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development.
Robust standard errors in parentheses.
Oil exporter, OECD member,and region dummies included in all regressions.
* indicates significance at the 10% level.
** indicates significance at the 5% level.
*** indicates significance at the 1% level.

There is a relationship between size and growth in our data that was not present in E&K's work. Is this because of the different time period covered by our dataset or the different countries included?

A. Country Coverage

Our dataset contains 21 small states not covered by E&K: Anguilla, Aruba, Brunei, Cayman Islands, Cook Islands, Dominica, French Polynesia, Guadeloupe, Liechtenstein, Macao, Marshall Islands, Martinique, Federated States of Micronesia (FSM), Montserrat, Nauru, Netherlands Antilles, New Caledonia, Palau, San Marino, Sao Tome and Principe and Tonga.

Six of the countries classified as small by E&K have average populations exceeding 1 million in our sample: Botswana, Gabon, Gambia, Guinea-Bissau, Mauritius and Swaziland.

Table 4 reports the results of reestimating the income and growth regressions after dropping those small states not covered by E&K. Note that all 21 of the countries dropped are milistates, 17 are microstates and 11 are nanostates. For brevity only the estimated coefficients of the small state dummy are included. The other coefficients are similar to those reported in Table 2.

The income effect of small size is lower than in Table 2, but still highly significant. This suggests that country coverage partly explains the difference between E&K's estimate of the income effect of size and our estimate. The growth effect of being a small state is negative, but is no longer significant. Thus the negative link between size and growth is not robust to the sub-sample of small states included in the estimation. It is important to remember however that the sub-sample was not randomly chosen; there may be a correlation between the availability of economic data and economic performance. If this is the case selection bias in E&K's sample and in the sample used in column (b) could have biased upwards the estimated coefficient of small state.

Table 4: Income and Growth Regressions without Small States not covered by E&K

Variable	(a)	(b)
Dependent variable	Log of average GDP per capita 1995-2003	Average growth in GDP per capita 1995-2003
Small state	0.824*** (0.203)	-0.0940 (0.487)
R^2	0.59	0.16
N	173	173

GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development.
Robust standard errors in parentheses.
Oil exporter, OECD member,and region dummies included in all regressions.
* indicates significance at the 10% level.
** indicates significance at the 5% level.
*** indicates significance at the 1% level.

Given the sensitivity of our findings to the sample of small states included and the difficulty in obtaining economic statistics for many small states we decided to collect and analyse a second dataset. Data covering the period 1980-2003 was collected from the World Bank's World Development Indicators database. We then split the data into two sub-periods, 1980-94 and 1995-2003, and calculated average growth rates as before. Country coverage differed between the two sub-periods. In both sub-periods the sample included 34 small states, less than the 48 included in our main dataset, but very close to the 33 used by E&K. 25 of the small states in the 1980-94 sample were also included in E&K's dataset. The features of this dataset and the results obtained using it are summarised in Table 5.

Table 5: World Bank Dataset

Period	1980-1994	1995-2003
Countries	153	178
Small states	34	34
Small states in both World Bank and E&K datasets	25	24
Small states in both 1980-94 and 1995-2003 samples	29	29
Coefficient of small state in growth regression (robust standard error)	1.54 (0.477)	-0.871 (0.380)
Small state significant	Yes, at 1% level (positive)	Yes, at 5% level (negative)
Mini state significant	Yes, at 1% level (positive)	No
Milistate significant	Yes at 1% level (positive)	Yes, at 5% level (negative)
Microstate significant	Yes, at 10% level (positive)	Yes, at 10% level (negative)
Nanostate significant	No	No

Bosnia and Herzegovina, Liberia and Equatorial Guinea dropped from the 1995-2003 sample as outliers.
Dependent variable in growth regression is average GDP per capita growth for the relevant period.
Oil exporter, Organisation for Economic Co-operation and Development member and region dummies included in all regressions.

We see that there was a positive and significant relationship between size and growth for the period 1980-94, but a negative and significant relationship for the period 1995-2003. These results support E&K's finding that there was not a negative relationship between size and growth before the 1990s. They also support our earlier finding that from 1995 onwards there was a negative relationship between size and growth. We would like to expand E&K's 1960-95 dataset to cover more small states, but unfortunately the necessary data is not available.

B. Non-Sovereign States

Fifteen of the observations in our sample[4] are non-sovereign states. These are: Anguilla, Aruba, Bermuda, Cayman Islands, Cook Islands, French Polynesia, Guadeloupe, Hong Kong, Macao, Martinique, Montserrat, Netherlands Antilles, New Caledonia, Puerto Rico and Reunion.

We expect these states to benefit from their relationship with the country they legally form a part of. Possible benefits include market access, technological spillovers, transfer payments and reduced costs of governance and infrastructure.

Table 6 reports the results of reestimating the income and growth regressions after including a dummy for being a non-sovereign state. Not being an independent country has a positive income effect that is significant at the 1% level, but does not effect growth. When the non-sovereign state dummy is included the income effect of being small is substantially reduced, but the growth effect is similar to that previously estimated. Column (c) reports the result of reestimating column (b) after dropping the 11 observations that are both not in E&K's sample and are non-sovereign states. In contrast to when all 21 observations not in E&K's sample were dropped in column (b) of Table 4 being a small state still has a negative effect on growth that is significant at the 10% level.

Table 6: Non-Sovereign States

Variable	(a)	(b)	(c)
Dependent variable	Log of average GDP per capita 1995-2003	Average growth in GDP per capita 1995-2003	Average growth in GDP per capita 1995-2003
Small state	0.770*** (0.174)	-0.837* (0.435)	-0.771* (0.441)
Non-sovereign state	1.48*** (0.227)	0.139 (0.561)	-
R^2	0.64	0.16	0.15
N	194	194	183

GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development.
Robust standard errors in parentheses.
Oil exporter, OECD member,and region dummies included in all regressions.
* indicates significance at the 10% level.
** indicates significance at the 5% level.
*** indicates significance at the 1% level.

[4] We revert now to our main dataset.

V. EXPLANATIONS FOR THE SIZE EFFECT

We saw in section 3 that for 1995-2003 size had a negative effect on growth that was not present in earlier data. In this section we ask whether this result could be due to omitted variable bias with the size dummy acting as a proxy for some other geographic factor. We test whether population size remains significant when controlling for initial income, being an island and remoteness.

A. Initial Income

Table 7 reports the results of reestimating the growth regression including initial income as a regressor. Column (a) shows that controlling for region, OECD member and oil exporter initial income has a negative, but insignificant effect on growth. In column (b) the small state dummy is also included and it has a negative effect that is significant at the 10% level. It is surprising that the data does not show income convergence. Is it possible that initial income effects are being picked up by the regional and OECD dummies? Column (c) reports the results when the regional and OECD dummies are dropped. Initial income remains insignificant confirming the absence of convergence in the data. Column (d) reintroduces the regional and OECD dummies and also includes the non-sovereign state dummy. The small state effect is still negative and significant at the 10% level.

Table 7: Initial Income and Growth

Variable	(a)	(b)	(c)	(d)
Dependent variable	Average growth in GDP per capita 1995-2003			
Small state	-	-0.779* (0.433)	-1.08*** (0.392)	-0.802* (0.449)
Log of GDP per capita 1995	-0.148 (0.151)	-0.0241 (0.156)	0.168 (0.102)	-0.0425 (0.175)
Non-sovereign state	-	-	-	0.205 (0.625)
Regional/OECD included	Yes	Yes	No	Yes
R^2	0.14	0.16	0.06	0.16
N	194	194	194	194

GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development.
Robust standard errors in parentheses.
Oil exporter dummy included in all regressions.
* indicates significance at the 10% level.
** indicates significance at the 5% level.
*** indicates significance at the 1% level.

B. Island

In our dataset the correlation between being small and being an island is 0.72. Of the 51 island states 39 are also small states. Columns (a) and (b) of Table 8 report the results from introducing island and landlocked dummies into the standard income and growth regressions. Neither island nor landlocked are significant in either regression, and small state remains positive and significant for income and negative and significant for growth. We conclude that the small state dummy is not proxying for the effect of being an island.

Table 8: Island and Landlocked States

Variable	(a)	(b)
Dependent variable	Log of average GDP per capita 1995-2003	Average growth in GDP per capita 1995-2003
Small state	0.653** (0.262)	-0.970* (0.523)
Non-sovereign state	1.43*** (0.237)	-
Island	0.132 (0.266)	-0.168 (0.506)
Landlocked	-0.281 (0.208)	-0.375 (0.400)
R^2	0.65	0.16
N	194	194

GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development.
Robust standard errors in parentheses.
Oil exporter, OECD member,and region dummies included in all regressions.
* indicates significance at the 10% level.
** indicates significance at the 5% level.
*** indicates significance at the 1% level.

C. Remoteness

In the economic geography literature the diseconomies of scale which result from small markets interact with the increased transport costs which result from remoteness to produce negative income effects. Redding and Venables (2004) construct theoretically consistent measures of foreign market access (FMA), domestic market access (DMA) and foreign supplier access (FSA) for 101 countries. They find a positive relationship between FMA and DMA and income and a negative relationship between FSA and the price of imported intermediate inputs. Their results confirm that it is both proximity to markets and size of domestic market that matter. However their sample does not include any of the 48 small states in our dataset.

We will measure remoteness using the inverse of distance-weighted GDP.[5] Data is available for 177 countries of which 33 are classified as small states in our dataset. Column (a) of Table 9 shows that if we reestimate the growth regression using only those countries for which remoteness data is available small state remains negative, but is no longer significant at the 10% level. This is consistent with our findings above on the sensitivity of the size effect to dropping small states from the sample. In column (b) we add remoteness and it is negative and significant at the 10% level.

We described in section 1 how E&K used regional dummies to proxy for several geographic factors including remoteness. Therefore we reestimate column (b) after dropping the regional dummies. Remoteness is now significant at the 1% level indicating that part of the remoteness effect was previously being captured by the regional dummies. Column (d) shows that remoteness also has a negative and significant effect on income, while small state remains positive and significant.

[5] Distance is measured as the great circle distance between capital cities. GDP data is for 1995 and comes from UN Statistics. Qualitatively similar results are obtained if the inverse of log-distance weighted log-GDP is used to measure remoteness.

Our results confirm the finding of Redding and Venables (2004) that access to foreign markets is a significant determinant of income. However whereas they found a positive relationship between domestic market size and income we find that being a small state has a positive effect on income. This demonstrates yet again that small states' past economic performance has been very strong. The remoteness variable does not cover a large enough range of small states to allow us to draw definitive conclusions concerning the effect of size on growth when controlling for remoteness. However we do note that the estimated magnitude of the small state effect does not appear to be sensitive to the inclusion of remoteness. The small state coefficients when controlling for remoteness in columns (b) and (c) are similar to in column (a).

Table 9: Remoteness and Growth

Variable	(a)	(b)	(c)	(d)
Dependent variable	Average growth in GDP per capita 1995-2003			Log of average GDP per capita 1995-2003
Small state	-0.627 (0.435)	-0.562 (0.427)	-0.460 (0.388)	1.04*** (0.183)
Remoteness	-	-4.41×10^{9}* (2.48×10^{9})	-6.30×10^{9}*** (1.65×10^{9})	-4.21×10^{9}*** (8.56×10^{8})
Regional dummies included	Yes	Yes	No	No
R^2	0.16	0.18	0.11	0.53
N	177	177	177	177

GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development.
Robust standard errors in parentheses.
Oil exporter and OECD member dummies are included in all regressions. A constant is included whenever the regional dummies are dropped.
Column (a) includes only countries for which remoteness data is available.
* indicates significance at the 10% level.
** indicates significance at the 5% level.
*** indicates significance at the 1% level.

VI. TRADE PREFERENCES

Policy makers' interest in the performance of small states comes from a desire to understand whether because of their size they require special measures to enable them to succeed economically. E&K argue that their results prove that small states are not a "special case". The evidence presented above suggests this may no longer be the case. Whether due to the size of their population, their remoteness, or a combination of the two, countries with populations of under 1 million meet the definition of economically small proposed in section 2.

Why did size impact negatively on average per capita GDP growth from 1995-2003? We will not attempt to give a complete answer to this question. We will not attempt to establish links between the various mechanisms presented in the theoretical literature by which size may affect economic performance and the observed outcomes. Instead we will focus on the related question: why did size impact negatively on per capita GDP growth from 1995-2003, but not from 1960-1995? Specifically we will address whether the changing economic performance of small states is related to trade preferences.

World trade is governed by a plethora of multilateral, regional and bilateral agreements. A country is said to have preferential access to a market if its exports may enter under terms favourable to those available to exports from countries with World Trade Organisation (WTO) Most Favoured Nation (MFN) status. Preferential access generates an income transfer from the country granting the preference to the recipient country and provides an incentive for the recipient country to invest in industries eligible for preferential access. Determining the value of preferential access is a two-step process. Firstly, it requires an assessment of the income transfer generated by the preferences; this means calculating the difference between the value of exports with and without preferential access. The size of the income transfer will increase as the extent of preferential access increases and also as the difference between the internal price in the destination country and the world price increases. Domestic subsidies and high MFN tariffs in the destination country will therefore increase the income transfer. Secondly, it requires a general equilibrium calculation of how the resources used to produce the exports would be deployed in the absence of preferences. The first step is considerably more straightforward than the second.

We will investigate the following hypothesis. "Small states high income levels are the result of the special treatment they have traditionally received from developed countries, particularly the EU. First as colonies and then under the Lomé Conventions small states have received preferential access to the EU market which has subsidised their export industries and allowed them to compete effectively with other countries. However, since 1995, the ongoing multilateral trade liberalisation resulting from Uruguay Round commitments, the proliferation of bilateral and regional preferential trade agreements and the gradual, but inevitable, dismantling of certain non-WTO compatible preference schemes have eroded the value of small states trade preferences resulting in a negative growth effect."

Note that this hypothesis does not specify whether the negative growth effect is a temporary adjustment to the loss of preferences or a reflection of the economic capabilities of small states in the absence of special treatment. This would be an important distinction for policy.

We have already touched upon the difficulty of measuring the value of preferences. It is not feasible to construct a variable measuring the value of preferences for each country, consequently our approach will be to focus on those countries that we expect to have benefited most from preferences. We will concentrate on the sugar and bananas preferences granted by the EU under protocols to the Lomé Conventions. There are three reasons why we consider these preferences:

a) Studies typically find that the preferential access granted by these schemes is highly valuable to recipient countries.
b) Many of the countries in receipt of these preferences are small states.
c) The EU is in the process of dismantling these preferences as they are not compatible with the rules governing the WTO.

A non-exhaustive survey of the literature was used to define three dummy variables for countries benefiting from sugar and bananas preferences (Table 10). See Milner et al. (2003) for details of the EU sugar regime and Laurent (2004) for an overview of EU banana preferences and their erosion.

Table 10: Preference Dummy Variables

Variable	Countries Included	N	Small states
Sugar	Barbados, Belize, Congo, Cote D'Ivoire, Fiji Islands, Guyana, Jamaica, Madagascar, Malawi, Mauritius, Swaziland, Tanzania, Trinidad and Tobago.	13	4
Bananas	Belize, Cameroon, Cape Verde, Cote D'Ivoire, Dominica, Grenada, Jamaica, Madagascar, Saint Lucia, Saint Vincent and the Grenadines, Suriname.	11	7
Agricultural preferences	All the above	20	10

Table 11 shows the consequences of including the preference dummies in the growth regression. The preference dummy is always positive, but only the agricultural preferences dummy is significant and then only at the 10% level. Small state is negative and significant at the 5% level in all three cases. Table 12 repeats the exercise for the income regression. As before small state has a positive and significant impact, but the preference dummies are all negative, though only bananas is significant and only at the 10% level. A negative link between preferences and income seems counter-intuitive to us. It may result from the selection of preference recipients being endogenous to initial income.

Table 11 provides no evidence that recipients of EU sugar and banana preferences have grown more slowly than other countries over the period 1995-2003. However, before we conclude that preference erosion is unimportant for growth outcomes two points should be considered. Firstly, the sugar and banana preference schemes still exist and, in the case of sugar, have yet to be significantly modified. Secondly, it may be that the general erosion of traditional preferences that is resulting from the proliferation of preferential trade agreements is more important than the dismantling of specific preference schemes.

Table 11: Preferences and Growth

Variable	(a)	(b)	(c)
Dependent variable	Average growth in GDP per capita 1995-2003		
Small state	-0.815** (0.395)	-0.850** (0.401)	-0.917** (0.404)
Sugar	0.546 (0.585)	-	-
Bananas	-	0.409 (0.602)	-
Agricultural preferences	-	-	0.873* (0.497)
R^2	0.16	0.16	0.17
N	194	194	194

GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development.
Robust standard errors in parentheses.
Oil exporter, OECD member,and region dummies included in all regressions.
* indicates significance at the 10% level.
** indicates significance at the 5% level.
*** indicates significance at the 1% level.

Table 12: Preferences and Income

Variable	(a)	(b)	(c)
Dependent variable	Log of average GDP per capita 1995-2003		
Small state	1.09*** (0.181)	1.13*** (0.188)	1.13*** (0.185)
Sugar	-0.132 (0.288)	-	-
Bananas	-	-0.395* (0.238)	-
Agricultural preferences	-	-	-0.278 (0.229)
R^2	0.59	0.59	0.59
N	194	194	194

GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development.
Robust standard errors in parentheses.
Oil exporter, OECD member,and region dummies included in all regressions.
* indicates significance at the 10% level.
** indicates significance at the 5% level.
*** indicates significance at the 1% level.

VII. FOCUS ON THE PACIFIC

What can we say about the economic performance of Pacific Island countries since 1995? The Pacific Islands Forum has sixteen members. Excluding Australia and New Zealand leaves fourteen countries, eleven of which are included in our sample. We do not have data for Niue, Kiribati and Tuvalu. We will focus on these eleven countries by including a Pacific dummy in our regressions; previously they were included in the Asia dummy. Australia and New Zealand will remain under the Asia dummy. Ten of the Pacific states are also small states, the exception being Papua New Guinea.

Column (a) of Table 13 shows that controlling for being an oil exporter and being a member of the OECD Pacific states are richer than those in Sub-Saharan Africa and Asia, but poorer than those in Europe and Central Asia, the Middle East and North Africa and the Western Hemisphere. In column (b) we see that if we also control for being a small state Pacific countries are poorer than those in all other regions except Sub-Saharan Africa.

In column (c) we replace income with growth as our dependent variable. Controlling for being an oil exporter and being an OECD member Pacific states grew more slowly than countries in any other region. When we include the small state dummy in column (d) it is negative, but not significant. This indicates that part of the reason for the negative growth effect of being a small state was the dismal growth of Pacific states from 1995-2003.

Table 13: Pacific States' Income and Growth

Variable	(a)	(b)	(c)	(d)
Dependent variable	Log of average GDP per capita 1995-2003		Average growth in GDP per capita 1995-2003	
Small state	-	1.24*** (0.186)	-	-0.296 (0.380)
Pacific	7.36*** (0.163)	6.23*** (0.243)	-0.474 (0.938)	-0.205 (0.990)
Sub-Saharan Africa	6.28*** (0.155)	6.12*** (0.143)	1.19*** (0.339)	1.23*** (0.342)
Asia excluding Pacific	7.30*** (0.299)	7.09*** (0.268)	2.62*** (0.393)	2.67*** (0.381)
Europe and Central Asia	7.93*** (0.228)	7.71*** (0.215)	3.39*** (0.337)	3.44*** (0.349)
Middle East and North Africa	7.73*** (0.251)	7.62*** (0.239)	1.44*** (0.531)	1.47*** (0.528)
Western Hemisphere	8.00*** (0.151)	7.46*** (0.144)	1.30*** (0.267)	1.42*** (0.333)
OECD	2.23*** (0.203)	2.37*** (0.203)	-0.721* (0.397)	-0.754* (0.397)
Oil	0.851*** (0.292)	0.802*** (0.255)	-0.650 (0.847)	-0.638 (0.848)
R^2	0.51	0.60	0.21	0.21
N	194	194	194	194

GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development.
Robust standard errors in parentheses.
* indicates significance at the 10% level.
** indicates significance at the 5% level.
*** indicates significance at the 1% level.

Why did Pacific states perform so poorly? Three possible reasons are:

a) Size. 10 out of 11 are small states. 8 out of 11 are microstates.
b) Remoteness. Table 14 shows that average remoteness is higher in the Pacific than any other region.
c) A negative shock to the region. We have already discounted the erosion of preferences as a likely explanation and we are not aware of any other event which is likely to have resulted in a negative shock across the Pacific region. Three Pacific Island states (Papua New Guinea, Fiji Islands and the Solomon Islands) experienced internal armed conflict between 1995 and 2003. Reestimating columns (c) and (d) of Table 13 after dropping these countries the growth performance of the remaining Pacific countries improves marginally, but is still significantly worse than that of any other region.[6]

[6] The negative link between size and growth established in Table 2 is robust to dropping Papua New Guinea, Solomon Islands and Fiji Islands from the sample.

Table 14: Pacific States' Remoteness

Region	Number of Countries	Average Remoteness (e-10)
Pacific	8	4.06
Sub-Saharan Africa	45	3.05
Asia excluding Pacific	22	3.05
Europe and Central Asia	49	1.20
Middle East and North Africa	18	1.89
Western Hemisphere	35	2.52
Total	**177**	**2.36**

VIII. CONCLUSIONS

Any analysis of the economic performance of small states is hampered by the paucity of data available. Results may be sensitive to both the sample of countries used and the time period covered. This makes it difficult to reach definitive conclusions, but we believe that the evidence we have presented supports the following five stylised facts.

1. Small states have higher incomes than comparable larger states.
2. Since the mid-1990s countries with a population of less than 1 million have grown more slowly than comparable larger states.
3. The worst performing small states since the mid-1990s have been the Pacific Island states. This is not solely a result of armed conflict in Papua New Guinea, Solomon Islands and Fiji Islands.
4. Remoteness has a strong negative effect on both income and growth.
5. The growth of countries benefiting from EU sugar and banana preferences did not suffer as a result of preference erosion from 1995-2003.

The main policy implication of these findings is that remote countries should adopt measures to reduce their poor market access. Trade facilitation policies such as streamlining customs procedures, investing in transport infrastructure and privatising inefficient state run transport companies can improve market access by reducing trade costs. Trade negotiations should also focus on obtaining access to large nearby markets. Any erosion of existing preferences will reduce market access relative to other countries. A long-term solution for remote countries could be to specialise in "weightless industries" such as financial services or computer software, but this would require substantial investment in human capital before any returns were realised; an unwelcome risk profile.

There are two principal areas where further work is required. One is data collection. More comprehensive, internationally comparable data, on the economies of small states is required. The calculation of an economically correct remoteness index covering all countries, large and small, would also provide an invaluable analytical tool. The other is in understanding why small states have performed well historically and whether their recent difficulties are temporary or an unavoidable consequence of changes in the structure of the global economy.

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Working Paper No. 3

A Cost-Benefit Analysis of the University of the South Pacific to the Region

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Preface

This report was prepared for the Pacific Islands Forum Secretariat (PFIS) in Suva, Fiji Islands. The report is one output of an Asian Development Bank (ADB) technical assistance project (TA 6226 REG): "Developing and Implementing the Pacific Plan for Strengthening Regional Cooperation and Integration." The Commonwealth Secretariat provided funding to the project.

The lead author of the report was Dr. Roman Grynberg, Deputy Director of Trade and Regional Cooperation at the Commonwealth Secretariat. He was assisted by Michael Hyndman, a cost-benefit analyst contracted by ADB, and Sacha Silva, an economist contracted by the Commonwealth Secretariat. Consultants from PIFS and the Pacific region provided valuable inputs for the report. Bill Costello was the ADB task manager.

The report is published in three volumes. Volume 1 is the Executive Summary. Volume 2 is the main report. Volume 3 contains the working papers commissioned for the report–a series of independent studies assessing potential benefits and costs of implementing a variety of possible regional initiatives. Volume 3 has been printed in hard copy in only limited numbers. However, it is available on the websites of ADB (www.adb.org) and at www.pacificplan.org.

Disclaimer

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I would like to acknowledge the assistance provided to me by the USP, Academic Office, Bursary and Secretariat, in compiling this reports and Mr. Sasha Silva from the Commonwealth Secretariat for his valuable guidance.

I also acknowledge reference to a range of USP publications and internal papers.

Professor Michael White

EXECUTIVE SUMMARY

Universities in general are complex organisations with many distinct albeit interdependent activities. The University of the South Pacific (USP) is no exception. As such a comprehensive analysis of costs and benefits, which seeks to generate a single statistic is hardly likely to meaningful. The paper therefore considers each aspect of the University's work identifying costs and benefits in each case. Where costs and benefits cannot be reliably quantified no attempt has been made to apply a value. The analysis however does enable a very clear conclusion to be drawn that USP generates a substantial net benefit to the region. The following points are salient. External advisers to the University consistently confirm that USP's programmes are comparable in quality to these offered at their own institutions and USP's comparator Universities. The recurrent costs of operating the University to the regional governments however amounts to less than Fiji dollars (F$)60 million. In contrast the cost of having students studying at overseas comparator Universities would be in excess of F$120 million.

The existence of the University within the region not only provides a considerable cost saving, but also leads to a substantial foreign exchange saving. Indeed, as USP attracted aid funding in 2004 in excess of F$24 million, it may actually attract foreign exchange to the region.

Certain University activities, applied research, consultancies, the pre degree programme and the Masters in Business Administration qualification generate incomes for the University. Intangible benefits are enjoyed from pure research activities, much of which relate specifically to the region and are unlikely to be undertaken by Universities elsewhere. Similarly, non-quantifiable benefits are obtained through the work of the Oceania Centre for Arts and Culture housed at the University. Costs to the University associated with these two activities are of the order of F$150,000 and F$220,000, respectively. The greatest intangible benefit the University offers is however undoubtedly the opportunity it offers the cadre of the region's youth from whom the future leaders will be drawn to interact with each other.

This paper notes that while the net benefits the region enjoys from the University are substantial they are not necessarily distributed equitably among the member countries. Countries where the University has its strongest presence, by way of its campuses (Fiji Islands, Samoa and Vanuatu) almost certainly enjoy the greatest direct economic benefits. Costs to each country per graduating student however offers a cost benefit measure that suggests USP may prove to be a more efficient institution from the view point of other countries.

I. APPROACH ADOPTED IN CONSTRUCTING THE COST-BENEFIT ANALYSIS

Cost benefit analysis is a widely employed tool for decision-making and evaluation, despite its generally accepted conceptual limitations. Determining a single cost benefit ratio that can be used as a basis for an informed decision as evaluation is not possible in all save the simplest of situations. Costs and benefits cannot be fully quantified. Quantifications that can usefully be made may require the use of more than one measurement scale. Comparisons between alternatives made on the basis of ratio calculations are consequently not always meaningful.

Universities are complex organisations. Mission statements are typically coined in philosophical rather than operational terms. While their *raison d'etre* is invariably the accumulation and dissemination of knowledge their operations are many faceted.

Rather than attempting to assess the costs and benefits of the University of the South Pacific in aggregate to member countries, this paper therefore reviews the range of the University's operations, assessing the costs and benefits that accrue. Where these can be reliably quantified, measures have been provided. Where this is not possible the analysis directs the reader's attention to the financial and/or non-financial consequences of a University service not being available from the regional provider. In doing so comparisons have been typically drawn against Universities in Australia and New Zealand, which the University of the South Pacific identifies as comparators. That is to say institutions the University uses to benchmark its academic standards, resourcing, etc. in order to sustain its recognition in the international community as a provider of quality tertiary education. Australian and New Zealand comparator Universities have been referred to as these are seen the countries Pacific Islanders would most likely look to for degree level education if USP did not exist as opposed to other comparator institutions in Great Britain, Singapore and the West Indies. A number of Pacific Islanders do indeed secure their University education in Australia and New Zealand. Reference is made to comments from academics from beyond the University region who serve as external academic advisers to USP, that serve to confirm the University's academic standing in the international community.

Consideration is also given to the distribution of benefits derived by the states, which subscribe to the University. The analysis offered is inevitably partial. However it does serve to suggest that while all jurisdictions benefit from USP's operations, the benefits do not necessarily accrue on an equitable basis.

All financial amounts in this analysis are expressed in Fiji dollars except where another currency is specifically referred to.

II. THE UNIVERSITY OF THE SOUTH PACIFIC – AN OVERVIEW

The University of the South Pacific (USP) was established under royal charter in 1968, operating out of plant located at Laucala Bay, Suva, inherited from the New Zealand Royal Air Force, when it closed its flying boat base. Its initial remit was to develop all graduate cadre of secondary school teachers for the region. Consequently degree programmes were initially established with students taking a major programme of study in Education and a joint major in these subject specialism. The subject specialisms initially available where: Biology, Chemistry, Economics, Education, Physics, Public Administration and Sociology.

Early developments in the University's operations included the establishment of USP centres in the participating countries to provide a conduct for the provision of University programmes on a distance education basis to promote awareness of the University's activities in the region and involve the communities in continuing education activities.

Since its inception, USP has grown to the point that it now has accumulated Property, Plant and Equipment with a value of Fiji dollars (F$)281,128,919 (insurance valuation provided in the University's financial report for the year ended 31st December 2004), most of which has been acquired by way of aid funding.

Full time student equivalent numbers stood at 10,163 in 2004, of which 3,944 are enrolled through distance and flexible learning. The curriculum encompasses the following disciplines, with established programmes in all areas up to the Masters level.

Additionally the University offers Masters programmes in Business Administration, Governance, Pacific Media Studies and Social Policy.

Funded research across the University curriculum. The 2003 research report itemises 114 different ongoing research activities, 202 referred publications and books produced and 131 conference papers delivered (funding for the latter activity is restricted. By far the greater part of the work was directed to issues that are pertinent to the region served by the University. As such, it is research work, which in most cases would not have been carried out if USP had not existed. F$145,845 of the University funds were applied to research in 2004. Research funds will also have been accessed from other sources.

A. USP Academic Programmes

The quality of USP degree programmes is reflected in the recognition its graduates receive overseas. USP graduates with good bachelor degrees have no difficulty securing admission to postgraduate programmes elsewhere, particularly in commonwealth nation. External advisors tot he University's academic departments are asked to assess the standing of the department's undergraduate that of their own department and others they are familiar with. The comparison drawn almost invariably is one that puts the USP department on par with better resourced departments from economically developed societies. Holders of bachelors degrees from USP have gone on to senior academic positions overseas, notably Brij Lal and Satendra Nandan (ANU), Tupeni Baba (Auckland). There has been a significant migration of the holders of Bachelor of Education qualifications, particularly to New Zealand and of BA degree holders with an Accounting major, particularly to Australia. While these observations serve to demonstrate USP's international standing as a University of reputable academic quality, the outward migration of USP graduates represents a loss in skilled person power to the region.

Quotes from departmental external advisors, (all received in 2004):

> "Overall I am satisfied that the courses constitute a menu of offerings that meet the normal scholarly and professional expectations and requirements, without wasteful duplication. More specifically, I am satisfied that the courses are appropriate for the various degree and diploma programmes of which they form a part.
>
> Professor Malcolm Treadgold External Advisor to the Department of Economics

> "I have no serious criticisms to make of the Department in terms of teaching, administration, research and related activities. All staff have a strong sense of

professionalism and Professor Campbell is well equipped to lead the Department in introducing measures to improve aspects of the student experience and performance, as well as stimulate research in what little time the staff have available for it."

Professor Stephenie Lawson External Advisor to the Department of History.

"It is evident that within the department there is a good term spirit, good support for students and a keenness and professional attitude to the teaching and research of chemistry. The teaching is generally of a high standard. The research undertaken is of international standard as well as often bring of immediate relevance to the region.

Professor M.J. Adams External Advisor to the Department of Chemistry (2004).

In general the measurement for the units under consideration was both challenging and adequate for the purpose. The examination scripts demonstrates that there was a wide variety of competency levels but that by and large the assessments were able to be adequately dealt with by the students. It also implies that the quality of teaching was adequate for the purpose. I congratulate all of the academic staff that contributes to this educational program and deem that their work is satisfactory and equivalent to other institutions of higher education elsewhere in the English-speaking world.

Professor Keith Houghton External Advisor to the Department of Accounting and Financial Management.

Holders of bachelors degrees from USP have gone on to senior academic positions overseas, notably Brij Lal (ANU) and Vijay Naidu (Auckland). There has been significant migration of the holders of Bachelor of Education qualifications, particularly to New Zealand and of BA degree holders with an accounting major, particularly to Australia. While these observations serve to demonstrate USP's international standing as a University of reputable academic quality, the outward migration represents a loss of skilled person power to the region.

III. UNIVERSITY GRADUATES CONTRIBUTIONS TO SOCIETY

For the period 1994-2004 USP has graduated from all credit programmes, a total of 9,599 regionals. (Small number from Papua New Guinea and Tahiti have also graduated.) As noted elsewhere some 20% of these graduates are lost to the region through migration. (Fiji Islands for example experienced outflows of 171 teachers and 91 accountants in 2002 (Reserve Bank of Fiji), almost all of whom would be USP graduates.

While these outflows diminish the benefits the region enjoys from this human resource, it must be born in mind that almost certainly more regional graduates will be lost to the region if they are educated outside it. Such persons become knowledgeable of the opportunities for overseas employment and associated lifestyles during their period of study. The breakdown of USP graduates can be reflected by a review of the completions of studies by programme and country for 2003.

Unfortunately surprisingly little information has been formally collected on USP graduate participation in the workforce. The University undertook a traces study on 2002 graduates. This identified that six months after graduation 81.4% of graduates were in formal employment, 14.8% were unemployed, with the balance not being available in the job market.

USP graduates permits the senior available positions in both the public and private sector. As with the Universities of Oxford, Cambridge and the London School of Economics their numbers include heads of state, prime ministers and cabinet ministers.

IV. THE PRE-DEGREE STUDIES UNIT

In addition the bachelors and post-graduate programmes USP offers pre degree programmes, equivalent to secondary studies at the Fiji Islands form 6 and 7 level. These programmes confer a qualification in their own right and also offered a means for those who successfully complete the programme to secure admission to undergraduate studies. The unit offers its courses as an adult education programme and to students lining in parts of the region where sixth form and seventh form studies are not otherwise available.

The academic results from this programme are deemed disappointing, but the pass rates achieved are not out of line with those found in adult education programmes elsewhere. The unit generates a financial surplus, contributing F$500,000 to the University's income in 2004.

V. UNIVERSITY INSTITUTES

The University has established institutes in the following fields.

Applied Sciences

- Education
- Justice and Applied Legal Studies
- Marine Resources
- Advanced Studies in Development and Governance
- Management and Development
- Research Extension and Training in Agriculture
- Additionally the University has established the Oceania Centre for Arts and Culture.

These institutes conduct applied research and are largely self-funding. Their current activities include the following.

Institute of Applied Science:

- Dietary studies, analysis of the quality of water and foods
- DNA work on flora and marine life.
- Coastal management
- Waste management
- Marine resources and conservation
- Intellectual property rights relating to traditional knowledge of regional resources

Institute of Education

- The generation of educational material of regional relevance to be used in the primary and secondary school systems..

Institute of Justice and Applied Legal Studies

- Conduct professional education and continuing education for legal practitioners
- Development of a regional strategy to conduct HIV/Aids bearing in mind ethical and human rights issues.

Institute of Research Extension and Training in Agriculture

- Organic farming in atolls
- Training pertaining to the regulation of food in international trade

- Food processing
- Sustainable agroforestry and farming systems
- The production of manuals and other educational material.

Institute of Advanced Studies in Development and Governance

- This institute is newly established. Its primary rate is to offer postgraduate studies in Development and Governance issues. It also undertakes consultancy work and runs workshops on governance issues.

Institute of Management and Development

- This institute is core responsibility is to offer the University's MBA programme. It also offers workshops to officers in both the public and private sectors up to the seniors executive level and undertakes consultancies on management issues.
- Both of these institutes have been involved in work relating to public sector reform in the region.

If USP did not exist, it would seem almost certain that much of the work of these institutes would be undertaken by other agencies in the region.

However, it is by no means clear that these agencies would be regional as opposed to national institutions. As a part of a regional institution the institutes enjoy economies of scale, receive support services from a central administrative facility and avoid duplication of effort that would occur if their work was done at a national level.

The Institutes contribute F$100,000 to the University's annual income. The MBA programme contributes a further F$100,000 to annual income through the full cost tuition fees charged. Programmes offered through the Institute of Advanced Studies in Development and Governance will make a similar contribution once fully established.

VI. USP SOLUTIONS

The University established USP Solutions in 1999 to promote and manage University consultancy activities. In 2003 USP activities generated total services of consultancy and related F$776,663 of which F$5,444,560. Academic departments received a comparable amount. The Universities Research Institutes are funded from these earnings accrued to the University. Much of this work would be undertaken by overseas consultants had the expertise vested in the University not been available. Costs of such expertise would inevitably exceed that available at the University owing to saving in travel costs and subsistence allowances. Consultancy activities in some cases create foreign exchange inflows to the region. In other cases they alleviate the need for foreign exchange outflows.

VII. NON-QUANTIFIABLE BENEFITS

USP provides the region with a number of non-quantifiable, but nonetheless valuable benefits. These include the following:

(i) An opportunity for young people from around the region from whom the future leaders will for the most part be drawn, to live and work together for a period of three or more years. This efforts on opportunity to obtain an understanding of the hopes and

aspirations of regional partners as well as their cultures, that could not be practically provided by any other forum.

(ii) USP, like many other Universities, has provided the societies it serves with a consciousness of moral issues. The University became the focal point on the need for good governance in the region under Vice Chancellor Siwatibau. This has actually served to foster the University's Pacific Institute of Advanced Studies in Development and Governance. While it can certainly be argued that the issue of governance and other matters that need to be drawn into the social consciousness can be, and are, raised elsewhere Universities are perhaps better placed to address such issues. USP addresses such issues detached from political, religions and possibly commercial pressures in a way that NG's are not able to do.

(iii) The Oceania Centre for Arts and Culture serves as a means of preserving Pacific cultures, disseminates these cultures within and beyond the region, fasters artistic talents and encourages a cross fertilisation of artistic ideas from persons of differing ethnic backgrounds. While such centre could of course be established outside of a University environment it seems unlikely that its regional dimension would flourish as an independent entity.

The total cost of operating the Oceania Centre for Arts and Culture in 2004 amounted to F$226,491.

VIII. BENEFITS OF USP'S PRESENCE TO THE HOST ECONOMY

While the participating jurisdictions carry the bulk of the University's recurrent expenditures with 6% contributed by Australia and 4% by New Zealand the University's institutional presence in itself generates economic activity and thereby benefits the participating nations. Periodic lobbying for decentralisation of the University is partly motivated by the economic benefits that are seen to accrue to a nation, which hosts a part of USP operations.

IX. MEASURES CONTRIBUTING TO AN ASSESSMENT OF COSTS AND BENEFITS

It is not practical, nor is it necessary, to endeavour to reduce a cost benefit analysis of USP to a single measure. A range of indicators can however be supplied, which serve to demonstrate the benefits that the states which fund USP derive from its operations, including Australia and New Zealand.

This paper has argued that USP's academic programmes stand comparison with those offered in better resourced University's elsewhere. The following indicators of costs are instructive.

(a) USP's recurrent income per are equivalent full time student. (Figures are unadjusted for inflation). The spike in unit costs in 1998 is explained by a 20% devaluation of the Fiji dollar and in 2000 by the reduction in student numbers resulting from the political instability at that time. Clearly, even allowing for inflation the University has succeeded in containing costs. Indeed it is necessary to go back to 1991 to identify a lower value for this statistic than in 2004.

1998	F$7,6
1999	23
2000	7,070
2001	7,514
2002	7,216
2003	6,551
2004	6,637
	6,523

(b) USP's staff student ratios have urged between 21.5 and 26.5 over the period 1995-2003. This is materially higher than the areas set by the ACVC. However as already noted the rigour of the academic programmes do not seem to have been compromised.

(c) Staffing costs. University Council has resolved that academic and equivalent staff salaries are to be set at 81.5% of the average salaries for equivalent staff at USP comparator Universities. The comparator Universities are: University of New England, Central Queensland University and the Australian National University (Australia), Auckland University, Massey University and Canterbury University (New Zealand), Warwick University and Strathclyde University (United Kingdom), National University of Singapore and the University of the West Indies.

(d) If USP had not been established it would be necessary for the participating nations to either establish their own national Universities or send students to institutions overseas. Samoa and Tonga both have such institutions, but these each have a restricted curriculum. The University of Fiji opened its doors to students in March of 2005. The alternative to directing students to USP is to send them to overseas institutions, most usually in Australia or New Zealand, or more recently for study with an overseas University through distance mode or in the case of Fiji Islands through study at the University of Central Queensland campus established in Suva.

The following lists the manual tuition fees for the various lowest cost bachelors programme offered at these institutions for international students:

Auckland New Zealand dollars (NZ$)9,480
Australian National University Australian dollar (A$)14,400
Central Queensland University FF$7,665 (fees for Fiji Islands students at the Fiji Islands campus)
Massey University NZ$15,500
University New England $12,000

(e) In assessing the costs of an alternative University education the following also have to be considered.

(i) Air fares between country of residence and country of study. As over 75% of USP's students originate in Fiji Islands and therefore in most cases have no airfare to meet, this cost will be material. The cost of annual return flights for these students alone from Nadi to Auckland and Brisbane at least cost fares, will amount to over F$3 million. Students from other countries in some cases will experience a net increase in cost and a net saving in others.

Costs of living at Australian and New Zealand University towns can in general be taken to be higher than Suva, but perhaps lower than Port Vila and Apia. Most USP campus based students are located in Suva.

(ii) While costs associated with cultural adjustment are not subject to quantification they can be expected to be lower for students in the region attending USP consciously establishes support systems for overseas students, which will not be provided elsewhere.

(iii) While it has been demonstrated that USP graduates emigrate in significant numbers, the losses in graduate person power can be expected to be higher if among Pacific Island graduates from other Universities can be expected to be and is, higher. Such graduates have already adopted to overseas life styles and are knowledgeable about overseas labour markets. As far back as 1983 the Hon Chief Executive Officer of the Fiji Sugar Corporation stated "We sent ten engineers for degree studies in the United Kingdom. Eight passed their course and two came back to Fiji Islands.

(f) The following calculation compares the cost of the lowest cost on face to face bachelor's programme available to Fiji1[1] students from USP's comparater Universities, with the highest cost face to face bachelors programme offered by USP. The comparator programme used is that offered by Central Queensland University at its Fiji Islands Campus.

Tuition fees for CQU bachelors programme	F$22 995
Tuition fees for a USP bachelors programme with a joint major in Accounting and Information Technology[2]	(11 340)
Member country contributions to the USP budget for 2004÷EFTS[3]	(6 256)
Net saving	5 399

This is a telling statistic notwithstanding the fact that the calculation does not include contributions to the University's recurrent budget from Australia and New Zealand or other aid funded projects. However, it is reasonable to assume that not all of these benefits from aid would flow to other projects in the region if USP did not exist.

The following points are pertinent:

(i) USP attracts aid funding because of its regional status. As such USP can achieve economics of scale that national institutions cannot enjoy. As such USP is an attractive institution to donors.

(ii) USP has a good track record of maintaining plant, almost all of which was acquired through aid. USP's maintenance budget is maintained at or above the generally accepted benchmark of 1.25% of replacement cost of assets (The 2004 budget figure stands at 1.3%).

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[1] Students from elsewhere in the University will be classed as international students and would pay international student fee rates for a total cost of F$34, 020.

[2] Two courses in Information Technology at year 1 (F$500 each) and two in each of years 2 and 3 (F$660 each). Two courses in Accounting at year 1 (F$685 each). These courses in Accounting in each of years 2 and 3 (F$635 each). 4 other 1st year courses (F$385 each). 1 course from other areas in year 2 and 3 (F$510 each).

[3] Member country contributions for 2004: F$43,257,150. EFTS for 2004: 10,163.

(iii) USP has a good track record in achieving project objectives. In view of the above observations the opportunity costs associated with aid funding of the University are likely to be low.

(g) Economic activity generated within the region by USP's operations, and associated foreign exchange savings

The following calculation is pertinent.

		F$
Total operating expenses for the year ended 31.12.04 as per the University's annual financial report		64,667,708
less, payments made outside of the region	167,60,814	
less Australia/New Zealand contribution to recurrent funding		
	5,621,446	11,139,368
Finance potentially retained in the region.		53,528,340

Of this sum F$2,050,778 was utilised for foreign exchange payments. Part of these payments will relate to movements of resources between countries in the University region. The balance (F$514,775,620 will represent the sum used to finance the University's operations that is spent in the region, apart from any portion of staff emoluments expatriate staff may remit to their home country.

In contrast the cost of sending the USP student population for studies overseas, or by distance education through overseas universities and the foreign exchange outflows incurred can be estimated as follows,-

USP's full time student equivalents 10,163 lowest cost annual tuition fee at an Australian/New Zealand comparator university for international students (in this case the comparison has not been made with fees charged at the Fiji CQU campus as a resticted curriculum only is available at that campus) is at Auckland (NZ$9,480).

Cost of tuition for 10,163 students	NZ$96,345,240
Applying an exchange rate	F$1 = NZ$0.80
the cost in Fiji dollars will be	F$20,431,550.

This sum represents an outflow of foreign exchange to the region. The sum is a clear understatement of the true outflow as many students, for example those studying science subjects will pay higher fees. Further, the calculation makes no provision for student living allowances, or airfares. As has been noted, if USP's students from Fiji Islands were to be sent for studies in Australia or New Zealand the air fares alone would add over F$3 million to the total cost of education per annum.

In summary, USP's operations generated economic activity in the regional economies in 2004 in the order of F$50 million. At the same time it enabled regional economies to make foreign exchange savings in excess of F$120 million.

X. MEASURES OF COSTS AND BENEFITS TO REGIONAL GOVERNMENTS

(a) Of the University's total financial outlays in 2004, F$7,207,446 was applied to direct taxation and superannuation payments. Additional resources would be returned to governments through the indirect taxation process. It is not possible to identify the amount, but it can be expected to be considerable.

Some countries recoup a material proportion of this contribution to the University's recurrent funding through direct taxation and superannuation payments. The percentage of contributions recouped in this manner are as follows:

Cook Islands	9.8
Fiji Islands	20.3
Kiribati	3.2
Marshall Islands	35.4
Nauru	nil
Niue	16.1
Samoa	nil
Solomon Islands	2.0
Tonga	3.6
Tuvalu	1.4
Vanuatu	5.8

Graduates who continue to work in the region also contribute to government revenues through the tax system at higher rates than would be expected had they not secured a tertiary education.

(b) Costs and benefits derived by the individual countries can also be viewed by comparing the governments' contributions to the University's recurrent budget with the number of graduating students. Contributions are based on number of students from each nation participating in the University's programmes. The ratio will therefore provide some indication of the success rate of students at the University. Care however has to be applied in reviewing the cost-graduate ratios as different programmes of study have different time frames and costs. The low ratios enjoyed by the Cook Islands, the Marshall Islands and Nauru particularly, are explained by the fact that most of the graduates from these countries have completed one on two year programmes as opposed to a full first degree. The abnormally high ratio for Samoa is explained by the uncharacteristically low numbers of graduates in 2003 (37). There were 61 graduates from Samoa in 2004. Figures provided relate to 2003.

State	Cost per One Graduate
Cook Islands	F$10,500
Fiji Islands	27,188
Kiribati	16,417
Marshall Islands	6,232
Nauru	9,828
Niue	20,335
Samoa	51,583
Solomon Islands	13,195
Tokelau	-*
Tonga	12,878
Tuvalu	10,568
Vanuatu	31,221

*There were no graduates from Tokelau in 2003. Tokelau's contribution to USP's budget was F$19,246.

The overall benefits of economic activity generated by the University will inevitably accrue disproportionately to the member countries. Fiji Islands, hosting the main campus will be the prime beneficiary. Samoa and Vanuatu, hosting the other University campuses can also be expected to enjoy a greater stimulus to the economy from the University's presence then other countries.

The net benefits to be obtained from a further decentralisation of the University are not readily determinable. No attempt to identify and address all the pertinent issues is made here. It is however appropriate to note that while considerable benefits accrue to the region from USP'' presence, the benefits are not equitably distributed. The stimulus offered to the regional economies by USP's expenditures is a case in point.

XI. NATIONAL UNIVERSITIES OPERATING IN THE PACIFIC ISLAND SOCIETIES

Although none of the national Universities established in the Pacific Island societies are designated as comparator institutions to USP, it is pertinent to consider the costs of these entities operations and the benefits they offer to the societies they serve. They clearly contribute to the availability of services associated with Universities, around the Pacific region.

A. Atenisi University, Tonga

Atenisi is a private institution established in 1975. It consists of a high school, a University and a foundation for performing arts. Atenisi's financial resources are meager. Year long courses tuition fees at 2002[4] were set at Tonga pa'anga (T$)270. (The Fiji dollar and Tongan Pa'anga stood at par mid 2002). The University's bachelors programme consists of seventeen courses. Total tuition fees will therefore amount to T$4,590. Students are however expected to 'contribute' to University fund raising activities a sum of T$700 per annum. The total cost of a bachelors education at Atenisi is therefore T$7,390 as compared to F$8,370 for a USP bachelors education at 2002 fee levels. However, graduates of Atenisi are also 'expected' to contribute to its ongoing operations in either cash to kind. Modest donations to its operations also accrue from other sources. Atenisi's other sources of income are limited in the extreme. It

[4] These are the latest figures available.

receives an annual capitation grant from the State for its high school operation, but at only half the rate provided to State run schools. Its Performing Arts division tours widely, but it is not clear as to whether revenues from its performances more than cover the costs of this dimension of its operations. As such it obtains no direct funding from the state or any other institution.

Four programmes are offered, a four years Bachelor of Arts and Sciences (17 courses) and a two year Associatship (half a bachelors programme) of Arts and Sciences (9 courses). The curriculum encompasses courses in Anthropology, Arts, Astronomy, Biology, Chemistry, Economics, English language and literature, German, Greek, History and Culture, Latin, Mathematics, Music, Philosophy, Physics, Psycology, Sociology and Tongan language, history and culture.

Atenisi advertises both Masters and PhD programmes, the latter being offered in collaboration with Auckland University. However, there does not appear to have been any enrolments at the postgraduate level either currently or in the past.

Apart from the association with Auckland University at the PhD level there seems to be no independent quality assurance process.

Student numbers at Atenisi appear to be currently in decline. In 2002 student numbers at the high school and University together totaled 500. Current enrollments are no more than 200, with the most significant decline being seen at the high school level. Entry to the University is open to all who have reached the appropriate standard in their secondary education. However the majority of admissions to the University have been drawn from the associated high school. Consequently a decline in student numbers at the University level may be anticipated in the near future. The small enrolments lead to some courses, particularly in the Science field being offered intermittently.

Staffing at the University is also limited. Staff is drawn primarily from two sources. Firstly, Atenisi is able to attract volunteers from overseas (through programmes such as VSA, VSO, and the equivalent from European countries). These faculty serve to explain the somewhat disperate range of courses in European languages, culture and history in the curriculum, which may not be of any great relevance to Tongan society. However, high turnover of such staff make it particularly difficult to sustain the courses. Secondly, Atenisi draws on its own graduates to contribute to the teaching progamme, in most cases on a part time basis.

Despite its limited resources and apparent lack of external quality assurance, Atenisi produces graduates, who enjoy some standing in the local and international community. There are certainly instances of Atenisi graduates, being accepted for postgraduate studies in Universities of standing overseas. Many of Atenisi's graduates are employed in New Zealand's primary and secondary education system. In Tonga, graduates are employed in some number in schools run by the Mormon church (Atenisi has no affiliation with the Mormon church) They are also employed across the private sector. Atenisi's graduates are not found employed in Tonga's public sector.

Atenisi can therefore be seen to have made a meaningful contribution to the Tongan society at a cost to its graduates and/or their sponsors of something less then that which would have to be met from study at U.S.P. The cost savings become more substantial when airfares and relocation costs avoided are taken into consideration. The cost to the Tongan's state in nominal in the extreme, whereas Tonga's contribution to USP's recurrent budget in 2002 was of the order of F$700,000.

A secure source of funding for Atenisi would doubtless enable the institution to restructure and refocus its curriculum and eliminate the ad hoc nature of its operations. Atenisi's site offers scope for expansion if funding is available. Such developments can only be forthcoming if a substantial ongoing financial commitment is made to Atenisi. Government funding is the only conceivable source. However, Atenisi values its autonomy from government, which it sees as being open to compromise if it became dependent on state funding.

B. The National University of Samoa (NUS)

The National University of Samoa was founded in 1984. Its current curriculum encapsulates the following disciplines: Accounting, Biology, Chemistry, Computing, Education, English, Environmental Science, Geography, History, Mathematics, Nursing, Physics, Samoan Language and Culture and Sociology.

NUS has succeeded in securing substantial aid funding from Japan, which has served to provide its current plant. The programmes provide a low cost option for bachelors programmes to Samoans. Student tuition fees for a full bachelors programme amounts to no more then Samoa tala (ST)3,840 (F$2,560), compared with the tuition cost of F$9,200-11,340 for USP bachelors degree. Students enjoy further savings vis a vis a USP education, as air travel and other dislocation costs are avoided. Quite clearly the institution cannot sustain its operations purely on income from tuition fees. The bulk of NUS's recurrent budget will therefore be drawn from government funding.

Unfortunately information regarding the country's financial commitment to NUS is not available. Funding available must be quite substantial. Surprisingly NUS pays sessional faculty at a higher rate than USP. However, it seems fair to assume that overall the institution's operating costs per student are lower than these at USP. NUS places a greater emphasis on low cost, non science programmes then USP. Further NUS, understandably has a far lower profile in University activities such as research, which are a charge against recurrent income. NUS draws almost all of its faculty from Samoa. In so doing it limits the need to make payments to officer relocation costs incurred by staff drawn from the world at large and to offer remuneration packages that are competitive internationally.

Operating in such a context it is clearly necessary to consider the quality of the NUS degree programmes and its graduates. Unlike USP, NSU does not have an established external advisers programme. External assessments are however undertaken on an ad hoc basis. A review of the Science and Mathematics faculty was undertaken in 2003. The faculties of Arts and Education were reviewed in 2005. In each case the review has been undertaken by staff from USP.

It is apparent that graduates from NUS are well received in the community, particularly those drawn from the vocational programmes in Accounting, Education and Nursing. Recognition of NUS qualifications overseas is not clear. An NUS accounting graduate seeking to emigrate to Australia may not get the same recognition as a graduate from USP. On the other hand, a number of Samoans are employed in New Zealand's school system. This suggests that NUS's programmes enjoy some measure of international credibility.

C. The University of Fiji

The University of Fiji (UOF) opened its doors to students in March of 2005. As such it is premature to make any assessment of the contribution it is able to make to Fiji Island's society, or any comparison with USP. While it is sensitive to the need to provide quality assurance to the society it serves, these processes have yet to be put in place. Its curriculum at present is narrowly based, focusing on vocational programmes in commerce and information technology. Part of its programme is sustained through partnership arrangements, whereby it utilizes distance education materials, notably where they are web based from other institutions, which are on open access as means of providing tuition.

UOF clearly has a lower operating cost structure then USP. This is reflected by the lower student fees charged. UOF has been established by Arya Prathinidhi Sabha. However the extent of its financial commitment to the University is not clear. There is no state funding for UOF at present.

XII. REGIONAL VERSUS NATIONAL, OR REGIONAL AND NATIONAL INSTITUTIONS

The review of Atenisi, NUS and UOF demonstrate that these three institutions each operate with lower unit costs to USP. This is clearly true even though unit costs cannot be clearly determined for NUS. or UOF. However, the national institutions cannot truly be regarded as comparable to USP. Atenisi's curriculum has been developed on an ad hoc basis, dependent on the academic talents it has been able to attract rather than the needs of the students or Tongan society. While NUS's curriculum better reflects the range of subjects found in an established University, it offers limited programmes only in the traditionally high cost academic disciplines. It also retains an element in its curriculum, which is uniquely Samoan, something that USP or any institution outside Samoa would not see as part of their mission. UOF currently, has a restricted vocational curriculum, which it is able to deliver at low costs. Its ability or disposition to develop a wider curriculum has yet to be tested.

The activities of these three institutions do serve to provide direction to the form that regional co-operation could take in tertiary education. USP already recognizes prior learning from certain other institutions in it admission procedures. Cross credits can be secured by students completing programmes at the Fiji College of Higerh Education, The Fiji Institute of Technology and The Solomon Islands College of Advanced Education. No such arrangements exists between USP and Atenisi or NUS. It might be argued that such arrangements are not necessary. This is unfortunate. National institutions may have the capacity to offer certain programmes in part, but not in their totality. This may be true of existing programmes at Atenisi given its limited and restricted resourcing. If recognition for learning completed at national institutions was provided, students could undertake part of their studies in a low cost environment, transferring to the relatively high cost USP programmes only where necessary. Such arrangements could of course only be put in place when there is satisfaction with the national institutions' quality assurance procedures. While this may be a sensitive issue, USP could offer assistance in this area. Collaboration between the institutions could also serve to develop national institutions capacities in research and consultancy.

A view has evolved in Pacific Island societies that USP and its national counterparts might best be seen as complementary institutions, rather than alternative means of providing the benefits of Universities to the peoples of the Pacific Islands. This analysis endorses that view.

XIII. SUMMARY OF COSTS AND BENEFITS

Benefits	Costs
1,684 completion of formal tertiary qualifications (2003)	F$59,046,262 born by regional governments and sponsors.
Minimum tuition costs and air fares avoided by not sending students to comporates Universities overseas and therefore foreign exchange saved F$123,431,550	Nil
Pre-degree studies unit, providing second chance opportunities to enter University studies, generating a surplus of F$500,000	Nil Nil
University Institutes undertaking applied research in a range of areas contributing a surplus of F$100,000.	Nil
Masters of Business Administration programme offered at full cost recovery basic contributing a surplus of F$100,000.	Nil
Consultancy activities generating revenues of F$776,663, some of which would have been paid outside the region if not undertaken at USP, contributing F$54,560 surplus to the University.	No incremental costs
Provision of a forum for the future leaders of the region to meet and work together.	
Preservation and development of the region's arts and cultures.	Operating cost of the Oceania Centre for Arts and Culture F$226,491
A range of research activities much of which is of specific relevance to the region that may not have been undertaken if the University was not in existence.	Research and conference expenditures totaled F$145,845

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South Pacific Forum Fisheries Agency: Benefits and Costs

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Preface

This report was prepared for the Pacific Islands Forum Secretariat (PFIS) in Suva, Fiji Islands. The report is one output of an Asian Development Bank (ADB) technical assistance project (TA 6226 REG): "Developing and Implementing the Pacific Plan for Strengthening Regional Cooperation and Integration." The Commonwealth Secretariat provided funding to the project.

The lead author of the report was Dr. Roman Grynberg, Deputy Director of Trade and Regional Cooperation at the Commonwealth Secretariat. He was assisted by Michael Hyndman, a cost-benefit analyst contracted by ADB, and Sacha Silva, an economist contracted by the Commonwealth Secretariat. Consultants from PIFS and the Pacific region provided valuable inputs for the report. Bill Costello was the ADB task manager.

The report is published in three volumes. Volume 1 is the Executive Summary. Volume 2 is the main report. Volume 3 contains the working papers commissioned for the report–a series of independent studies assessing potential benefits and costs of implementing a variety of possible regional initiatives. Volume 3 has been printed in hard copy in only limited numbers. However, it is available on the websites of ADB (www.adb.org) and at www.pacificplan.org.

Disclaimer

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EXECUTIVE SUMMARY

Rational for Creating Forum Fisheries Agency

In August 1979 the member countries of the South Pacific Forum created the Forum Fisheries Agency (FFA) to help them to manage and develop their highly migratory tuna resources in the western and central Pacific Ocean. They saw the need to *cooperate* to pool their resources and adopt coordinated action to secure their exclusive economic zone (EEZ) rights, sustainably manage the fisheries within their EEZs, and secure a fair share of the benefits from them. They created the FFA as the *regional body* to provide an effective vehicle to achieve these goals.

Broad Economic and Social Benefits

A **qualitative analysis** of the FFA's actions over the 25 years since its creation - and the results that it has had a pivotal part in achieving - indicate that it has provided significant net benefits to FFA member countries, both collectively and individually. In broad terms, its actions have helped enable member countries to realise major economic and social benefits, notably including:

a. *Securing and upholding* **sovereign rights over EEZ**: Regional cooperation exercised in solidarity through the aegis of the FFA was instrumental in securing early, effective recognition of their sovereign rights over the respective EEZs (e.g. *de facto* recognition in the 1987 United States (US) Multilateral Treaty);

b. *Enabling beneficial* **access agreements** *to be negotiated*: This effective recognition provided a firm building block for securing fisheries *access agreements* with other distant-water fishing nations (DWFNs) (including sub-regional arrangements) and the resultant economic and social benefits for member countries, including:
   - *Direct fiscal benefits* from ***access fees*** (or payments) received;
   - *Direct economic and social benefits from domestic industries* developed to harvest the catch (e.g. domestic base for a DWFN fleet); process the catch (e.g. canneries), tranship the catch, or service the fleet – where economic benefits comprise the producers' surpluses yielded by activities, and social benefits comprise the net employment created;
   - *Indirect economic and social benefits* - from flow-on activities precipitated by the primary activities – which typically multiply the direct economic and social benefits from the original activities;
   - *Better fisheries management and conservation in their EEZs* achieved via member countries' strengthened ability to secure DWFNs' agreement to minimum terms and conditions of access that help to yield more effective management and conservation of the fish stocks in the EEZs; and
   - *Potentially better fisheries management and conservation in the high seas* of the Western Central Pacific Ocean (WCPO) adjacent to, or impacting on, fisheries within their EEZs (i.e. through the role of the newly created Commission). But achieving this outcome remains work-in-progress which is a major challenge for the FFA's future role.

Particular Results

Particular results that FFA has been pivotal in achieving, which typify these broader benefits, include:

a. *Nauru Agreement (1982)*: This *sub-regional agreement* between seven member countries (Federated States of Micronesia [FSM], Kiribati, Marshall Islands, Nauru, Palau, Papua New Guinea [PNG] and Tuvalu) has essentially resulted in their requiring DWFNs to meet *uniform* **minimum terms and conditions of access** to fisheries within their respective EEZs. Although this uniform stand initially met with some strong DWFN resistance, the conditions have since been generally accepted and encourage fishers to comply with the wider rules to ensure the fisheries are managed sustainably.

b. *Regional Register of Foreign Fishing Vessels (1984)*: The FFA created and runs a central **register** of foreign fishing vessels, which must be in "good standing" on the register as pre-requisite to being licensed to fish in member countries EEZs. Vessel information in the register helps in assessing compliance, especially given its extensive coverage. Overall these features have made the register helps an effective tool for monitoring and enforcing compliance with fisheries regulations and access conditions.

c. *US Multilateral Treaty on Fisheries (1987)*: This multilateral agreement between all member countries and the USA Government has paid them a total of United States dollars (US$)276 million in the first 16 years of the treaty's operations, but 79% of this went to just five such countries (FSM, Kiribati, Nauru, PNG and Tuvalu) reflecting the very uneven distribution of tuna fish stock in the region's EEZs. The treaty's related benefits to member countries include:
   - A high payment rate for the volume and value of fish caught;
   - Some income security for all member countries because it includes a fixed minimum payment, as well as the catch-related payment major component;
   - Medium-term certainty about the basis of these access related payments;
   - Flag-country acceptance of a duty to ensure compliance with all of the treaty's terms and conditions, plus action effectively implementing this duty;
   - A negotiating precedent for use to encourage other DWFNs to agree to similar multilateral fisheries agreements, although it has yet to bear fruit.

d. *Niue Treaty on Cooperation in Fisheries Surveillance & Law Enforcement (1992)*: This sub-regional agreement (adopted by Palau, Marshall Islands and FSM) provides a **framework** for regional cooperation in fisheries surveillance and law enforcement. It reinforces member countries' resolve and ability to monitor and enforce foreign-fishing vessel compliance with fisheries regulations and access terms and conditions in their EEZs.

e. *Palau Arrangement (1993, 1997 & 2003*): This is a *supplementary* sub-regional arrangement between the parties to the Nauru Agreement. Its main aim is to protect the biological and economic and sustainability of the fisheries. Its initial means was to control the purse seine **vessel numbers** operating in the region. But since 2003, it has focused on controlling the **level of fishing effort** in each EEZ (as measured in terms vessels *fishing days*). It is too early to judge the revision's effectiveness.

f. *FSM Arrangement for Regional Fisheries Access (1994)*: This is a further such *supplementary* arrangement between parties to the Nauru Agreement. Its main aim is to promote more local participation in the fisheries their respective EEZs. To this end the parties have *harmonised* their fisheries **access regimes** essentially to provide the *parties' vessels* with access on conditions no less favourable than for *foreign fishing vessels* under bilateral access arrangements. But it seems that one of the parties is reaping most of the resultant benefits, while the others bear the cost of no longer being

able to extract valuable bilateral access premiums from DWFNs (as they all agreed to harmonised access conditions). The future of this arrangement is uncertain.

g. *FFA Vessel Monitoring System*: The FFA administers a satellite-based, real-time vessel **monitoring system**. It also maintains a register of fishing vessels of all types that comply with the FFA_VMS system requirements. As at June 2005, some 1060 vessels of all of all types were in "good standing" on the register. This user-funded system is now an effective monitoring and compliance tool for member countries.

h. *Convention for Conservation and Management of Highly Migratory Fish Stocks of the Western and Central Pacific Ocean (2004)*: This international agreement represents a major milestone in the development of measures to conserve and manage the major tuna fisheries in the wider region, on two counts: (1) it covers both national EEZs and adjacent high seas, both of which require coordinated action to manage sustainably the highly migratory species; and (2) the parties to it comprise both coastal states and DWFNs. The FFA's expert advice and role in enabling members to reach a consensus on vital issues to be negotiated, has played a key role in helping member countries to achieve the best feasible outcomes: both in terms of the Convention's substance, and the detailed operating rules and procedures for the Commission just created to implement it. But there remain major issues yet to be resolved by the new Commission. Only time will tell how effective it will be in benefiting member countries, and how effective the FFA will be in helping to ensure that it does so.

Regional Cooperation Features Contributing to these Results

Underlying the FFA's success in helping member countries to obtain such results are four key features of this regional cooperation:

a. *Access to relevant fisheries* **expertise**: First, regional cooperation enabled member countries to access via the FFA a *critical mass* of expertise in fisheries management and conservation mandated to serve them exclusively, as well as a capacity to coordinate or administer regional and sub-regional activities.

b. *Enhancing* **negotiating strength**: Support of the FFA's expertise has helped to redress the negotiating imbalance between coastal member countries – all but two of whom are developing island states (many being developing small-island states) – and predominately developed, wealthy DWFNs.

c. *Providing* **economies** *of scope and scale*: The concentration of resources and coordination of effort yielded obvious *economies of scale and scope* for member countries (e.g. in securing cost-effective dedicated supply of expert information-gathering, analysis, advice and support on fisheries issues). Without this regional cooperation, the overall cost of each country obtaining these services would have been much higher. Moreover, in reality the practicalities of otherwise obtaining such services may have led some member countries to go without them altogether.

d. *Reducing* **conflicts** *of interest*: Creating a regional fisheries body dedicated exclusively to the interests of coastal states in the region (i.e. excluding DWFNs unlike other regional fisheries bodies), reduces the degree of conflicting interests within the organisation. As a result the FFA seems to have been more able *internally* to resolve issues and *externally* to take a united stand on in dealing with other parties such as DWFNs.

Practical Quantification Problems

Quantifying these benefits accurately, however, is a very difficult if not impossible task because of several key problems:

a. *Joint contributions*: The FFA's contributions to particular fisheries-related outcomes usually are not the only contributing factor. But to distinguish and measure reliably one part of a joint contribution is very difficult in practice. Efforts to do so inevitably involve ball-park guesses based on judgement

b. *Counterfactual scenario*: Measuring the net benefits from FFA actions also requires identifying the most likely scenario that otherwise would have occurred in the absence of the FFA, and measuring its likely resultant net benefits. But there is no *a priori* unique *counterfactual scenario*. The estimated net benefits from this scenario must be deducted from those attributed to the FFA from the outcomes it has contributed to. Without this step, the FFA's contribution would be overstated, by overlooking the amount of net benefits that could have been expected in the absence of the FFA.

c. *Other information requirements*: Even if these two problems can be resolved, obtaining the information needed to measure reliably the *opportunity costs* of the FFA's activities - and resulting benefits (in terms of people's willingness-to-pay for them) – has also proved to be a significant further practical hurdle. While there is considerable empirical biological time-series data available about the fisheries, there is a dearth of accurate time-series information publicly available about the economics of the fisheries (including access fee payments).

For these reasons **quantitative analysis** was limited to identifying indicators of the costs and benefits of the FFA's activities, rather than: (1) attempting to value the whole stream of estimated benefits and costs from each outcome to which the FFA has contributed; (2) isolating the parts attributable solely to the FFA; and (3) deducting the whole stream of estimated benefits and costs from the various outcomes expected to have occurred under the most plausible counterfactual scenario.

Indicators of Benefits and Costs

Indicators of Net Benefits of FFA

The FFA's annual income and expenditure figures indicate the level of *opportunity cost* that the region otherwise would have had to incur to produce the outputs that have benefited member countries. **Total expenditure** on FFA inputs over the entire 25-year period to 2004 was about US$75 million, as shown in *Table 1*.

Over this period **member contributions** totalled US$14.2 million (or 18.9%) of the FFA's total income, with **other income sources** providing the remaining US$60.7 million (or 81.1%), mostly as development assistance. This latter figure may be used as a *partial, indirect indicator* of aggregate net benefits to *all member countries*. When allowance is made for development assistance provided by Australia and New Zealand, this total rises to US$64.6 million, which is a partial indicator of *benefits* to d*eveloping member countries*.

US Multilateral Treaty on Fisheries: Net Benefits

The FFA played a pivotal role in helping member countries to negotiate the US Multilateral Treaty on Fisheries that came into force in June 1988. Key benefits that the treaty has provided member countries may be summarised as follows: treaties benefits may be summarised Its

beneficial features Total payments and allowance paid annually under the treaty by member country. In particular it shows:

a. *Total payments*: Over the 16 licensing years 1988/89 to 2003/04 member countries received **total payment**s of almost US$200 million under the treaty;

b. *Vast majority of payment went to a few countries*: Five countries (FSM, Kiribati, Nauru, PNG and Tuvalu) received 79% of the total payments and allocations in these 16 years. This reflects uneven biological distribution of the catch, and thence the 85% catch-related component shown in Table 3(a).

c. *Total payments stable but shares vary*: Aggregate total payments to member countries are stable from year to year, but individual shares can vary greatly.

d. *Payments as % of catch value high and rising*: Total annual payments expressed as a percentage of total landed catch value, are relatively high and rising as catch volumes fall: from about 11% in 1988/89 licensing year, to over 20% currently.

Estimates Fisheries Contribution to GDP

Gillett and Lightfoot[1] have estimated the **contribution to GDP** made by fisheries in developing Pacific Island countries, notably each FFA member country except Australia and New Zealand. The figures for the year 1999 (essentially) range from a high of contribution 21.5% of GDP for Kiribati; to a low of 1.4% for PNG, with an average of 6.98%.[2] But again these figures cannot quantify the extent to which the FFA actions have contributed to these outcomes.

Estimated Rates of Fisheries Access Fee Payments

In aggregate, developing member countries' access fees as a percentage of catch value is understood to *average* about 6% to 7%, with variations between different fleets and the basis of setting the fee.

FFA's Contribution to above Fisheries-related Benefits

None of the foregoing quantitative indicators of benefits under the US Multilateral Fisheries Treaty; the contribution of fisheries to GDP; or fisheries access fees; can tell us the value of net benefits attributable to the actions of the FFA, including its support for various sub-regional arrangements.

In practice, we cannot measure reliably its part in either: the contribution fisheries have made to the GDP of member countries; or the total amount they receive in fisheries access fees individually or collectively. Too many other factors have also contributed to these outcomes for it to be feasible to reliably separate out the individual contributions of the FFA.

The value of the FFA's cumulative contribution to-date necessarily remains illusive and speculative. All that can prudently be said about the benefits from its actions is that, in some cases such as negotiation of the US Multilateral Fisheries Treaty, they appear to have played a major role in helping member countries secure sizeable net benefits. It may also be argued that these actions also have played a major part in ensuring that the tuna fisheries in their EEZs have remained in tact sufficiently to enable them still to *obtain* such benefits, or at least have the *option* to do so.

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[1] GILLETT, Robert and Chris Lightfoot; "*The Contribution of Fisheries to the Economies of Pacific Island Countries*"; December 2001.

[2] In the case of PNG, however, this low percentage reflects the fact that despite fishing contributing a sizeable amount in absolute terms, relative to its relatively large economy the proportionate contribution is small.

Conclusions

In 1997, members of the South Pacific Forum decided to *cooperate* to create a regional fisheries agency, the South Pacific Forum Fisheries Agency (FFA) to serve them. Their foresight has been repaid many-fold. Over the 25 years since coming into effect in 1979, the FFA has played a pivotal role in *helping* member countries to secure ongoing economic value from the fisheries in their respective EEZs.

Underlying the FFA's success in helping member countries to obtain such results are four key features of this regional cooperation. First, pooling scare resources and coordinating their use has yielded obvious *economies of scale and scope* for member countries. This has enabled them to obtain a cost-effective dedicated supply of expertise, information, analysis, advice and support for fisheries issues which for many otherwise may not have been available. Second, FFA's expert support has helped to member countries (all but two of whom are developing island states) to redress their negotiating imbalance vis-à-vis largely developed, wealthy DWFNs. Finally, creating a regional body focused exclusively on the interests of coastal states in the region has reduced the degree of internal conflicts of interests within the organisation. As a result the FFA seems to have been more able *internally* to resolve issues and *externally* to take a united stand on in dealing with other parties such as DWFNs.

But, of course some conflicts of interest inevitably do arise between member countries for a variety of normal reasons. Wide differences in the shares of costs and benefits from regional or sub-regional cooperation typically cause conflict between the parties and ultimately can undermine its likelihood of success. The more each of the parties to an actual or potential regional cooperative activity share *both* common goals *and* a similar level of net benefits, the more likely the cooperation is likely to succeed.

Finally, despite the catalogue of qualitative benefits arising directly or indirectly from the FFA's activities, it is not feasible to quantify reliably the value of net benefits attributable to its actions. Too many other factors have also contributed to these outcomes for it to be feasible to reliably separate out the individual contributions of the FFA. Moreover, it is not feasible to quantify reliable the net benefits that otherwise are likely to have arisen under the most counterfactual scenario if the FFA had not been created. All that can prudently be said is that its actions appear to have played a major role in helping member countries secure sizeable net benefits from their fisheries.

I. INTRODUCTION

This paper reviews the role of the South Pacific Forum Fisheries Agency (FFA) since its creation in August 1979, and evaluates its impact on the South Pacific Forum (Forum) member states. While the focus of the review is mainly retrospective, it also considers the prospective impact of the FFA's action to date and ongoing role.

The review comprises both a qualitative evaluation of its actions and their probable impacts, and a quantitative evaluation to the extent feasible. These evaluations are based on analysis of the findings of existing research studies and other relevant documents by fisheries experts. The review is not a formal cost-benefit analysis (CBA). Such an exercise was impracticable due to: (1) major information limitations; and (2) the difficulty of reliably isolating and quantifying the FFA's contribution to fisheries outcomes, allowing for what otherwise was likely to have occurred in its absence.

An important goal of this summary review is to show the potential *net benefits* that may be achieved from regional and sub-regional cooperation amongst Pacific Island Forum Member states, and what *lessons* this particular ongoing regional activity has for possible new regional or sub-regional cooperation interventions.

The remainder of this review is structured as follows. **Section 2** outlines and explains the ***basic facts*** about the FFA and its role since 1979 - including its structure, governance, membership, goals and resourcing.

Section 3 assesses the FFA's ***likely contribution*** to actual fisheries outcomes for Pacific Forum Member coastal states over this period. This section also briefly assesses the FFA's likely *future* impact, given developments already under way.[3] discusses how the foregoing outcomes might have differed, and why, if the FFA had not been created. Resolving what this "*counterfactual scenario*" most likely would have been is necessarily conjectural and required informed judgement. With a robust counterfactual scenario identified, the FFA's contribution to actual outcomes is assessed as the difference between what actually happened with the FFA and what is assumed to be most likely to have happened in its absence.

Section 4 summarises the ***findings*** of the evaluation in the previous section, including vital lessons as to what factors are likely to be critical for regional or sub-regional cooperation activities to be successful.

Sections 5 comprises a ***bibliography*** of reports and documents that were reviewed in preparing this evaluation.

Appendix 1 comprises a tabular time profile of ***key events*** in the life of the South Pacific Forum Fisheries Agency to help readers appreciate the contribution made by the FFA's activities and their context.

[3] For example, FFA is involved in work under way to bring into operation the *Western and Central Pacific Fisheries Commission* mandated by the Convention for Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean that came into force on 19 June 2004.

II. BASIC FACTS ABOUT ROLE OF FFA

A. Creation of FFA

In August 1979 the member countries of the South Pacific Forum created the FFA to help them manage and develop their living marine resources, notably the highly migratory tuna species in the western and central Pacific Ocean. Its creation was the Forum's direct response to its recognition two years earlier of the:

a. Dangers of fisheries exploitation in the region given "the continued absence of a comprehensive international convention on the law of the sea and … the action taken by a large number of countries including distant water fishing countries exploiting the valuable highly migratory species in the region;"

b. Need for such an agency to facilitate regional action by enabling and helping member countries to "move quickly to establish fishing or exclusive economic zones and … take steps to coordinate their policies and activities if they are to secure more than a very small part of the benefits from their resources for their peoples;" and

c. Importance of a unified approach whereby member countries "coordinate and harmonize their policies on the law of the sea so as to ensure the maximum benefits for their peoples and for the region as a whole and, specifically, … harmonize fisheries policies in the region and … adopt a coordinated approach in their negotiations with distant water fishing countries." [4]

B. Functions of FFA

The FFA's main functions – which relate to the parties to the FFA convention - are to:

a. "Collect, analyse, evaluate and disseminate … relevant *statistical and biological information* with respect to the living marine resources of the region and in particular the highly migratory species;

b. "Collect and disseminate … relevant *information* concerning *management procedures*, *legislation* and *agreements* adopted by other countries both within and beyond the region;

c. "Collect and disseminate … relevant *information* on *prices*, *shipping*, *processing* and *marketing* of fish and fish products;

d. "Provide, on request, … *technical advice* and *information*, *assistanc*e in the development of fisheries policies and negotiations, … issue of licences, … collection of fees or in matters pertaining to surveillance and enforcement;

e. "Seek to establish *working arrangements with relevant regional and international organisations*, particularly the South Pacific Commission; and

f. "Undertake such *other functions* as the Committee may decide."[5]

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[4] Eighth South Pacific Forum Resolution: "*Declaration on Law of the Sea and a Regional Fisheries Agency*; 31 Aug 1977.

[5] *South Pacific Forum Fisheries Agency Convention*, August 1977.

C. Structure, Governance, Membership, Goals and Resourcing of FFA

1. Organisational Structure

The FFA comprises the *Forum Fisheries* ***Committee*** (FFC) and a ***Secretariat*** based in Honiara, Solomon Islands. Each member country which is a party to the convention is entitled to one representative on it.

The role of the Committee is to oversee the Secretariat's work, set its strategic direction, and approve its budget and work programme. It is also charged with promoting "intra-regional co-ordination and co-operation" in various fields including: (1) "*harmonisation of policies* with respect to fisheries management"; and (2) "*cooperation in respect of relations* with distant water fishing countries." The Secretariat's operations are managed by a Director who is appointed by and reports to the FFC.

The Committee's decisions are usually made by consensus. But where this is not possible each member shall have one vote, and decisions shall be taken by a two-thirds majority of the members present and voting.

2. Membership of the FFA

Membership of the FFA is open to: (a) *members* of the South Pacific Forum; and (b) *other states or territories in the region* on the recommendation of the Committee and with the approval of the Forum!

3. Strategic Goals for FFA's role

The FFA's current strategy and work plan are expressed in the following vision and mission statements:

a. *Vision* that South Pacific Forum member countries (member countries) "*will enjoy the highest level of economic and social benefits that is compatible with sustainable use of … [the] … resources*;" and a

b. *Mission*, "*To enable member countries to manage, conserve and use the tuna resources in their Exclusive Economic Zones and beyond, through enhancing national capacity and strengthening regional solidarity*."[6]

4. Resourcing and Capacity of FFA

The FFA's Secretariat has a professional and support staff establishment of about 50 people, and an annual budget of about US$4 million to supports its overall activities, including the work of the Secretariat.

Funding for the FFA's activities comes from:

a. *Members' contributions* which are prescribed by a formula set by the Committee, which has typically provided about 20% of total funding;

b. *Donors support* on a bilateral basis and from multilateral agencies, which has provided the majority of the financing; and

c. *Fees charged by FFA* on a partial cost-recovery basis [e.g. Vessel Monitoring System (VMS), US Multilateral Treaty observer programme, vessel registration] which has provided a very small proportion of total funds.

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[6] FFA Corporate Plan:

III. FFA'S CONTRIBUTION TO MEMBER COUNTRIES IN THE REGION

A. Overview of How FFA Benefits its Members

The FFA has benefited member countries by providing them with an ongoing means to enable them:

a. To develop informed **strategies** to achieve their common goals for fisheries in the region; and

b. To facilitate and coordinate **action** by them to implement such strategies.

Its creation has led to the concentration within it of a *critical mass of expertise* in many aspects of fisheries management and conservation, as well as effective coordination of their use. This concentration of resources and coordination of effort has yielded obvious *economies of scale and scope* in terms of securing for member countries a cost-effective dedicated supply of expert information-gathering, analysis, advice and support on fisheries issues. If member countries had not cooperated to create the FFA, the cost to each country of individually obtaining these services would have been much higher. Also, the practicalities of otherwise obtaining such services may have led some member countries to go without them. The following subsections outline some of the FFA's key outputs and how they have assisted member countries.

1. Help to Secure Suitable Regulation of Fisheries

The FFA has helped member countries collectively to develop informed regulatory strategies for their fisheries by *compiling*, *evaluating* and *disseminating* relevant **information** to members about: (1) the region's fisheries; (2) existing management practices and their likely impacts on the sustainability of fish stocks; and (3) other management options, their impacts, precedents elsewhere and impacts. Judging from the fisheries regulatory regimes that are *now* in place and operating in their EEZs, this aspect of the FFA's role seems to have been successful. Today's regional and sub-regional regulatory regimes have evolved in stages over the last 20 plus years - with considerable inputs from FFA - as member countries' fisheries expertise, information technology advances and collective vision have permitted.

But for member countries to maintain and enhance the level benefits they can derive from their respective fisheries on a sustainable basis, they also need to ensure that that distant water fishing nations' (DWFN) fishers have powerful economic incentives to harvest fish in their EEZs in ways that are both *biologically and commercially sustainable*. It is unrealistic for member country to expect the monitoring and enforcement functions of their fisheries regulations *alone* to encourage biologically and economically sustainable fishing in their EEZs. This is because fisheries access licenses - with the set of property rights they provide to fishers – greatly influence the fishing behaviour of the license holders.[7] Member countries' apparent primary focus on regulatory means to achieve their fisheries-management and -conservation goals, raises doubts about the extent to which they accept the need for powerful economic incentives that complement regulatory measures rather than counteract or undermine them.

2. Help to Assess Economics of Fisheries

The FFA also *compiles* and *disseminates* relevant **information** with a focus primarily on the ***economic or commercial*** aspects of the fisheries, including information on fish prices, catch volumes, transport costs, processing and marketing of fish and fish products. But such information unfortunately includes very little information about the costs and profitability of the

[7] These issues are discussed in some detail, for example, in a recent ADB-sponsored discussion paper, "*On or Beyond the Horizon: A Discussion Paper on Options for Improving Economic Outcomes from the Western and Central Pacific Tuna Fishery*"; April 2005.

fishing operations of various DWFNs' in the region, or in other regions[8]. This is a significant, but understandable, gap in the information available to member countries:

a. *Significance of information gap*: If reliable such information were available to the member countries is would greatly help them to assess both:
   - *Ability to pay*: What level of access fees could t DWFN fleets *afford to pay* for access to particular fisheries within individual members' respective EEZs will depend on its expected costs and profitability of operating there; and
   - *Willingness to pay*: Whether a particular DWFN fleet is willing to pay fully what it could afford to pay is likely to depend critically on its expected costs and profitability of operating in the next best alternative fishing grounds.

b. *Understandable unavailability of information*: Such information's commercial sensitivity not surprisingly causes fleets to strongly guard its confidentiality, and be unwilling to share it with the various coastal states with whom they seek to negotiate access rights to fish.

If this information were available to FFA member countries it would potentially strengthen their position in negotiating fisheries access agreements, or in assessing the economic feasibility of individual member countries engaging directly in a particular fishery within their own EEZs. But to date the economic information that the FFA has been able to supply is of *relatively limited* help in shedding light on either:

a. The strength of an individual member country's negotiating position vis-à-vis DWFNs seeking fisheries access agreements; or

b. The likely economic viability of a member country engaging directly in say commercial fishing within its EEZ and/or in fish processing as a means to extract more value from its fisheries resource.

3. Help to Secure Economic Benefits from Fisheries

For many years **advising** *individual* member countries was a key FFA role, notably to help them:

a. To formulate suitable national **policies** for managing and conserving the fisheries in their EEZs;

b. To formulate and negotiate suitable **access licences** to fish in their EEZs; and so

c. To secure recognition of **sovereign right** to EEZ resources, even if de facto.

Its advice has covered various aspects of these access licenses, including: fees and other terms and conditions of access.[9] Since the mid-1990s the FFA has ceased advising individual member countries and focused its advisory effort on key issues vital to the region as a whole or, at least to sub-regions.

Bilateral fishery access agreements have been and remain the most common form of licensing arrangement. Bilateral access licence agreements typically: (1) run for a 1-year *term*; (2) are rolled over annually; (3) give licence holders an *option* to operate a maximum number of fishing vessels in the fishery during this term; (4) require licence holders to pay an access fee of about 5% of the reported-catch value, and (5) to comply with specified fisheries management terms

[8] I.e. similar information on operating economics of each fleet in its next best fisheries options.

[9] For example the minimum terms and conditions of sub-regional arrangements agreed to by a sub-set of member countries.

and conditions. The licences *confer* ***no rights*** to harvest stated maximum **total allowable catch** volumes of particular fish species, and *impose* ***no limits*** on catch volumes.

Charging **access fees** under a bilateral access agreement has been the main focus of some member countries in seeking to secure a share of benefits from the fisheries in their respective EEZs.[10] For these countries fisheries-access fees have provided a major - but highly variable and uncertain - source of government revenue. Apart from such fees, their other sources of fisheries-related government revenue typically have been small or non-existent. In some cases, governments have incurred sizeable losses through their involvement in fishing ventures that were not commercially viable.

Securing fisheries **access terms and conditions** that entail significant domestic economic activity related directly to the licensed DWFN fishing has been the focus of some other member countries.[11] Such activities include basing a DWFN fishing fleet in the licensing country, transhipping fish catches there, employing the country's nationals as crew on DWFN fishing vessels, and supplying or establishing fish processing plants there. If a country can attract such fishing-related domestic activities, it potentially can obtain benefits that are a significant multiple of the catch value (i.e. compared with high-end access-fee rates typically paid by DWFNs). Such countries, therefore, have less need to rely on access fee rates which, as a result, may be relatively lower than for other countries that primarily rely on them.

It is difficult to assess just how effective such individually focused help has been in achieving outcomes that are in the best interests of these countries. This is because other factors have also affected the policies adopted and licences agreed, as well as the outcomes that actually occurred under these policies and license agreements. For example, the *secrecy* and *lack of transparency* that typically applies to fisheries access license agreements - and the processes leading up to them – makes it very difficult to see exactly what has been agreed to and why. This typical reality also enhances opportunities for unscrupulous corrupt behaviour for personal gain at the expense of public benefit. Isolating the impact of individual contributors is very difficult.

But the FFA's role in securing multilateral fisheries arrangements of benefit to the region seems clearer cut. This role is discussed later in this section in relation to both the longstanding *US Multilateral Treaty on Fisheries*, and the recent "*Convention for the Conservation and Management of Highly Migratory Fish Stocks of the Western and Central Pacific Ocean*."

More generally, however, all such access agreements (bilateral or multilateral) that do not allocate fishers **rights** to either a ***total allowable catch*** or to exert a ***total allowable fishing effort*** have a downside. They tend to undermine other fisheries management efforts to achieve a biologically and economically sustainable fishery. This is because the absence of a catch or effort limit encourages access licensees to compete with each other to catch as much of the common fish stocks as quickly as possible before the fish move on or are caught by another licensee. This "race to fish" also encourages *over-capitalisation* in terms of fishing vessel numbers and effort. This situation is problematic because it tends:

a. To undermine the profitability of fishing;

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[10] For example, FSM, Kiribati, Nauru and Tuvalu have focused on fisheries access fees as their primarily means of securing benefits from their EEZs.

[11] For example, Cook Islands, Fiji Islands, Niue, Tonga and Western Samoa have focused on fisheries-access terms and conditions as their primarily means of securing benefits from their EEZs.

b. To add to its riskiness;

c. To reduce generally the fishers' ability to pay access fees, and

d. To do nothing to encourage fishers to operate consistently with ensuring the biological and economic sustainability of the fishery.

Practical constraints on member countries' ability to adopt an alternative fisheries-access system that could alleviate such problems have been at least partly responsible to date for preventing the adoption of such alternatives in the region. Another factor is the apparent resistance by at least some major DWFNs to such alternatives.[12]

4. Forum to Discuss Common Issues and Foster Unified Action

Another valuable role of the FFA is providing a **forum** for frank, informed discussion about fisheries issues, between countries with essentially *similar interests* in deriving a "fair" economic return from the fisheries resources in their respective EEZs. The Secretariat typically assesses relevant issues and possible options for resolving them, and advises members of its findings. Such **advice** helps to enable member countries:

a. *To hold well-informed **discussions*** on key fisheries *issues* and how best to resolve them; and, thereby

b. *To make well-informed **decisions*** on strategies and specific action to resolve the issues in an acceptable way for member countries collectively.

A particular strength of the FFA is that its membership is the **bond** created by shared interests that helps member countries to act in unity if needed. For example, each member country shares a primary ***common goal*** of *securing a sustainable economic return* from their sovereign right to utilise fisheries resources in their own EEZ.

The strength of this bond exists in no small measure because FFA membership is strictly limited to states *in the region*, most of which are relatively small coastal states or territories! DWFNs who fish in the region are excluded from joining the FFA. Their exclusion enhances the FFA's prospects of achieving ***collective unity***, as it avoids a higher degree of conflicting goals that experience elsewhere indicates would otherwise have arisen in the FFA (i.e. between the region's coastal states and DWFNs).[13] The enhanced prospects of FFA member countries being able to act in solidarity in negotiations with DWFNs on regional fisheries issues, has the potential to offset at least partly the individually weaker positions of countries in the region vis-à-vis the economically more developed and powerful DWFNs.[14]

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[12] Such DWFN resistance has been apparent with efforts to resolve the form of fishing restraints - and the basis for their allocation – to be applied to the entire WCPO tuna fishery by the newly established *Commission for the Conservation and Management of highly Migratory Fish Stocks in the Western and Central Pacific Ocean*.

[13] Of course, this does not mean that existing FFA member countries do not also have divergent and sometimes conflicting national goals which they are reluctant to trade-off to take a unified approach on particular issues to achieve expected significant benefits for the region.

[14] But FFA member countries' solidarity in seeking to gain a larger share of the profits from the region's fisheries operations does not reduce their need to be aware of: (1) the likely impact on the economic viability of various fisheries operations; or (2) the advantages of adopting a cooperative approach to dealing risks of .

The FFC's role to **promote** intra-regional ***harmonisation*** of fisheries management policies - along with *cooperation* in surveillance and enforcement activities, and in relations with DWFNs - further helps to foster unity amongst FFA member countries.

This relatively high degree of collective unity amongst FFA member countries contrasts with the situation of most other regional fisheries bodies whose membership includes both coastal (or marine) states *and* DWFNs. For example, other regional fisheries bodies - like the Indian Ocean Tuna Commission (IOTC), International Commission for the Conservation of Atlantic Tuna (ICCAT) and the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) – all have memberships that comprise a mixture of coastal states and DWFNs (or commercial fishing states).

5. Help to Develop and Coordinate Fisheries Monitoring and Surveillance

The FFA has long played a pivotal role in developing and coordinating measures to encourage DWFNS to comply with their obligations under the applicable fisheries management rules and access agreements when operating in member countries' EEZs. For example, the FFA:

a. *Spearheaded **development** fisheries management systems* notably: the foreign fishing *vessel registration* and later *vessel monitoring systems (VMS)* used in member countries' EEZs;

b. *Maintains several fisheries-management related **databases*** for member countries to help them with their monitoring, control and surveillance, including:
   - *Regional Register of Foreign Fishing Vessels*,
   - *Fisheries Agreements and Licensing*,
   - *FFA_VMS*,
   - *Violations and Prosecutions* database; and
   - *Fisheries Legislation* of all member countries.

c. *Acts as a **coordination** point for aerial surveillance* by the air forces of Australia, France and New Zealand, and the US Coast Guard.

6. Help to Train Staff in Various Aspects of Fisheries Management

Since its inception the FFA has provided training to member country staff in a variety of fisheries management areas. For example, it conducts in-country workshops on topical fisheries-management issues, which have included workshops on: the law of the sea and international fisheries law; and training for member-country observers on foreign fishing vessels licensed to operate in their EEZs in the region.

7. Attracting and Channelling Donor Support for Fisheries in the Region

The FFA has served as a useful focal point for individual donor countries and multilateral donor organisations to channel assistance cost-effectively to fisheries activities in the region.

B. Specific Results Achieved Largely Due to FFA Action

The FFA has been pivotal in achieving a number of significant **regional and sub-regional fisheries arrangements** whose outcomes benefit – or are expected to benefit - all members to some extent. The following sub-sections briefly review each of these arrangements which are listed chronologically below:

a. Nauru Agreement (1982) on uniform minimum terms and conditions of access;

b. Regional Register of Foreign Fishing Vessels (1984);

c. US Multilateral Treaty on Fisheries (1987);

d. Niue Treaty on Cooperation in Fisheries Surveillance & Law Enforcement (1992);

e. Palau Arrangement (1993);

f. FSM Arrangement for Regional Fisheries Access (1994);

g. FFA Vessel Monitoring System; and

h. Convention for Conservation and Management of Highly Migratory Fish Stocks of the Western and Central Pacific Ocean (2004).

1. Nauru Agreement (1982)

In 1982 a sub-group of 7 member countries (FSM, Kiribati, Marshall Islands, Nauru, Palau, PNG and Tuvalu) agreed to set *harmonised* **minimum terms and conditions** that foreign fishing vessels *should* meet to obtain access licenses to fish for common fish stocks in their respective Fishery Zones. These minimum terms and conditions covered aspects such as: licensing procedures; rights of authorised law enforcement officers; requirements for reporting catch and maintaining logbooks; reporting requirements and procedures for entering and leaving zones, and for identifying vessels of the 7 member country parties to the agreement.

The FFA assisted this sub-regional group to develop the Nauru Agreement[15] and provides ongoing administrative support to enable them to implement the agreement, monitor its effectiveness and develop and administer supplementary measures from time to time. The Palau Arrangement and FSM Arrangement are two such cases.

By adopting a *uniform* minimum set of access standards the parties aimed to strengthen their positions to negotiate effective bilateral fisheries access agreements (e.g. agreements that are more likely to enhance voluntary compliance by DWFNs). But for many years some major DWFNs strongly resisted accepting these minimum terms and conditions, despite strenuous efforts by some parties to the agreement. Also some other parties to it apparently were reluctant to insist on DWFNs adopting the conditions. But eventually these conditions have become generally accepted.

2. Regional Register of Foreign Fishing Vessels (1984, 1990 and 1993)

In 1984 the FFA created a centralised vessel-reporting system to register foreign fishing vessels licensed to fish in the region. Initially this register was limited to data supplied by PNG and the Solomon Islands on vessels licensed to fish in their EEZs. But over the next 5 or so years it grew into a full **regional register** covering all foreign fishing vessels licensed to fish the EEZs of all member countries.

In 1990, the FFA introduced revised procedures for foreign fleets to provide vessel information for inclusion in the regional register, but unfortunately with a relatively low initial compliance rate. Since then the register's coverage has greatly improved with vessel operators increased compliance with registration requirements. Shortly after the FFA further revised these vessel registration arrangements in late 1993, all fleets had complied with the new arrangements which included payment of an annual administration fee of US$100 per vessel to cover the costs of maintaining the register.

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[15] Its full title is, "*Nauru Agreement Concerning Cooperation in the Management of Fisheries of Common Interest.*"

The register has proved to be an effective **enforcement tool** via member countries' ***solidarity*** in insisting that foreign fishing vessels must be in "*good standing*" on the register as a minimum condition of being licensed to fish in their respective EEZs:

a. *Withdrawal of "good standing"*: Any vessel that fails to comply with its access-agreement terms and conditions may have its "good standing" status in the register withdrawn until it complies fully. This effective licensing "ban" remains with the vessel even if it is sold or renamed.

b. *Information to help assess compliance*: Vessel information from the register can be used together with other information to help assess compliance breaches.

In both these ways the regional register of vessels provides member countries with some ***leverage*** to help enforce compliance with the conditions.

3. US Multilateral Treaty on Fisheries (1987, 1993 and 2003)

Over the course of some three years the FFA negotiated a multilateral fisheries treaty[16] between the United States and all FFA member countries. This treaty sets the terms and conditions of access for the US purse seine fleet to fish in member countries' EEZs. Its notable features are:

a. *Guaranteed, sizeable annual payments* to member countries in total for a number of years:
   - Initially US$12 million per annum for 5 years from June 1988,
   - Then US$18 million per annum for a further 10 years; and
   - Now US$21 million for a further 10 years.

b. *Equal minimum annual payments to each member country, regardless of the volume of fish caught*, being 15% of the balance of the above annual totals after deducting FFA's costs administering the treaty plus a sum exceeding US$1 million set aside to fund fisheries development projects for member countries.

c. *Catch-dependent payments to individual member countries* of the remaining 85% of that same annual balance, allocated in proportion to the catch in each member's EEZ as a share of the total catch in all these EEZs.

d. *A US Government undertaking to enforce the terms and conditions of the treaty* including, for example, good fishing practices.

e. *Provision for member-state observers on US vessels* to monitor compliance with the treaty; and

f. *De facto recognition of coastal states sovereign rights* over the resources in their respective EEZs.

Member countries' shares of total payments under this treaty largely reflect the natural distribution of tuna stocks in the region: the vast majority of these stocks are located in countries with EEZs situated mainly between latitudes 10^0N and 10^0S. As a result, five such countries (FSM, Kiribati, Nauru, PNG and Tuvalu) have received about 92% of the US$200 million total catch-related fees paid in the first 16 years of the treaty's operations.[17] But these countries

[16] Its full title is, "*Treaty on Fisheries between the Governments of Certain Pacific Island States and the Government of the United States.*"

[17] Table 1(a)-(d) in Appendix 2, details all payments and/or allocations made under the US Multilateral Fisheries Treaty in the first 16 licensing periods, from 1988/89 to 2003/04.

received only 79% of the US$276 million total sums paid, or allocated, to members under the treaty.[18] In other words, other members receive 20% of this total.

These features of the treaty, and resultant payments, have benefited member countries in several vital ways, notably by providing:

a. *A degree of income security for all member countries* by undertaking to pay a fixed minimum sum to each member countries, regardless of actual tuna catch volumes in their respective EEZs.

b. *Medium-term certainty about the basis of fee payments* to member countries for tuna caught in their respective EEZs.

c. *Flag-country acceptance of a duty to ensure compliance* with all of the treaty's terms and conditions, plus action effectively implementing this duty.

d. *A negotiating precedent* for use to encourage other DWFNs to agree to similar multilateral fisheries agreements. But despite this precedent - and concerted efforts to negotiate broadly similar multilateral fisheries arrangements with other major DWFNs - the FFA has yet to succeed in doing so.

4. Niue Treaty on Cooperation in Fisheries Surveillance & Law Enforcement (1992)

The Niue Treaty - which came into force in May 1993 - provides a **framework** for regional cooperation in fisheries surveillance and law enforcement whereby the parties agree to cooperate in matters that include:

a. *Implementing harmonised minimum terms and conditions of fisheries access* including, for example, *ensuring* that:
   - Only vessels of "good standing" in the Regional Register of Foreign Fishing Vessels are licensed to fish in their EEZs;
   - Vessels licensed report as required by in the standard forms of reporting; and
   - Flag states take responsibility for compliance by vessels under their flag.

b. *Exchanging relevant information* via the FFA (to the extent legally possible) on such issues as:
   - The location and movement of foreign fishing vessels;
   - Foreign fishing vessel licensing; and
   - Fisheries surveillance and law enforcement activities.

c. *Fisheries surveillance and law enforcement*: The treaty provides for subsidiary agreements to extend cross-border cooperation in surveillance, and seizure or other enforcement activities.

d. *Prosecutions*: The treaty also provides for subsidiary agreements or other means to for cooperation in prosecutions (e.g. extradition of persons charged with breaching fisheries laws).

This treaty further reinforces member countries' ***resolve*** and ***ability*** *to monitor and enforce* foreign-fishing vessel compliance with both the fisheries management laws and regulations -

[18] In addition to catch-dependent payments, this cumulative total includes (1) the "15% equal non-catch related payments," and (2) "development assistance fund" payments and/or allocations.

and terms and conditions of their fishing access licenses – applying to their respective EEZs. The treaty facilitates the option of **sharing** surveillance assets, with the potential to enable *more cost-effective* surveillance and enforcement of fisheries law in the region. The actual costs to the parties to it (Palau, Marshall Islands, FSM and the Australian Defence Force) are dependent on surveillance patrol hours spent under the treaty. [19]

5. Palau Arrangement (1993, 1997 and 2003)

In 1993, the parties to the sub-regional Nauru Agreement (1982) signed the *Palau Arrangement for the Management of the Purse Seine Fishery in the Western and Central Pacific* to control the increasing number of purse seine vessels operating in the region. The key features of this arrangement, which came into force in late 1995, are that it:

a. *Limits total fishing vessel numbers*: The arrangement set a **limit** on the *number* of purse seine fishing vessels that the parties may license in total for a licensing period. This limit was set at the then *existing* total number of such vessels.

b. *Allocates the total vessel-number limit by fleet*: The arrangement also allocated ***by fleet*** the limited number of fishing vessels that the parties may license in total in licensing period; and

c. *Permits temporary reallocation of the total vessel-number limit*: Where the number of vessels actually operating in the sub-region is less than the total limit, the arrangement permits the parties to license extra vessels on a temporary basis to enable the total quota of vessels to operate.

Although the arrangement succeeded quite well over a number of years in limiting vessel numbers in the sub-regional purse seine fishery, it did entail some **problems**:[20]

a. *Undue rigidity in allocating vessel limits*: Setting vessel limits *by specific fleets* proved to be too rigid to cope well with: (1) unforeseen changes in the levels of operations of the various fleets in a licensing period; and (2) differences between the parties' levels of fisheries development and the extent of their reliance on access license revenue; and

b. *Need for a more effective way to limit fish mortality*: The parties began to realise the need for a more effective way to limit fishing mortality, especially in view of doubts about the sustainability of the present level of fishing for bigeye and yellowfin tuna. These doubts reflected concerns raised by the FFA's study of the impact of expanded purse-seine fishing effort in the Western Pacific, which was an important focus of its work.

These concerns eventually led to the arrangement being revised in 2003.

In 1997, meanwhile, the Palau Arrangement parties ***reduced by 10%*** the **limit** on the total number of DWFN vessels that the parties were prepared to license in their respective EEZs. Their aim was to foster locally-based fishery development: by encouraging DWFNs to set up locally-based operations to utilise the 10% of the limit set aside exclusively for them.

In 2003, the parties decided to replace the limits on vessel numbers by fleet with limits on *purse seine fishing days by EEZ* of each party. To implement this decision, the revised agreement introduced a Vessel Day Scheme with the aim of enhancing the economic and biological sustainability of the western and central Pacific purse seine fishery by:

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[19] The Australian Defence Force is involved in the treaty via the Pacific Patrol Boat Programme.

[20] OPNAI, Joel L.; "*Summary of the Progress of the Work on the Review of the Palau Arrangement*", Working Paper to Standing Committee on Tuna and Billfish; July 2002;

a. Controlling the total **level of fishing effort** by purse seine vessels to allow no more than what is consistent with the *sustainability* of the resource; and

b. Increasing *economic benefits* to resource-owning countries and *returns* to the owners of participating vessels.

It is too early to judge the actual effectiveness of this revision, although it seems to address the key concerns about the previous vessel-number limit regime.

6. FSM Arrangement for Regional Fisheries Access (1994)

In late 1994, the parties to the Nauru Agreement (1982) created the *FSM Arrangement for Regional Fisheries Access* as a supplementary means to help them to achieve the goals of their original agreement. The key **aims** of the new arrangement included:

a. *More local participation in their fisheries*: "To promote greater participation by nationals of the Parties in fisheries and assist in the development of national fisheries industries of the Parties;"

b. *No less favourable access conditions for vessels of the parties*: "To establish a licensing regime under which the fishing vessels of the Parties may gain access to the waters within the Arrangement Area on terms and conditions no less favourable than those granted by the Parties to foreign fishing vessels under bilateral and multilateral access arrangements;"

c. *Local vessels must be able yield economic benefits to the parties*: "To establish and enforce agreed criteria to ensure that only those fishing operations which are capable of providing genuine and quantifiable economic benefits to the Parties, are eligible for licenses pursuant to this Arrangement;" and

d. *Local-vessel access conditions must be consistent with Palau Arrangement*: "To allow access to the exclusive economic and fisheries zones of the Parties by *purse seine fishing vessels* on terms and conditions which are consistent with the provisions of the Palau Arrangement for the Management of the Western Pacific Purse Seine Fishery."

It is unclear how effective this arrangement - along with the Palau Arrangement – has been in encouraging locally based purse seine fishing enterprises in the sub-region. But as noted by Levi (in citing Cartwright):[21]

> *"A number of island countries have ventured directly into the harvesting sector, acquiring fishing vessels, often with 100% equity, in an understandable desire to obtain greater benefit from their resources. Almost all these ventures have been unsuccessful. Extensive government involvement in what is a highly technical, and at times volatile, industry has been identified as a key factor in the failure of these ventures."*

Some fundamental economic factors presumably have been major contributors to the general lack of success of locally-owned Pacific Island fishing ventures. At issue is whether relatively small-scale, locally-based fishing operations have a *comparative advantage* that enables them to compete with other far larger fishing operations: especially if they have well-developed market outlets.

[21] LEVI, Noel; "*Tuna Resource in the Pacific: Are Members Reaping the Full Benefits?*" discussion draft, Jan 2003.

In the case of purse seine fishing in particular – operating profitably is not easy even for larger, developed DWFN operations - as vessel and related cannery profits seem to be under pressure globally, as noted by Santen and Muller.[22] They see this pressure resulting from two parallel developments: First, "relentless expansion of catches and of canned tuna production have reduced average raw material prices (in real, inflation adjusted terms) over the past 20 years by some 50%." Secondly, "canned tuna prices have also been affected by the long term declining trend in the prices of the closest competitor foods, chicken and pork." Despite such pressure, some DWFNs are still investing in new fishing vessels to fish in the region. This suggests that the investors concerned assess the fishery as being profitable for modern fishing vessels, presumably because they are more efficient to operate and, therefore, do not require such a high catch price to break even.

Regardless of how successful the FSM or Palau Arrangements have been in achieving their specific goals, such sub-regional arrangements (along with broader cooperative action by member countries) arguably have *benefited them all* by showing their ability to act in solidarity as a region in dealing with DWFNs. But this benefit has been undermined somewhat by the ongoing tendency for member countries to prefer to negotiate *bilateral arrangements* for DWFN access to fish in their EEZs.

7. FFA Vessel Monitoring System (1998)

During 1995 the FFA began a major project to research, design and implement a satellite-based, real-time vessel monitoring system (VMS). The aim was to ensure that member countries would have timely access to up-to-date, reliable information about fishing activity within their EEZs. At that stage, the FFA and its member countries had to rely on: (1) information in the reports of fisheries observers, which covered only a small portion of licensed DWFN fleets; and (2) occasional aerial surveillance reports, which were close to giving real-time vessel-position information.

In late 1998, the VMS system became operational and is managed by the FFA. The system potentially enables member countries to track vessels active within their EEZs on a real-time basis over large tracts of ocean. In particular, it enables member countries to download on demand - from the FFA hub-site – the latest data on the position, speed and direction of vessels inside their respective EEZs. The availability of such information greatly enhances member countries' ability to monitor and enforce compliance with their fisheries access conditions.

But to realise this potential requires two key conditions to be met

a. *Installation and activation of ALCs on vessels*: Operators of DWFN vessels need to have installed and activated a suitable (FFA-approved) type of Automatic Location Communicator (ALC) to keep the FFA's central hub-site informed via satellite of vessel position data.

b. *Passage of empowering legislation by member countries*: Member countries need to enact legislation empowering them to require fishing vessels to fit ALC devices and also to keep them activated while within their respective EEZs as a condition of being licensed to fish there.

[22] Van Santen, Gert, and Philipp Muller; "*Working Apart or Together: The Case for a Common Approach to Management of Tuna Resources in Exclusive Economic Zones of Pacific Island Countries*", March 2000. [See p.19ff.]

The FFA maintains a register of fishing vessels of all types that have installed ALC authorised devices and are complying with the FFA_VMS system requirements, and/or agreed to comply. Member countries that have adopted this system require that foreign fishing vessel must be registered in the FFA_VMS Register and have "good standing" in it. The system is funded by an annual registration fee per vessel payable by vessel operators.

The FFA_VMS system's effectiveness as a monitoring and compliance tool was compromised in the initial years, due to the small number of vessels on the register. This reflected initially strong opposition to it by some major DWFNs. Since then, however, the number of vessels of all types in "good standing" on the register has grown substantially (e.g. from only two in the first year of operation to 671 in 2001, and about 1060 in June 2004).

8. Convention for the Conservation and Management of Highly Migratory Fish Stocks of the Western and Central Pacific Ocean (2003)

All the preceding cooperative actions regarding fisheries, that the FFA has been involved in developing and/or implementing, have covered fisheries *within EEZs* of member countries. But as explained by Van Santen and Muller[23]:

> *"Concerns about global overfishing trends, the threatened status of one specific tuna stock, and local declines of inshore tuna catches following heavy foreign fishing have created demands for better management of these stocks* ***in the high seas.*** *The WCPO is the only remaining high seas ocean area where no comprehensive form of tuna management exists."*

In December 1994, against this background and after the UN Convention on the Law of the Sea (1982) finally came into force in November 1994, the FFA convened an initial *multilateral high-level conference* (MHLC1) on the South Pacific tuna fisheries. This initiative brought together both key sets of players in the regions fisheries: (1) the coastal-state member countries of the region; and (2) the DWFNs who fish in it. The broad goal of this first conference was to promote responsible fishing operations by fishing vessels operating in the region, including the high seas which are outside the jurisdiction of coastal states but affect fisheries in their EEZs. Cooperation between *both* sets of players is thus vital to secure the future of tuna fisheries in the region as a whole.

Over a 6-year period a series of 6 further such multilateral high-level conferences were held between the WCPO region's coastal states and DWFNs.[24] All of these subsequent conferences were convened and serviced by an independent secretariat. It also prepared discussion papers. Each MHLC conference had particular goals; a focused agenda to try to achieve them; and well-researched discussion papers to inform the participants about the key issues to be considered.

The FFA prepared *confidential* **supplementary briefing material** solely for FFA member countries, to help strengthen their collective position in negotiating with DWFNs to obtain acceptable conference resolutions on vital issues. This briefing enabled member countries to see tactically how they needed to cooperate to achieve their common goals, even if their individual interests differed significantly regarding some issues. Their common interests still tended to be more closely aligned than with those of DWFNs.

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[23] Ibid., page 21 ff.

[24] The 1st session of the conference (MHLC1) occurred in Dec 1994, and the 7th (MHLC7) in Aug-Sep 2000.

The 1st session of the conference (MHLC1) in Dec 1994 comprised a general debate on issues relating to creation of a regional mechanism to conserve and manage highly migratory fish stocks. While its participants reached a common understanding on the need for sustainable development of the tuna resources of the western and central Pacific Ocean (WCPO), the main focus was on lest contentious technical issues. This set the stage for the next sessions to focus on the harder core issues.[25] The 7th session (MHLC7) in Aug-Sep 2000 eventually produced a draft "*Convention on the Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean*" to give effect to a conservation and management regime for tuna in the WCPO region, which had been agreed by all but two participating countries.

The **Convention** came into force on 19 June 2004. It is a significant milestone regional cooperation to manage and conserve the region's vital, highly migratory tuna stocks on two main counts. First, unlike the region's other cooperative fisheries-related actions, the Convention is a cooperative initiative developed jointly between coast states and DWFNs, rather than an initiative of the coastal states presented to DWFNs as a fait accompli. Second, the Convention encompasses both the high seas and EEZs within the region, potentially enabling a more effective integrated approach to managing and conserving the tuna stocks which migrate naturally between high seas and EEZs.

Important features of the Convention include:

a. ***Principles*** *for conservation & management*: All parties to the convention must comply with some key **principles** for conserving and managing the WCPO fishery in its entirety, including notably:
   - To take steps to <u>ensure</u> the long-term *sustainability* of highly migratory fish stocks in the WCPO, and promote their *optimum use*;
   - To <u>ensure</u> that such steps are based on *sound scientific evidence*, and take into account environmental and economic factors including the *special needs of developing states* (especially developing small island states);
   - To <u>take</u> a *precautionary approach* to fishery management choices, being more cautious the more uncertain is the information basis for the choice;
   - To <u>assess</u> *impacts of fishing* and other human activity on target fish stocks and associated species;
   - To take steps to <u>avoid</u> *over-fishing and excess fishing capacity*;
   - To <u>take account</u> of the *interests of artisanal and subsistence fishers*;
   - To <u>collect</u> and <u>share</u>, in a timely manner, complete and accurate *data* concerning the fishing activities; and
   - To <u>implement</u> and <u>enforce</u> *conservation and management steps* through effective monitoring, control and surveillance.

b. ***Compatibility*** *of conservation and management measures*: The coastal-state parties to the convention have a duty to cooperate to ensure that the *national regimes* for their respective EEZs and the *regional regime* for the high seas within the WCPO are compatible.

[25] E.g. how to meet conservation and management duties under international law by balancing sovereign rights to set catch limits in their EEZs against the need to cooperate to ensure the collective catch taken within the EEZs of coastal states and on the high seas is sustainable at an agreed sustainable level.

c. *Creation of a **Commission** to administer the convention*: The convention creates a Commission[26] that all parties are a *member* of, and whose key functions include:
   - To determine the *total allowable catch* or l*evel of fishing effort* within the Convention Area for specified highly migratory fish stocks;
   - To promote *cooperation and coordination* between members to ensure the compatibility of conservation and management steps for such fish stocks;
   - To adopt *standards* for collection, verification and timely exchange and reporting of *data* on the fisheries for such fish stocks;
   - To develop *criteria*, where necessary, for *allocating* the total allowable catch, or total level of fishing effort allowed, for such fish stocks;
   - To create suitable *cooperative mechanisms* for effective monitoring, control, surveillance and enforcement (including a vessel monitoring system);
   - To obtain and evaluate economic and other fisheries-related *data and information* relevant to its work; and
   - To promote the *peaceful settlement of dispute*s.
   - To decide to adopt *measures* allocating the total allowable catch or the total allowable level of fishing effort, where such decisions are to be made by consensus.

d. *Enabling the Commission to create a **Secretariat***: The convention enables the Commission to establish a permanent Secretariat headed by an Executive Director, to assist it to carry out its role,

e. ***Funding** for the Commission*: The convention provides for the Commission's operations – as approved in an annual budget - to be funded from:
   - Assessed contributions which are differentiated to allow for differences in members' ability to pay and share of total catch in the Convention Area;
   - Voluntary contributions; and
   - Other funds.

f. *Commission to Recognise Special **Needs of Developing States***: The convention requires the Commission to fully recognise the special requirements of its developing state parties, including:
   - Need to avoid adverse impacts on – and *access* to - fisheries by subsistence, small-scale and artisanal fishers and fish workers;
   - Need to ensure that its measures do not do not impose "a disproportionate burden of conservation action onto developing States Parties;" and
   - Establishing a "**fund** "to facilitate the *effective participation* of developing States Parties, particularly small-island developing States."

g. *Commission to Set its **Budget**, **Rules** and **Procedures**, and **Specific Policies***: The convention provides for the Commission to set some key rules and specific operational policies, including:
   - Operating rules and procedures;
   - Financial rules; and
   - Fishing restraints (e.g. total allowable catch or total allowable fishing effort).

[26] Its full title is the "*Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean*."

When the convention was adopted, participants in the MHLC agreed to create a "***Preparatory Conference*** *for the Establishment of the Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean*." This Preparatory Conference held five sessions between April 2001 and April 2004 to lay the practical basis for establishing the Commission as an operational entity able implement the convention. This groundwork included: (1) developing an organisational structure for the Commission Secretariat; (2) preparing a budget for the Commission's activities; and (3) developing rules of procedure, and financial rules.

Again with stage, the FFA similarly supported FFA member countries to negotiate agreement on a framework that would help ensure implementation of the Convention in a way that achieves the following ***key intermediate outcomes sought*** by them from it, notably:

a. *Legally binding decisions*: The Commission's decisions are legally binding to allow its conservation and management steps to be effective and enforceable;

b. *No disproportionate funding burden on small-island developing states*: The basis for setting parties' contributions to the Commission budget is consistent with their abilities to pay and benefits derived from the fisheries;

c. *Cost-effective role without prejudice to sovereign rights*: The Commission's role to be cost-effective and not prejudice the sovereign rights of coastal states;

d. *No disproportionate burden on developing coastal states*: The Commission's actions to avoid imposing a disproportionate fisheries management burden on small-island developing states; and

e. *Effective participation by coastal states enabled*: Developing small-island states can participate effectively in the Commission's work, through:
   - Provision of sufficient funds to enable their attendance at its key meetings;
   - Provision of sufficient information and advice to enable them to engage in informed debate and decisions on important issues;
   - Avoiding a proliferation of meetings, which effectively could disenfranchise developing small-island states with limited personnel capacity to participate effectively in multiple such meetings; and
   - Setting quorums for Commission's plenary meetings and meetings of its subordinate bodies, to ensure all parties are adequately represented in the deliberations and decision making of the Commission.

The FFA's effectiveness in helping its member countries to achieve these desired intermediate outcomes can be judged in part by assessing the extent to which the features of the *convention* - and the structure and operating rules of the *commission* created to implement it – are consistent with the outcomes. The following is a brief summary of the results of this assessment:

a. The **Convention** clearly <u>recognises</u> that the *developing coastal-state parties* to it - especially developing small-island states - have a series of ***special needs*** which the Commission must allow for in carrying out its role, to ensure these parties are treated fairly and not disadvantaged;

b. The **budget-contribution formula** adopted for financing the Commission's 2005 budget is consistent with the approach supported by the FFA, and seems to <u>allow</u> fairly for

different parties' ***abilities to pay*** and ***benefits from the fisheries***. Each member's contribution to the Commission is calculated broadly as follows:

- *10% base fee*: i.e. 10% of the budget allocated equally between members;
- *20% national wealth component*: i.e. 20% of the budget allocated between members in proportion to each member's 3-year average [gross national income (GNI) plus GNI per capita];
- *70% fish production component*: i.e. 70% of the budget allocated between members in proportion to their share of the 3-year average of total catches in their EEZs and in the high seas within the Convention's jurisdiction.

c. The **rules of procedure** have set the following ***quorum*** requirements for the Commission's activities, which should ensure that developing coastal states (especially developing small-island states) are not omitted from its key discussions and decision-making:

- *Plenary meetings of the Commission* require the presence of "at least three fourths of the members of the Commission;"
- *Meetings of subsidiary bodies of the Commission* require the same quorum unless such bodies gain its permission to alter the quorum;
- *Decisions on questions of substance* require at least a by the Commission require: at least a "three-fourths majority of the members present and voting, (where this majority include both: a three-fourths majority of *FFA members* present and voting and present; and (ii) a three-fourths majority of non-FFA members present and voting); and

d. The revised **financial regulations** of the Commission are understood to include ***financial support*** to help developing coastal states (especially developing small-island states) to participate effectively at meetings of the Commission.

At this stage, with the Commission having existed for only 6 months, it is premature to assess its effectiveness in *implementing* the Convention. But an early major test of its effectiveness will be its pending debate and decisions on proposed vital measures to restrain fishing activity in the entire Convention region.[27] The proposed measures aim to achieve biologically and economically sustainable levels of harvesting of the regions key fish stocks via a system of allocating *total allowable catch* quotas or *total allowable fishing-effort* quotas. But coastal state and DWFN parties seem to hold firm opposing views about the proposal. Only time will tell how the different views will be resolved, and what this will mean for conserving and managing the fish stocks.

C. Broader Outcomes Stemming from FFA's Action to Date

Each of the foregoing specific fisheries-related results that member countries have achieved in large measure due to the actions of the FFA (the creation of their regional cooperation) have enabled them to realise major economic and social benefits. Notable broader benefits include:

a. *Securing and upholding* **sovereign rights over EEZ**: Regional cooperation exercised in solidarity through the aegis of the FFA was instrumental in securing *early*, *effective recognition* of their sovereign rights over the respective EEZs. Such recognition was manifest in the US Multilateral Treaty (1987), even though arguably it was only *de facto*. Remember that the UN Convention on the Law of the Sea although introduced in 1982

[27] This issue is scheduled for discussion at the Commission's second annual meeting in December 2005 - after having been held over from a number of Preparatory Conference sessions, and the first annual meeting – due to a lack of consensus.

did not come into effect until late 1994! In the interim, other DWFNs gradually came effectively to recognise member countries' EEZ rights.

b. *Enabling beneficial* **access agreements** *to be negotiated*: This effective recognition provided a firm building block for securing fisheries *access agreements* with other DWFNs (including sub-regional arrangements) and the resultant economic and social benefits for member countries, including:
   - *Direct fiscal benefits* from ***access fees*** (or payments) received;
   - *Direct economic and social benefits from domestic industries* developed to ***harvest*** the catch (e.g. domestic base for a DWFN fleet); ***process*** the catch (e.g. canneries), ***tranship*** the catch, or ***service*** the fleet – where economic benefits comprise the producers' surpluses yielded by activities, and social benefits comprise the net employment created;
   - *Indirect economic and social benefits* - from flow-on activities precipitated by the primary activities – which typically multiply the direct economic and social benefits from the original activities;
   - *Better fisheries management and conservation in their EEZs* achieved via member countries' strengthened ability to secure DWFNs' agreement to minimum terms and conditions of access that help to yield more effective management and conservation of the fish stocks in the EEZs; and
   - *Potentially better fisheries management and conservation in the high seas* of the WCPO adjacent to - or impacting on - fisheries within their EEZs (i.e. through the role of the newly created Commission).

D. Quantitative Indicators of Net Benefits Arising from FFA Action

1. Overview of Quantitative Analysis Issues

The preceding *qualitative assessment* of the FFA's impact on the South Pacific Forum member countries identified its main roles, and assessed what results these have yielded (or contributed to) and how they have benefited member countries.

This section briefly outlines the conceptually correct basis for **measuring** the costs and benefits of regional or sub-regional cooperation between the governments of member countries. It briefly discusses the ***information requirements*** and practical difficulties of meeting them. The section also discusses the difficulties of reliably *attributing* benefits and costs to a *particular cooperative action* or intervention where it is one of several ***joint contributor*s** to the outcome being assessed. The section then discusses the need to identify the ***counterfactual scenario*** that most likely would have occurred in the absence of the cooperative action in question. The estimated net benefits from the counterfactual scenario need to be deducted from those arising from the cooperative action in question, to show the latter's actual net contribution to the region's welfare.

Finally, in the absence of sufficient detailed information and resources to conduct a formal cost-benefit analysis, the section then discusses the various indicators of the benefits and costs arising from the FFA's role in the region.

2. Conceptual Basis for Measuring Costs and Benefits

2.1 Inputs Purchased: Value as Opportunity Costs

Public policies or interventions – such as the regional cooperation between member country governments that created the FFA – inevitably use resources that could be used to produce

other goods or services. For example, resources the FFA requires to operate include factor **inputs** such as labour, materials, land and equipment. Because the resources the FFA uses to sustain its operations cannot be used for other purposes, its operations involves **opportunity costs**. In concept, these opportunity costs are equal to the value of the goods and services that the resources would have produced if used in the best alternative way.

In practice, as Boardman et al[28] explain, the normal way to measure the value of such resources used is to rely on the direct budget outlay required to purchase them. In some circumstances the direct budget outlay does equate with the conceptually correct measure of opportunity costs, but not in others. The suitability of direct budget outlay data as a measure of opportunity cost - and any adjustments needed to convert it into a suitable measure - depend largely on conditions in the market where the resources are purchased. The situation may be summarised as follows (based on Boardman et al):

a. *Efficient market for resource with minimal price impact*: Where a resource used in the intervention is purchased from an efficient market and the purchase has minimal impact on its market price, the budget outlay is a suitable measure of its opportunity cost.

b. *Efficient market for resource but noticeable price impact*: Where a resource used in the intervention is purchased from an efficient market but the purchase affects its market price, this price change needs to be taken into account in calculating the opportunity cost. Typically budget outlays will *overestimate* slightly its opportunity cost in such cases.

c. *Inefficient market for resource*: Where there is a market failure in the market supplying a resource required for the intervention, budget outlays may substantially overstate or understate the opportunity costs of an intervention. The budget figures would overstate the cost if monopoly rents were being charged, but understate it if prices were heavily subsidised.

In summary, Boardman et al state that

> *"The general rule is that opportunity cost equals expenditure less (plus) any increase (decrease) in social surplus occurring in the factor market;"*[29]

Where the change in "**social surplus**" due to an intervention is defined as the *sum* of: any change in *producers' surplus* as a result of the intervention;[30] *plus* any resultant change in *consumers' surplus* as a result of the intervention.[31]

An important general point to remember is that opportunity costs relate solely to resources that must be forgone today and tomorrow for an intervention to occur. Resources whose use has already been forgone are **sunk costs** that no longer can be used in alternative uses and so no longer have an opportunity cost.

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[28] Boardman, A.E., D.H. Greenberg, A.R. Vining & D.L.Weimer; *Cost-Benefit Analysis: Concepts and Practice*; Prentice Hall, 1996; pp. 64ff.

[29] Ibid, p.69.

[30] "*Producers' surplus*" is defined as the aggregate total revenue less the aggregate total variable costs of the market supplying a given level of output. Note this concept differs from aggregate profit which equals aggregate total revenue less aggregate total costs (not just total variable costs).

[31] "*Consumers' surplus*" is defined as the difference between the aggregate sum consumers actually paid for a given level of good or service less the aggregate sum they would have been willing to pay for the good or service if required.

2.2 Outcomes: Value Costs and Benefits as "willingness to pay"

People's willingness to pay is the correct conceptual basis for measuring a regional intervention's outcomes in terms of benefits and/or costs to producers and consumers. Boardman et al defines the **value** of these benefits and costs as follow:

> *"**Benefits** are the sums of the maximum amounts that people would be willing to pay to gain the outcomes that they view as desirable; **costs** are the sums of the maximum amounts that people would be willing to pay to avoid outcomes that they view as undesirable."*[32]

In valuing the impact of a regional interventions, analysts need to consider its impact in ***primary markets*** (i.e. markets that are directly affected by a regional intervention) and ***secondary markets*** (i.e. markets only indirectly affected), and to distinguish whether such markets are *efficient* and *inefficient*. Based on Boardman et al,[33] the general rules for valuing outcomes in these different markets circumstances are essentially as follows:

a. *Impacts on efficient primary markets*: Value any benefits or costs arising in an efficient primary market as the direct result of a regional intervention should be valued as the *change in social surplus* plus (less) any increase (decrease) in revenue to the governments of the member countries involved and their regional entity.

b. *Impacts on inefficient primary markets*: If market failures[34] or government interventions[35] distort product markets affected by a regional intervention, value any benefits or costs similarly except that reliably calculating the social surplus is now more difficult. In principle, some adjustment will need to be made to offset these shortcomings in reflecting willingness to pay.

c. *Impacts on efficient secondary markets*: If a regional intervention's impact on primary product markets do not cause a secondary-market price change, the secondary market can be ignored. But if it does result in changes in secondary-market prices, then:
   - If *primary-market* impacts are measured using a demand curve with other prices held constant, then social surplus changes in the secondary market will need to be deducted from those calculated in the primary market to yield the correct impact on the primary market; otherwise
   - If primary market impacts are measured using a demand curve that does not hold other prices constant, the secondary market impacts can be ignored.

d. *Impacts on inefficient secondary markets*: If a regional intervention's impact on primary product markets do not cause a secondary-market price change, the secondary market effects can be ignored. But when secondary markets are distorted, its full impact (costs and benefits) cannot be measured solely from effects in primary markets. In principle, this means that impacts on distorted secondary markets should be valued separately, although in practice this may be very difficult to do.

Boardman et al conclude: [36]

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[32] Ibid. p.76.

[33] Ibid., see Table 3.1 "Rules for measuring social benefits and costs of government Interventions in markets", p.93.

[34] A market failure exists, for example, where a supplier can obtain monopoly rents in a product market, or where the market price does not reflect the value of an external cost (e.g. pollution) or benefit.

[35] A government intervention, for example, could be a subsidy which masks the true willingness to pay for a product.

[36] Ibid., p.92.

"The concept of opportunity cost helps us to value the inputs that policies divert from private use; the concept of willingness-to-pay helps us to value policy outputs. The key to valuing outputs is to identify the primary markets in which they occur. When outputs are not traded in organized markets, ingenuity is often needed to infer supply and demand schedules… For this purpose, various shadow pricing techniques … are often needed. Costs and benefits that occur in undistorted secondary markets are typically very difficult to value, but generally need not, indeed, should not, be added to costs and benefits that are measured in primary markets. Doing so will usually result in double counting."

A basic point to bear in mind - as noted by Boardman and Hunt[37] – is that cost-benefit analyses generally *assume implicitly* that: (1) resources used in a target intervention otherwise would have been used in their most best productive uses; and (2) the target intervention uses (or would use) the resources most productively.

3. Quantitative Indicators of Benefits and Costs from FFA's Role

3.1 Overview of Indicators of FFA's Impact

The preceding section assessed in qualitative terms how regional cooperation in the form of the FFA has contributed to the welfare of member countries. In particular it reviewed the FFA's main outputs and briefly assessed their effectiveness in terms of delivering benefits for member countries. This section presents some quantitative **indicators** of the benefits that the FFA has contributed to, although it does not attempt a formal cost-benefit analysis for reasons discussed earlier.

The quantitative indicators presented here include:

a. *FFA's actual income and expenditure*: This data measures the total amount of **inputs** that the FFA has used *annually* in providing the *outputs* identified above, which arguably have contributed significantly to enhanced economic and social *outcomes* for members countries. The data also shows their annual ***source***, i.e. how much of the total inputs was provided by member countries' contributions, and how much from other sources notably as aid from non-member countries and also from Australia and New Zealand (the two developed member countries).

   While this data does not directly measure the benefits that the region has received from the FFA, it does indicate the level of ***opportunity cost*** that the region otherwise would have had to incur to produce the outputs that have benefited member countries, notably the developing Pacific Island members.

b. *US Multilateral Treaty on Fisheries income and costs*: This data shows the various payments or fund allocations made annually under the treaty to each member country since the treaty came into effect. These payments are funded largely by the US Government and partly by the US fishing fleet.

   These payments *net* of the costs incurred by the FFA in administering the treaty represent the **direct benefits** member countries have received from the treaty which the FFA was instrumental in negotiating. But they do *not* equate to the value of the FFA's contribution. To assess the value of its contribution requires also identifying:

   – *Other contributors* to the beneficial outcome represented by the treaty payments, and what proportion is attributable to them; and

[37] Boardman, A.E. and A.L. Hunt; "*Review of Methodologies for Estimating the Welfare Impacts of Corporatisation and Privatisation*", Auckland Uniservices Ltd; May 1997; p.36.

– *The counterfactual scenario* that otherwise is most likely to have occurred if the FFA had not been created, and what benefits it would have yielded.

The proportion of the benefit attributable to these two factors needs to be deducted from the total net payments (i.e. net benefits) to show what portion of it *may be* attributable to the FFA's role. In practice, resolving these two factors reliably is very difficult, and essentially is largely a matter of judgement.

c. *US Multilateral Treaty on Fisheries catch volumes*: This data shows the annual **volume** of the fish catch reported by the US purse seine fishing vessels operating under the treaty. It provides a basis for seeing the treaty's benefits in perspective by country - and in aggregate - in relation to the US fleet catch and the total catch volume in their EEZs.

d. *Estimates fisheries contribution to GDP*: Estimates of fisheries' contribution (direct and indirect) to GDP of member countries indicate their overall economic and social importance, and how it varies widely between countries in the region.

These figures show fisheries' estimated total contribution to GDP by country, and distinguish between contributions of (1) large-scale commercial fisheries, (2) small-scale commercial fisheries, and (3) subsistence fisheries. The first category is indicative of the value of wider benefits generated by the tuna fisheries although the figures exclude fish-processing's contribution to GDP.

But the total value of benefits represented by these figures begs the question of: To what extent are they attributable to the FFA's role. The answer remains a matter of judgement and conjecture, as:

– *Other factors*[38] have also helped to create this value; and

– *The counterfactual* is difficult to determine with any reliability.

Even so, it may be argued that the FFA outputs over the years have played a major part in ensuring that the tuna fisheries in their EEZs have remained in tact sufficiently to enable them still to *obtain* such benefits, or at least have the *option* to do so.[39]

e. *Estimates of fisheries access fee payments*: Limited data publicly available showing (or estimating) fisheries access-fee payments by member countries is another indicator of one of the significant **benefits** that they have derived from the tuna fisheries.

The figures show wide variations in the distribution of such benefits amongst member countries, due primarily to the highly uneven biological distribution of tuna fish stocks amongst them, and also to the degree to which some member countries have relied more on other ways to extract value from the fisheries. But again, these figures shed no light on the FFA's probable contribution to creating this value. That remains illusive and speculative.

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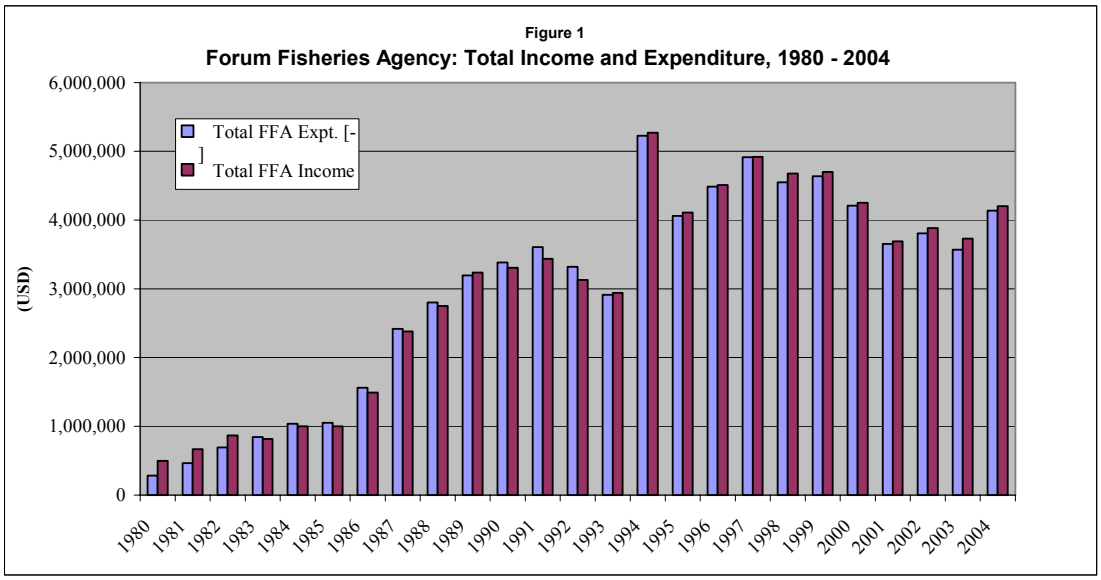
[38] For example, one such *other* contributing factor is the Secretariat of the Pacific Community (SPC), which is another manifestation of Pacific regional cooperation. This important regional body (whose membership includes South Pacific Forum member countries but is wider) has undertaken vital research into tuna fisheries amongst others, which has provided a sound scientific basis for the FFA to recommend appropriate tuna fisheries conservation and management strategies for member countries.

[39] For example, FFA roles contributing to these benefits (as discussed in the previous section) include: (1) advising member countries on fisheries access issues, including minimum terms and conditions which help safeguard the fisheries; and (2) developing and administering (a) the Regional Register of fishing vessels, (b) the FFA_VMS system, (c) FMA_VMS Register, and (d) coordinating fisheries surveillance help from several developed countries.

f. *Growth in catch levels from the key tuna fisheries in the region*: This data provides a historical perspective on the other tuna catch figures which represent only part of the total picture. But it provides no information about the contribution of the FFA to the benefits member countries derive from these fisheries.

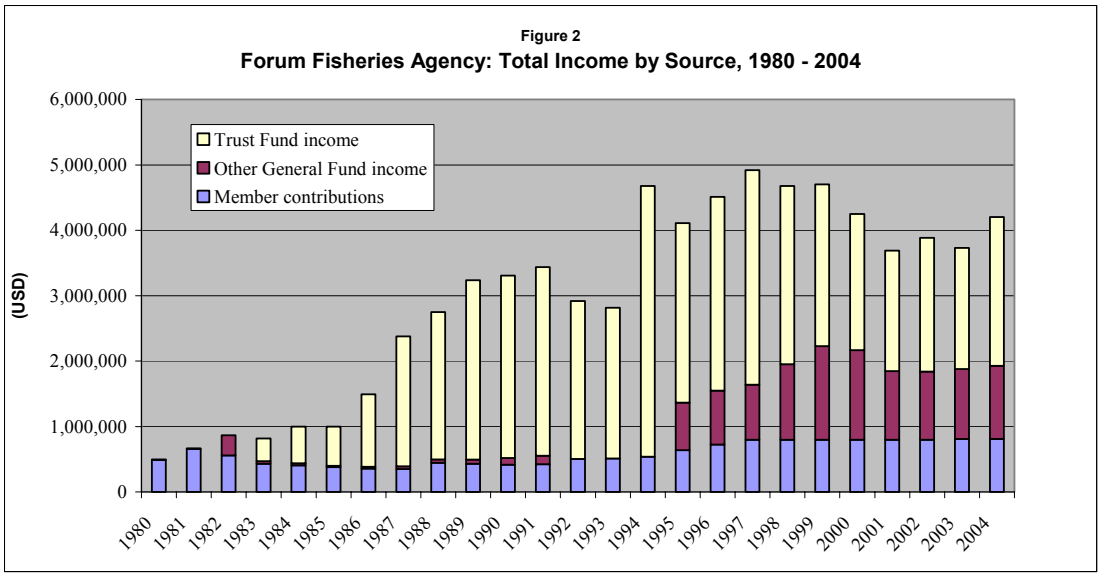
3.2 FFA Actual Income and Expenditure

Figure 1 below shows graphically the FFA's total income and expenditure annually over the first 25 years of its operations. The **total expenditure** indicates the cost of ***inputs*** the FFA has used in providing outputs to benefit of member countries.



This figure shows the marked growth in the level of activity to a high point in 1995, judging by the level of input costs, easing to a slightly lower trend level since then. **Total expenditure** on FFA inputs over the entire 25-year period to 2004 was about **US$75 million**, as shown in *Table 1* below (which summarises its actual income and expenditure figures for this period).

Figure 2 below depicts the main sources of the FFA's total income in 1980-2004. It shows that *members' contributions* accounted for a small proportion of total income.



The FFA's Trust Fund Account – which is funded largely by development assistance moneys from individual donor countries (including Australia and New Zealand as the two most developed member countries, as well as non-member developed countries) and international agencies.

Table 2 below elaborates this picture. It shows that in the first 25 years of the FFA's operation, **member contributions** totalled **US$14.2 million** (or 18.9%) of its total income, with **other income sources** providing the remaining **US$60.7 million** (or 81.1%), mostly as development assistance. This latter figure may be used as a *partial, indirect indicator* of aggregate net benefits to *all* member countries. To fulfil this partial indicator role more accurately, the development assistance provided by Australia and New Zealand would need to be deducted from this total. These figures are not shown separately in the table. But adding back the sum of the Australia and New Zealand FFA contributions to total income from *other sources* provides a partial indicator of *benefits* to **developing member countries**, **US$64.6 million**.

Using the figures in this way implicitly assumes that the FFA has used its total income cost-effectively to fulfil its role for the benefit of all member countries.[40] These figures do not measure the indirect benefits arising from the FFA's activities or deduct any allowance for the value of benefits (direct and indirect) that are member countries may have derived under the most likely counterfactual scenario had the FFA not been created.

3.3 US Multilateral Treaty on Fisheries: Net Benefits

Tables 3(a) to 3(d) below show **total payments** made annually to member countries by the US Government and US fishing fleet – under the US Multilateral Treaty on Fisheries - since the treaty came into force in June 1988. The FFA, as administrator of the treaty, deducts its administration costs from the annual sum it receives and allocates the development assistance funds component, *before* calculating the share of the balance which is payable to member countries: i.e. 85% in proportion to catch-volumes, and 15% equally divided irrespective of catches. Tables 3(a) to 3(c) show these three components separately.

[40] The validity of this assumption may be judged in part from the qualitative analysis of the FFA's actions in the preceding section.

Table 3(d) shows the total payments and allowance paid annually under the treaty by member country. In particular it shows:

e. *Total payments*: Over the 16 licensing years 1988/89 to 2003/04 member countries received a total of almost US$200 million under the treaty;

f. *Vast majority of payment went to a few countries*: Five countries (FSM, Kiribati, Nauru, PNG and Tuvalu) received 79% of the total payments and allocations in these 16 years. This reflects uneven biological distribution of the catch, and thence the 85% catch-related component shown in Table 3(a).

g. *Total payments stable but shares vary*: Aggregate total payments to member countries are stable from year to year, but individual shares can vary greatly.

h. *Payments as % of catch value high and rising*: Total annual payments expressed as a percentage of total landed catch value, are relatively high and rising as catch volumes fall: from about 11% in 1988/89 licensing year, to over 20% currently.

Table 1

South Pacific Forum Fisheries Agency: Summary of Actual Annual Income and Expenditure - 1980 - 2004

	1980 (USD)	1981 (USD)	1982 (USD)	1983 (USD)	1984 (USD)	1985 (USD)	1986 (USD)	1987 (USD)	1988 (USD)	1989 (USD)	1990 (USD)	1991 (USD)	1992 (USD)
General Account (GA):													
Member contributions	488,747	658,765	555,994	430,201	406,930	376,542	356,053	351,737	443,095	431,242	415,252	423,965	504,309
Other GA income	7,450	7,115	310,352	38,443	29,338	24,476	27,776	39,859	53,979	62,887	102,088	129,942	0
Total GA Income	496,196	665,880	866,346	468,644	436,268	401,018	383,829	391,596	497,074	494,129	517,340	553,907	714,397
Total GA Expdt. [-]	282,140	461,864	692,821	495,560	464,591	419,285	400,199	404,563	496,537	494,154	526,865	561,100	763,557
GA Surplus/ Deficit(-)	214,056	204,016	173,525	-26,916	-28,323	-18,267	-16,370	-12,967	537	-25	-9,525	-7,193	-49,159
Trust Account :													
Total TA Income				347,742	563,682	597,877	1,107,719	1,988,338	2,251,284	2,741,561	2,789,762	2,882,336	2,414,986
Total TA Expt. [-]				347,719	570,792	630,891	1,158,514	2,012,232	2,303,376	2,698,611	2,857,452	3,045,344	2,555,435
TA Surplus/ Deficit (-)				22	-7,110	-33,014	-50,795	-23,893	-52,092	42,951	-67,691	-163,008	-140,449
Total FFA Account :													
Total FFA Income	**496,196**	**665,880**	**866,346**	**816,385**	**999,950**	**998,894**	**1,491,548**	**2,379,934**	**2,748,358**	**3,235,690**	**3,307,102**	**3,436,242**	**3,129,384**
Total FFA Expt. [-]	**282,140**	**461,864**	**692,821**	**843,279**	**1,035,383**	**1,050,176**	**1,558,713**	**2,416,794**	**2,799,913**	**3,192,765**	**3,384,317**	**3,606,444**	**3,318,992**
FFA Surplus/ Deficit (-)	214,056	204,016	173,525	-26,894	-35,433	-51,282	-67,165	-36,860	-51,555	42,926	-77,215	-170,201	-189,609

	1993 (USD)	1994 (USD)	1995 (USD)	1996 (USD)	1997 (USD)	1998 (USD)	1999 (USD)	2000 (USD)	2001 (USD)	2002 (USD)	2003 (USD)	2004 (USD)	TOTAL
General Account (GA):													
Member contributions	510,208	540,416	637,751	726,233	798,899	798,902	798,902	798,900	798,902	798,902	808,292	808,292	**14,667,431**
Other GA income	0	0	728,246	822,845	840,241	1,152,344	1,429,847	1,370,100	1,048,444	1,040,145	1,068,988	1,118,130	11,453,035
Total GA Income	633,848	1,230,673	1,365,997	1,549,078	1,639,140	1,951,246	2,228,749	2,169,000	1,847,346	1,839,047	1,877,280	1,926,422	27,144,452
Total GA Expdt. [-]	633,308	1,180,335	1,384,371	1,526,330	1,635,707	1,829,072	2,170,239	2,133,000	1,813,943	1,764,089	1,723,488	1,862,577	26,119,695
GA Surplus/ Deficit(-)	540	50,338	-18,374	22,748	3,433	122,174	58,510	36,000	33,403	74,958	153,792	63,845	1,024,756
Trust Account :													
Total TA Income	2,307,247	4,134,614	2,742,618	2,961,095	3,279,976	2,724,800	2,470,263	2,080,400	1,841,593	2,043,931	1,853,554	2,276,972	48,402,349
Total TA Expt. [-]	2,280,605	4,140,199	2,677,009	3,387,828	3,278,451	2,722,262	2,466,909	2,076,600	1,840,282	2,043,331	1,845,950	2,274,602	49,214,394
TA Surplus/ Deficit (-)	26,642	-5,586	65,609	-426,733	1,525	2,538	3,354	3,800	1,311	600	7,604	2,370	-812,045
Total FFA Account :													
Total FFA Income	**2,941,096**	**5,269,061**	**4,108,615**	**4,510,173**	**4,919,116**	**4,676,046**	**4,699,012**	**4,249,400**	**3,688,939**	**3,882,978**	**3,730,834**	**4,203,394**	**75,450,575**
Total FFA Expt. [-]	**2,913,914**	**5,225,110**	**4,061,380**	**4,485,987**	**4,914,158**	**4,551,334**	**4,637,148**	**4,209,600**	**3,654,225**	**3,807,420**	**3,569,438**	**4,137,179**	**74,810,494**
FFA Surplus/ Deficit (-)	27,182	43,951	47,235	24,186	4,958	124,712	61,864	39,800	34,714	75,558	161,396	66,215	640,081

Source: FFA Annual Accounts

Table 2

South Pacific Forum Fisheries Agency: Actual Annual Income *less* Members' Contributions - 1980 - 2004

	1980 (USD)	1981 (USD)	1982 (USD)	1983 (USD)	1984 (USD)	1985 (USD)	1986 (USD)	1987 (USD)	1988 (USD)	1989 (USD)	1990 (USD)	1991 (USD)	1992 (USD)
Total FFA Income	496,196	665,880	866,346	816,385	999,950	998,894	1,491,548	2,379,934	2,748,358	3,235,690	3,307,102	3,436,242	3,129,384
less Developed member contributions	361,672	487,486	411,436	318,348	301,128	278,641	263,479	260,286	327,890	319,119	307,287	313,734	373,188
Net Benefit to developing members	**134,524**	**178,394**	**454,911**	**498,037**	**698,821**	**720,253**	**1,228,069**	**2,119,649**	**2,420,468**	**2,916,571**	**2,999,815**	**3,122,509**	**2,756,195**
less Developing member contributions	127,074	171,279	144,558	111,852	105,802	97,901	92,574	91,452	115,205	112,123	107,966	110,231	131,120
NET BENEFIT TO ALL MEMBERS	**7,450**	**7,115**	**310,352**	**386,185**	**593,019**	**622,353**	**1,135,496**	**2,028,197**	**2,305,263**	**2,804,448**	**2,891,850**	**3,012,278**	**2,625,075**

	1993 (USD)	1994 (USD)	1995 (USD)	1996 (USD)	1997 (USD)	1998 (USD)	1999 (USD)	2000 (USD)	2001 (USD)	2002 (USD)	2003 (USD)	2004 (USD)	TOTAL
Total FFA Income	2,941,096	5,269,061	4,108,615	4,510,173	4,919,116	4,676,046	4,699,012	4,249,400	3,688,939	3,882,978	3,730,834	4,203,394	**75,450,575**
less Developed member contributions	377,554	399,908	471,936	537,412	591,185	591,187	591,187	591,186	591,187	591,187	598,136	598,136	10,853,899
Net Benefit to developing members	2,563,541	4,869,153	3,636,679	3,972,761	4,327,931	4,084,859	4,107,825	3,658,214	3,097,752	3,291,791	3,132,698	3,605,258	**64,596,676**
less Developing member contributions	132,654	140,508	165,815	188,821	207,714	207,715	207,715	207,714	207,715	207,715	210,156	210,156	3,813,532
NET BENEFIT TO ALL MEMBERS	**2,430,887**	**4,728,645**	**3,470,864**	**3,783,940**	**4,120,217**	**3,877,144**	**3,900,110**	**3,450,500**	**2,890,037**	**3,084,076**	**2,922,542**	**3,395,102**	**60,783,144**

Source: FFA Annual Accounts

Table 3(a)

US Multilateral Treaty on Fisheries: '85%' Catch-Volume Related Payments to FFA Member States: 1988/89 - 2004/05 Licensing Periods

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
FFA Member State	**88/89**	**89/90**	**90/91**	**91/92**	**92/93**	**93/94**	**94/95**	**95/96**	**96/97**	**97/98**	**98/99**	**99/00**	**00/01**	**01/02**	**02/03**	**03/04**	**Cum Total**	
	US$(000)																US$(000)	(% of Total)
Australia	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	0.0%
Cook Islands	0	0	0	0	0	52	7	0	0	23	15	29	58	397	468	0	1,049	0.5%
▶ **FSM**	6,212	2,054	561	794	959	699	1,253	6,212	591	212	155	7	6	15	954	207	14,704	**7.4%**
Fiji	46	2	0	3	30	611	74	46	6	0	59	86	444	0	3	69	1,431	0.7%
▶ **Kiribati**	1,789	6	4,284	5,926	5,461	8,953	6,550	1,789	8,101	8,322	6,263	7,438	8,170	6,476	4,909	6,660	89,309	**44.7%**
Marshall Islands	1,241	101	1	4	635	173	98	1,241	19	104	138	28	239	8	82	5	2,878	1.4%
▶ **Nauru**	371	2	531	55	1,979	1,428	102	371	609	724	965	284	78	291	1,469	469	9,357	**4.7%**
NZ (excl. Tokelau)	0	0	14	0	0	0	0	0	0	52	90	400	0	0	0	58	615	0.3%
Tokelau	0	175	3	840	1	557	17	0	8	197	343	549	506	809	24	244	4,275	2.1%
Niue	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	0.0%
▶ **PNG**	4,320	8,004	4,192	842	460	1,306	4,828	4,320	3,067	1,234	1,540	1,719	155	1,911	5,243	1,750	40,666	**20.4%**
Palau	2	51	946	0	0	0	0	2	0	0	0	2	0	0	0	234	1,237	0.6%
Samoa	0	0	0	0	3	0	0	0	0	0	38	28	5	4	12	0	90	0.0%
Solomon Islands	275	16	6	89	0	69	231	275	99	165	117	87	80	6	474	2,048	3,763	1.9%
Tonga	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	8	0.0%
▶ **Tuvalu**	514	1	259	1,676	180	400	1,294	514	2,235	3,569	4,826	4,011	4,992	3,797	246	2,223	30,222	**15.1%**
Vanuatu	2	0	0	0	0	0	0	2	0	12	0	36	0	8	0	59	117	0.1%
TOTAL	**14,773**	**10,411**	**10,796**	**10,228**	**9,708**	**14,249**	**14,458**	**14,773**	**14,736**	**14,611**	**14,557**	**14,704**	**14,738**	**13,722**	**13,882**	**14,027**	**199,726**	100.0%

[1] In LPs 1-5 there were 2 funds, *Economic Development Fund* and *Technical Assistance Fund*, with total allocations of US$1 million and US$0.25 million, respectively. From LP_6 they were superceded by one *Project Development Fund*.

Table 3(b)

US Multilateral Treaty on Fisheries: '15%' Equal Payments to FFA Member States: 1988/89 - 2004/05 Licensing Periods

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
FFA Member State	**88/89**	**89/90**	**90/91**	**91/92**	**92/93**	**93/94**	**94/95**	**95/96**	**96/97**	**97/98**	**98/99**	**99/00**	**00/01**	**01/02**	**02/03**	**03/04**	**Cum Total**	
	US$(000)																US$(000)	(% of Total)
Australia	134	111	109	113	107	149	148	150	150	149	148	149	148	148	147	147	**2,354**	6.3%
Cook Islands	134	111	109	113	107	149	148	150	150	149	148	149	148	148	147	147	**2,354**	6.3%
FSM	134	111	109	113	107	149	148	150	150	149	148	149	148	148	147	147	**2,354**	6.3%
Fiji	134	111	109	113	107	149	148	150	150	149	148	149	148	148	147	147	**2,354**	6.3%
Kiribati	134	111	109	113	107	149	148	150	150	149	148	149	148	148	147	147	**2,354**	6.3%
Marshall Islands	134	111	109	113	107	149	148	150	150	149	148	149	148	148	147	147	**2,354**	6.3%
Nauru	134	111	109	113	107	149	148	150	150	149	148	149	148	148	147	147	**2,354**	6.3%
NZ *(excl.* Tokelau)	67	111	109	113	107	149	148	150	150	149	148	149	148	148	147	147	**2,287**	6.1%
Tokelau (?)																		0.0%
Niue	134	111	109	113	107	149	148	150	150	149	148	149	148	148	147	147	**2,354**	6.3%
PNG	134	111	109	113	107	149	148	150	150	149	148	149	148	148	147	147	**2,354**	6.3%
Palau	134	111	109	113	107	149	148	150	150	149	148	149	148	148	147	147	**2,354**	6.3%
Samoa	90	111	109	113	107	149	148	150	150	149	148	149	148	148	147	147	**2,309**	6.2%
Solomon Islands	134	111	109	113	107	149	148	150	150	149	148	149	148	148	147	147	**2,354**	6.3%
Tonga	0	101	109	113	107	149	148	150	150	149	148	149	148	148	147	147	**2,210**	5.9%
Tuvalu	134	111	109	113	107	149	148	150	150	149	148	149	148	148	147	147	**2,354**	6.3%
Vanuatu	11	111	109	113	107	149	148	150	150	149	148	149	148	148	147	147	**2,231**	6.0%
TOTAL	**1,782**	**1,761**	**1,748**	**1,805**	**1,713**	**2,382**	**2,362**	**2,397**	**2,396**	**2,378**	**2,375**	**2,379**	**2,370**	**2,363**	**2,357**	**2,358**	**37,283**	100.0%

Table 3(c)

US Multilateral Treaty on Fisheries: Develop[t] Assistance Funds Allocated to FFA Member States: 1988/89 - 2004/05 Licensing Periods[1]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
FFA Member State	**88/89**	**89/90**	**90/91**	**91/92**	**92/93**	**93/94**	**94/95**	**95/96**	**96/97**	**97/98**	**98/99**	**99/00**	**00/01**	**01/02**	**02/03**	**03/04**	**Cum Total**	
	US$(000)																US$(000)	(% of Total)
Australia	0	0	0	0	0		0	111	111	111	111	111	111	111	111	111	**1,000**	3.8%
Cook Islands	105	90	88	89	86	119	119	111	111	111	111	111	111	111	111	111	**1,696**	6.4%
FSM	106	88	91	85	85	119	119	111	111	111	111	111	111	111	111	111	**1,693**	6.4%
Fiji	107	102	92	89	85	119	119	111	111	111	111	111	111	111	111	111	**1,711**	6.5%
Kiribati	109	99	93	89	88	119	119	111	111	111	111	111	111	111	111	111	**1,714**	6.5%
Marshall Islands	108	93	92	88	86	119	119	111	111	111	111	111	111	111	111	111	**1,703**	6.4%
Nauru	122	108	100	96	92	119	119	111	111	111	111	111	111	111	111	111	**1,755**	6.6%
NZ *(excl.* Tokelau)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	0.0%
Tokelau (?)	65	94	89	89	85	119	119	111	111	111	111	111	111	111	111	111	**1,659**	6.3%
Niue	109	97	91	87	85	119	119	111	111	111	111	111	111	111	111	111	**1,706**	6.5%
PNG	113	101	90	87	85	119	119	111	111	111	111	111	111	111	111	111	**1,713**	6.5%
Palau	131	104	92	87	86	119	119	111	111	111	111	111	111	111	111	111	**1,738**	6.6%
Samoa	112	92	95	95	89	119	119	111	111	111	111	111	111	111	111	111	**1,721**	6.5%
Solomon Islands	20	99	94	90	86	119	119	111	111	111	111	111	111	111	111	111	**1,627**	6.2%
Tonga	108	100	91	85	85	119	119	111	111	111	111	111	111	111	111	111	**1,706**	6.5%
Tuvalu	27	96	88	89	90	119	119	111	111	111	111	111	111	111	111	111	**1,627**	6.2%
Vanuatu	79	91	87	85	88	119	119	111	111	111	111	111	111	111	111	111	**1,666**	6.3%
TOTAL	**1,420**	**1,454**	**1,373**	**1,330**	**1,300**	**1,778**	**1,778**	**1,778**	**1,778**	**1,778**	**1,778**	**1,778**	**1,778**	**1,778**	**1,778**	**1,778**	**26,436**	100.0%

[1] Includes allocations in 88/89 to 92/93 from both the Economic Development Fund and Technical Assistance Fund; and thereafter from their successor, the Project Development Fund.

Table 3(d)

US Multilateral Treaty on Fisheries: Total Payments and Allocations to FFA Member States: 1988/89 - 2003/04 Licensing Periods

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
FFA Member State	**88/89**	**89/90**	**90/91**	**91/92**	**92/93**	**93/94**	**94/95**	**95/96**	**96/97**	**97/98**	**98/99**	**99/00**	**00/01**	**01/02**	**02/03**	**03/04**	**Cum Total**	
	US$(000)																US$(000)	(% of Total)
Australia	134	111	109	113	107	149	151	261	261	260	260	260	259	259	258	258	3,210	1.2%
Cook Islands	239	201	197	202	193	320	273	261	261	283	275	289	317	656	726	258	4,952	1.8%
▶ **FSM**	6,453	2,253	761	992	1,151	966	1,519	6,473	852	471	414	267	266	274	1,212	466	24,791	**9.0%**
Fiji	287	214	201	204	222	878	340	307	267	260	318	345	703	259	261	327	5,394	2.0%
▶ **Kiribati**	2,032	215	4,485	6,128	5,655	9,221	6,816	2,050	8,362	8,582	6,522	7,698	8,430	6,735	5,168	6,919	95,019	**34.5%**
Marshall Islands	1,483	304	203	204	828	441	365	1,502	280	363	397	288	498	267	341	263	8,028	2.9%
▶ **Nauru**	627	221	740	264	2,178	1,696	368	632	870	983	1,225	543	337	550	1,727	728	13,689	**5.0%**
NZ (excl. Tokelau)	67	111	123	113	107	149	148	150	150	201	239	549	148	148	147	206	2,754	1.0%
Tokelau	65	269	92	929	87	675	136	111	119	308	454	660	617	920	135	355	5,933	2.2%
Niue	243	208	200	200	192	267	266	261	261	260	263	260	259	259	258	258	3,916	1.4%
▶ **PNG**	4,568	8,216	4,391	1,042	652	1,573	5,094	4,581	3,328	1,493	1,800	1,979	414	2,169	5,501	2,009	48,810	**17.7%**
Palau	268	266	1,148	200	193	267	266	263	261	260	260	262	259	259	258	493	5,183	1.9%
Samoa	202	203	204	208	199	267	266	261	261	260	298	288	265	262	270	258	3,973	1.4%
Solomon Islands	430	226	210	291	194	337	497	536	359	424	377	347	339	265	732	2,307	7,871	2.9%
Tonga	108	202	200	198	192	267	266	261	261	260	263	260	263	259	258	258	3,776	1.4%
▶ **Tuvalu**	676	207	456	1,878	377	667	1,561	775	2,496	3,828	5,085	4,270	5,252	4,056	504	2,481	34,570	**12.5%**
Vanuatu	93	201	196	197	195	267	266	263	261	272	260	295	259	267	258	317	3,868	1.4%
TOTAL	**17,976**	**13,627**	**13,917**	**13,363**	**12,720**	**18,409**	**18,598**	**18,949**	**18,909**	**18,767**	**18,710**	**18,861**	**18,886**	**17,863**	**18,017**	**18,163**	**275,736**	100.0%

[1] In LPs 1-5 there were 2 funds, *Economic Development Fund* and *Technical Assistance Fund*, with total allocations of US$1 million and US$0.25 million, respectively. From LP_6 they were superceded by one *Project Development Fund*.

Table 4

US MULTILATERAL FISHERIES TREATY CATCH VOLUMES BY FFA MEMBER STATES: 1988/89 - 2004/05 LICENSING PERIOD

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
FFA Member State	**1988/89**	**1989/90**	**1990/91**	**1991/92**	**1992/93**	**1993/94**	**1994/95**	**1995/96**	**1996/97**	**1997/98**	**1998/99**	**1999/00**	**2000/01**	**2001/02**	**2002/03**	**2003/04**	**Cum Total**	
	(mt)	(mt)	(mt)	(mt)	(mt)	(mt)	(mt)	(mt)	(mt)	(mt)	(mt)	(mt)	(mt)	(mt)	(mt)	(mt)	(mt)	(% of Total)
Australia	0	0	0	0	0	0	34	0	0	0	0	0	0	0	0	0	34	0.0%
Cook Islands	0	0	0	0	0	589	77	0	0	139	124	220	328	3,047	2,323	0	6,848	0.3%
▶ F.States of Micronesia	24,670	14,081	8,386	15,054	18,109	7,863	13,560	50,512	4,546	1,293	1,249	57	36	117	4,736	768	165,038	**8.3%**
Fiji	25	0	0	56	560	6,871	796	374	45	0	474	652	2,506	0	14	256	12,627	0.6%
▶ Kiribati	70	33,478	64,060	112,362	103,084	100,709	70,897	14,546	62,309	50,874	50,537	56,645	46,110	49,690	24,384	24,701	864,454	**43.6%**
Marshall Islands	1,209	3,014	20	69	11,994	1,950	1,066	10,091	149	633	1,110	217	1,346	63	408	18	33,357	1.7%
Nauru	25	10,639	7,942	1,036	37,356	16,065	1,105	3,015	4,687	4,423	7,790	2,160	441	2,234	7,294	1,741	107,953	**5.4%**
New Zealand	0	0	212	0	0	0	0	0	0	317	728	3,045	0	0	0	217	4,519	0.2%
Tokelau	2,106	2,651	38	15,926	20	6,261	186	0	63	1,203	2,770	4,181	2,857	6,206	120	905	45,492	2.3%
Niue	0	0	0	0	0	0	0	0	0	0	27	0	0	0	0	0	27	0.0%
▶ Papua New Guinea	96,139	76,025	62,691	15,973	8,678	14,687	52,252	35,125	23,589	7,541	12,428	13,091	873	14,660	26,041	6,492	466,285	**23.5%**
Palau	611	1,454	14,150	0	0	0	0	20	0	0	0	18	0	0	0	869	17,122	0.9%
Samoa	0	0	0	0	50	0	0	0	0	0	308	216	31	27	59	0	691	0.0%
Solomon Islands	189	57	91	1,679	5	780	2,500	2,238	759	1,007	948	662	452	47	2,353	7,597	21,364	1.1%
Tonga	0	0	0	0	0	0	0	0	0	0	29	0	23	0	0	0	52	0.0%
▶ Tuvalu	10	237	3,868	31,775	3,398	4,496	14,010	4,182	17,190	21,815	38,943	30,542	28,175	29,132	1,221	8,244	237,237	**12.0%**
Vanuatu	0	828	0	0	0	0	0	18	0	73	0	271	0	64	0	217	1,470	0.1%
TOTAL	125,054	142,464	161,458	193,930	183,254	160,271	156,483	120,121	113,334	89,316	117,465	111,977	83,177	105,288	68,954	52,024	**1,984,570**	100.0%

3.4 Estimates Fisheries Contribution to GDP

Using national accounts data, Gillett and Lightfoot[41] re-estimated the contribution of fishing to GDP in developing Pacific Island countries, notably each FFA member country except Australia and New Zealand. Their estimates are based essentially on data for the year 1999. They also presented corresponding access fee totals for these same countries. Comparing the contribution of tuna fishery-access fees alone, with the wider flow-on contribution of fishing to GDP (even excluding the impact of subsistence fishing) is instructive.

Table 5, which is based on this data, shows very wide differences between these member countries in the overall *level* and *rate of contribution* fishing made to GDP (including subsistence fishing) in 1999. The figures range from a high of 21.5% for Kiribati; to a low of 1.4% for PNG, with an average of 6.98%.[42]

Table 5

Contribution of Fishing to GDP

FFA Member State	GDP	Fishing contribution to GDP		Date of Data
	(USD)	(USD)	(%)	
Cook Islands	80,400,668	8,667,192	**10.78%**	2000
FSM	229,842,932	21,950,000	**9.55%**	1999
Fiji	1,839,178,956	43,404,623	**2.36%**	1998
Kiribati	54,744,223	11,791,906	**21.54%**	2000
Marshall Islands	93,662,338	3,606,000	**3.85%**	1999
Nauru	51,669,628	1,095,396	**2.12%**	1999
Niue	6,505,070	121,645	**1.87%**	2000
PNG	3,501,460,437	49,370,592	**1.41%**	1999
Palau	137,154,851	11,027,250	**8.04%**	1998
Samoa	230,241,676	15,311,071	**6.65%**	1999
Solomon Islands	278,810,140	35,687,698	**12.80%**	1999
Tonga	167,255,056	12,477,227	**7.46%**	1999
Tuvalu	13,920,011	979,969	**7.04%**	1998
Vanuatu	230,325,000	5,159,280	**2.24%**	1999
TOTAL	**6,915,170,986**	**220,649,849**	**6.98%**	

Source: Gillett, R and C. Lightfoot, "The Contribution of Fisheries to Pacific Island Countries", 2001.

3.5 Estimates of Fisheries Access Fee Payments

Table 6 below shows total fisheries access fees received by these developing member countries at two periods in time, 1999 and 2003. As noted by the FFA report from which the table is reproduced:

> *"The overall level of access revenue appears to have risen by around [12%] in the four years since 1999, from US$60 million to US$68 million. As the 2003 figures are probably*

[41] GILLETT, Robert and Chris Lightfoot; "*The Contribution of Fisheries to the Economies of Pacific Island Countries*"; December 2001.

[42] In the case of PNG, however, this low percentage reflects the fact that despite fishing contributing a sizeable amount in absolute terms, relative to its relatively large economy the proportionate contribution is small.

conservative in their current provisional form, this increase may be greater when final figures have been received. These figures also do not include supplementary payments made under the US Multilateral Fisheries Treaty, nor aid-in-kind associated with several DWFN access agreements. If included, the total value of access would be well above US$ 70 million in 2003.

Table 6
Tuna Fisheries Access Fee Revenue of Developing Pacific Island Member Countries by Fishery Features: 1999 and 2003

Country	EEZ Area (million km^2)	Latitudinal Range	Historical High Catch (mt)	Access fees 1999 (US$ million)	Access fees 1999 (%)	Access fees 2003 (US$ million)	Access fees 2003 (%)
Category 1		***Large very productive EEZ, tropical***					
PNG	2.24	2^0N – 14^0S	370,000	5.864	9.7	15.712	23.1
FSM	2.78	13^0N – 1^0S	250,000	14.118	23.4	*11.084*	16.3
Solomon Is.	1.34	4^0S - 15^0S	120,000	0.273	0.5	*1.707*	2.5
Kiribati	3.55	9^0N - 13^0S	350,000	23.711	39.34	21.374	31.4
Marshall Is.	2.13	15^0N - 5^0N	80,000	4.306	7.1	*3.322*	4.9
Sub-Total				**48.272**	**80.1 %**	**53.199**	**78.2**
Category 2		***Small- medium EEZ, moderately productive, tropical***					
Palau	0.63	11^0N – 2^0N	20,000	0.901	1.5	0.688	1.0
Nauru	0.32	2^0N – 2^0S	100,000	3.425	5.7	4.462	6.6
Tuvalu	0.90	4^0S – 13^0S	50,000	5.925	9.8	6.086	9.0
Sub-Total				**10.251**	**17.0 %**	**11.236**	**16.5 %**
Category 3		***Medium EEZ, moderately productive, sub-tropical***					
Vanuatu	0.68	13^0S – 22^0S	6,000	0.328	0.5	1.155	1.7
Fiji Islands	1.29	10^0S – 24^0S	15,000	0.212	0.4	0.155	0.2
Cook Is.	1.83	7^0S – 25^0S	5,000	0.196	0.3	1.442	2.1
Tonga	0.70	14^0S – 25^0S	5,000	0.152	0.3	0.247	0.4
Sub-Total				**0.888**	**1.5%**	**2.999**	**4.4%**
Category 4		***Small EEZ, moderately productive, sub-tropical***					
Samoa	0.12	12^0S – 14^0S	8,000	0.189	0.3	0.200	0.3
Niue	0.39	17^0S – 22^0S	3,000	0.177	0.3	0.147	0.2
Tokelau	0.29	7^0S – 11^0S	15,000	0.499	0.8	*0.216*	0.3
Sub-Total				**0.865**	**1.4%**	**0.563**	**0.8%**
TOTAL				**60.277**	**100%**	**67.999**	**100%**

Italicised figures are estimated.

Sources: Gillett and Lightfoot, 2001; "The Contribution of Fisheries to Pacific Island Countries", for 1999 figures; and 2003 figures from a Nov. 2004 FFA study, "A Review of Current Access Arrangements in Pacific Developing Member Countries".

3.6 Estimated Rates of Fisheries Access Fee Payments

Disaggregated details of fisheries access fee payments and catch values by fleet and by country are not publicly available, although the FFA maintains a strictly confidential database with such information.

In aggregate, developing member countries' access fees as a percentage of catch value is understood to *average* about 6% to 7%, with variations between different fleets and the basis of setting the fee. Variations occur between member countries depending on the structure of their respective fisheries access agreements, and on the fleets concerned. Typically fleets pay a fee expressed as a fixed percentage of actual catch value based on an agreed price: whereas Japanese fleets have consistently paid a rate of 5%, other DWFN fleets generally pay higher rates according to the FFA.[43]

It would be misleading to view the corresponding rate for payments under the US Multilateral Fisheries Treaty (over 20%) as indicating a potentially achievable target rate of return from commercially-based fisheries-access agreements. This is because 85% of payments under the treaty are funded by the US Government and only 15% by the US commercial fleet.

It is a moot point whether based solely on commercial criteria access fee rates much beyond 6-8% of the landed value of the catch may be achievable. According to a recent FFA report:[44]

> *"This ceiling has been the experience in most tuna fisheries, with even 6% seen as a significant if not burdensome "royalty payment" or "resource rental" in most resource sectors. The best placed PDMCs currently achieve a return of between 7 and 8% in some years. Even as competition for available tuna resources continues to increase, there is some evidence that this ceiling is a real one in economic terms, and those PDMCs which have the capacity or potential to do so, would best focus on domestic industry development or shore-based investment as a better prospect for, or an adjunct to, increasing returns from the fishery."*

3.7 FFA's Contribution to Fisheries Access Fee Payments

None of the foregoing quantitative indicators in Tables 3 to Table 6 can tell us the value of net benefits attributable to the actions of the FFA, including its support for various sub-regional arrangements.

In practice, we cannot measure reliably its part in either: the contribution fisheries have made to the GDP of member countries; or the total amount they receive in fisheries access fees individually or collectively. Too many other factors have also contributed to these outcomes for it to be feasible to reliably separate out the individual contributions of the FFA. The value of the FFA's cumulative contribution to-date necessarily remains illusive and speculative. All that can prudently be said about the benefits from its actions is that, in some cases such as negotiation of the US Multilateral Fisheries Treaty, they appear to have played a major role in helping member countries secure sizeable net benefits. Moreover, it may be argued that these actions

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[43] FFA report, "*A Review of Current Access Arrangement in Pacific Developing Member Countries (PDMCs)*"; Nov. 2004

[44] Ibid., p. 7.

also have played a major part in ensuring that the tuna fisheries in their EEZs have remained in tact sufficiently to enable them still to *obtain* such benefits, or at least have the *option* to do so.[45]

3.8 The Counterfactual

Reinforcing the foregoing conclusion is the practical reality that it is not realistic to reliably *quantify* the broad counterfactual scenario identified below as the most likely to have occurred in the absence of the FFA.

E. Counterfactual Scenario in Absence of FFA

1. Why Identify the Counterfactual Scenario?

To estimate the impact of any public policy action (target intervention) – whether it has already occurred, is still occurring or is being planned - requires also an estimate of the most plausible **counterfactual scenario**. This counterfactual scenario is the set of events and outcomes that is thought most likely to have occurred, or to occur, in the absence of the target intervention. Identifying the counterfactual scenario, in principle, enables analysts to isolate the actual or likely contribution of a particular target intervention as being ***equal to*** the net present value (NPV) of:

The estimated total value of net benefits from the *target intervention*; ***minus***

the estimated total value of net benefits under the *counterfactual scenario*.

This *difference* in NPV represents the contribution of the target intervention.

Deciding what constitutes the most plausible counterfactual scenario is essentially a matter of judgement, especially in retrospective CBA cases as the challenge is to resolve what most likely would have occurred broadly speaking if the *actual* target intervention had not. By contrast, in reviewing a *proposed* intervention, the "status quo" or existing policy settings usually will be the appropriate counterfactual. While there may be several quite plausible scenarios, each of which could be used to estimate the likely impact of the policy intervention in question, in practice it usually is feasible to select only one as the *base-case* counterfactual scenario.[46] This certainly is the case with this preliminary retrospective analysis of the FFA's role.

But this is only the start of resolving the counterfactual scenario. The next challenge is to specify in more detail and *quantify* its likely outcomes, and then to estimate the *value* of their associated stream of benefits and costs.

2. Indian Ocean Tuna Commission as Indicative of Counterfactual Scenario in FFA's Absence

2.1 Choice of Indian Ocean Tuna Commission as Counterfactual

If the FFA had not been formed in 1977, what sort of *cooperative institutional arrangements* otherwise would have been most likely to have arisen – if any - to address regional fisheries issues? The answer is a matter of judgement (as noted earlier), ideally informed by learning

[45] For example, FFA roles contributing to these benefits (as discussed in the previous section) include: (1) advising member countries on fisheries access issues, including minimum terms and conditions which help safeguard the fisheries; and (2) developing and administering (a) the Regional Register of fishing vessels, (b) the FFA_VMS system, (c) FMA_VMS Register, and (d) coordinating fisheries surveillance help from several developed countries.

[46] For example, this is the approach typically used in studies quoted in GALAL, Ahmed et al; *Welfare Consequences of Selling Public Enterprises: An Empirical Analysis*, Oxford University Press, 1994. See for instance pp.164-5.

lessons from the experience of other regions in developing regional fisheries agencies. Unfortunately there is no a priori basis for resolving this issue.

A review of **other regional institutions** that regulate tuna fisheries around the world reveals that they *all* have membership comprising *both* coastal-state countries in the region concerned *and* DWFNs who fish there. Such institutions include:

a. Inter-American Tropical Tuna Commission (IATTC);

b. Indian Ocean Tuna Commission (IOTC);

c. International Commission for the Conservation of Atlantic Tuna (ICCAT);

d. Commission for the Conservation of Southern Bluefin Tuna (CCSBT); and

e. Western and Central Pacific Fisheries Commission created in December 2004.

By contrast, **FFA** membership is restricted to coastal-state countries in the region. The FFA clearly is the "*odd man out*" in terms of membership.

Against this background - and recalling that when creation of the FFA was being mooted, its membership almost was open to DWFNs – the most likely ***counterfactual scenario*** to the FFA's creation is assumed to be a regional fisheries body whose membership *includes* DWFNs as well as coastal states. In particular, the **IOTC** has been chosen from the above bodies as *indicative* (for this exercise) of the counterfactual scenario in the FFA's absence. The choice was made with broad support from several professionals - with extensive experience in institutional arrangements for conserving and managing tuna fisheries – who were informally consulted.[47]

2.2 Implications of IOTC as Indicative Counterfactual

Assuming that a regional fisheries body like the IOTC represents the counterfactual scenario arguably means that it would be less effective (than the FFA) in helping to promote and secure the regional-fisheries-related interests of FFA member countries. Experience suggest that the main reason for this being likely to be the case, is that coastal states and DWFNs typically exhibit distinctly different – if not conflicting - views on fisheries issues. Negotiations between the two groups of interests often stall because both parties focus on the outcomes as being a "zero-sum game" where one group gains at the expense of the other.[48] The inherent divergence of interests between the two groups, therefore, is presumed to slow-up progress in achieving effective cooperative action to conserve and manage fisheries in the region.

But this counterfactual scenario has another downside. Because membership of a fisheries institution such as the IOTC includes both coastal states and DWFNs, this would prevent the developing coastal-state member countries from obtaining the institution's help in negotiating with the DWFNs in the club. The institution would too easily be conflicted - and end up in an untenable position - if tried to help one group of its members to negotiate an agreement with another group of its members. In effect, at most its role would be limited to an "honest broker" who did not take sides but helped ensured that both parties understood the implications of divergent positions and possible options for resolving them.

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[47] Those consulted in this respect include: Les Clark (a fisheries consultant, and former Deputy Director of FFA); Len Rodwell (Economics Manager, FFA) and Robert Gillette (independent fisheries expert).

[48] Possible reasons for this are discussed in the previous section in relation to fisheries access agreements.

If both groups had *more or less equal capacities* to negotiate on such issues, then such a role, as required, may make good sense for both parties. But FFA member countries predominantly comprise *developing coastal states* (including many small-island developing states) whose resource capacities in any negotiations are very much less than their wealthier developed DWFN counterparts. They arguably would need technical advice and other support to participate effectively in the operations of a regional fisheries club that includes DWFNs.

Where else would coordinated regional and individual country help for them come from in the absence of a club dedicated solely to the coastal states? Bilateral aid presumably would provide some help, but wide experience suggest that it is difficult to achieve continuity of relationships and in-depth institutional knowledge - and well coordinated help when needed – if relying on bilateral aid mechanisms. If this is the case, the fisheries-related help FFA member countries receive probably would be less effective overall in helping them to achieve their regional, sub-regional or individual country goals. This would result in correspondingly inferior outcomes under the counterfactual scenario (compared with those achieved with FFA help). For example, without dedicated help for the developing coastal-state member countries, they are likely to have been much less well informed or effective in negotiating access arrangements with DWFNs (including minimum terms and conditions).[49]

But reliably quantifying the expected lower overall amount of net benefits for member countries under this scenario is exceedingly difficult and speculative exercise. The following are some possible *manifestations* of the expected lower aggregate net benefits under the counterfactual scenario:

a. *Lower fisheries access payments*: With a lesser level of effective support, coastal states could be expected to obtain lower access fees than otherwise - and/or lower bilateral aid sums (which sometimes substitute for fees) – as a *direct* result.

b. *Less sustainable fishing*: Without a paramount focus on coastal-states' interests, the regional fisheries body under the counterfactual scenario would be less effective in pursuing their interests in terms of:
   - Adopting fisheries conservation and management strategies and policies; and
   - Monitoring, surveillance, enforcement activities to encourage compliance with access conditions and with fisheries regulations in EEZs.

   Over time this would influence (in part) the fish stock available to fish and catch recorded, which *indirectly* would be reflected in lower fisheries *access payments* and/or lower *economic benefits* from domestic fisheries related activities in some coastal states.

2.3 Specific Features and Achievements of IOTC

A brief review of the track record of the IOTC is instructive.[50] In 1982 the IOTC began life as the Indo-Pacific Tuna Development and Management Programme (IPTP) in Colombo, Sri Lanka. Its programme initially covered the Indian Ocean and an area extending over the western Pacific, but was later limited to the Indian Ocean. Although the ITPT did not have a fisheries management mandate, its activities included all the other functions of its successor, the IOTC, which inherited is work.

[49] This applies to both collective negotiations (as a region or sub-region) with DWFNs and bilateral negotiations.

[50] Information about the IOTC has been sourced primarily from its official web site.

The IOTC website states that:

> *"Over the fifteen years of its activity, notable IPTP achievements included the constitution of a* ***database*** *covering tuna fisheries in the Indian Ocean… In the process many countries bordering the ocean were assisted in setting up statistical sampling schemes. Many studies were conducted on the biology of the fisheries of tunas… Six Expert Consultations on Indian Ocean tunas and five on western Pacific tunas, as well as a number of workshops were organised. These provided advice to parties fishing for tuna in the area on the status of stocks."*

The basic role of the IOTC is to *promote* **cooperation** amongst its members to ensure via appropriate management, the conservation and optimal utilisation of stocks covered by its enabling agreement.[51] To this end, its main ***functions and duties*** are:

a. *To review stock conditions and collect, analyse and disseminate information*: To keep under review the conditions and trends of the stocks and to gather, analyse and disseminate scientific information, catch and effort statistics and other data relevant to the conservation and management of the stocks and fisheries covered by its enacting document.

b. *To encourage and coordinate research and development activities*: To encourage, recommend and coordinate research and development activities in respect of the stocks and fisheries covered by the Agreement, and such other activities as the Commission may decide appropriate, including activities connected with the transfer of technology, training and enhancement, having due regard to the need to ensure the e*quitable participation* of Members … in the fisheries and the special interests and needs of Members in the region that are ***developing countries***.

c. *To adopt conservation and management measures*: To adopt, on the basis of scientific evidence, conservation and management measures to ensure the conservation of the stocks covered by the Agreement and to promote the objective of optimum utilisation throughout the area.

d. *To review economic and social aspects*: To keep under review the economic and social aspects of the fisheries based on the stocks covered by the Agreement bearing in mind, in particular, the interests of ***developing coastal states***.

A review of the IOTC ***resolutions*** (up to and including 2003) shows that its major focus is on recommending rules for the management of the fisheries within its mandate, and with ensuring that its member states – and cooperating non-member states – provide appropriate, timely statistical information to allow the state of the fishery to be scientifically assessed.

While the IOTC can impose conservation and management measures on its members, with a two-thirds majority vote, a formal *objection* process enables members to opt out from being bound by the measures.

Primary funding for the IOTC's operations is member contributions. These are differentiated via formula that partly reflects a member's *ability to pay*, and partly reflects a *user-pay* principle based on a member's 3-year average catch data:

a. *10% equal base fee*: 10% of the total budget is shared equally by members;

[51] The *Agreement for the* on 27 March 1996. *Establishment of the Indian Ocean Tuna Commission* which entered into force

b. *10% equal for fishers*: 10% of the total budget is shared equally by members with fishing operations in the area targeting species covered by the IOTC;

c. *40% weighted GDP-per-capita basis*: 40% of the total budget is allocated among members by weighting each member's raw GDP-per-capita proportions, according to progressively increasing weights (0, 2, and 8) corresponding to low-, medium-, or high-economic status. The result is that low-income members do *not* pay this contribution element.

d. *40% proportionate to catch*: 40% of the total budget is allocated among members in proportion to a 3-year average catch.

While this budget formula is consistent with not discouraging developing coastal states to participate in the IOTC's work, there were no readily apparent evidence of measures to enable them to do so effectively (e.g. via financial support, technical assistance and capacity building).

Another notable absence, - expected, of course, given the composition of the IOTC's membership – is any provision of advice that would help to enable developing coastal states to stand up for their rights in – individually or collectively – in negotiating access arrangements or economic joint ventures with their developed DWFN counterparts!

This preliminary review reaffirms the foregoing assessment of the counterfactual scenario in the absence of the FFA.

IV. CONCLUSIONS

In 1997, members of the South Pacific Forum decided to *cooperate* to create a regional fisheries agency, the South Pacific Forum Fisheries Agency (FFA) to serve them. Their foresight has been repaid many-fold. Over the 25 years since coming into effect in 1979, the FFA has played a pivotal role in *helping* member countries to secure and uphold sovereign rights over their respective EEZs; to negotiate beneficial tuna fisheries access agreements; to develop and negotiate conservation and management regimes for the tuna fisheries in their EEZs; to monitor and enforce compliance with access agreements and fisheries regulations and, more recently, to negotiate the creation of a new international body to promote and coordinate cooperation aimed at ensuring the highly migratory tuna stock in their EEZs and adjacent high seas are managed on a biologically and economically sustainable basis.

Some of its outputs have been focused on the individual needs of member countries, while others have involved the collective needs of all members or subgroups of them. For example, with expert help from the FFA, member countries have cooperated to create and operate a series of sub-regional fisheries arrangements tailored to suit the needs and aspirations of particular subsets of member countries.

Underlying the FFA's success in helping member countries to obtain such results are four key features of this regional cooperation. First, pooling scare resources and coordinating their use has yielded obvious *economies of scale and scope* for member countries. This has enabled them to obtain a cost-effective dedicated supply of expertise, information, analysis, advice and support for fisheries issues which for many otherwise may not have been available. Second, FFA's expert support has helped to member countries (all but two of whom are developing island states) to redress their negotiating imbalance vis-à-vis largely developed, wealthy DWFNs. Finally, creating a regional body focused exclusively on the interests of coastal states in the region has reduced the degree of internal conflicts of interests within the organisation. As

a result the FFA seems to have been more able *internally* to resolve issues and *externally* to take a united stand on in dealing with other parties such as DWFNs.

But, of course some conflicts of interest inevitably do arise between member countries for a variety of normal reasons. Wide differences in the shares of costs and benefits from regional or sub-regional cooperation typically cause conflict between the parties and ultimately can undermine its likelihood of success. The more each of the parties to an actual or potential regional cooperative activity share *both* common goals *and* a similar level of net benefits, the more likely the cooperation is likely to succeed.

Finally, despite the catalogue of qualitative benefits arising directly or indirectly from the FFA's activities, it is not feasible to quantify reliably the value of net benefits attributable to its actions. Too many other factors have also contributed to these outcomes for it to be feasible to reliably separate out the individual contributions of the FFA. Moreover, it is not feasible to quantify reliable the net benefits that otherwise are likely to have arisen under the most counterfactual scenario if the FFA had not been created. All that can prudently be said is that its actions appear to have played a major role in helping member countries secure sizeable net benefits from their fisheries.

APPENDIX: KEY EVENTS IN LIFE OF SOUTH PACIFIC FORUM FISHERIES AGENCY

DATE	EVENT	REF.
1979 (Aug)	***South Pacific Forum Fisheries Agency*** *("FFA") created* formally by international convention of South Pacific Forum "Member States".	1.
1982 (Dec)	***United Nations Convention on the Law of the Sea*** *adopted*, recognizing coastal states' rights to bordering seas, i.e. exclusive economic zones ("EEZs")	2.
	Nauru Agreement *Concerning Cooperation in the Management of Fisheries of Common Interest came into force* to help the 8 sub-regional parties to adopt a coordinated approach to foreign fishing vessels in their fishing zones.	3.
1984 (Jun)	***Arrest*** *of US purse seine vessel* "Jeanette Diana" by Solomon Islands Govt. led to a flurry of action culminating in 1988 US Multilateral Treaty on Fisheries.	4.
1984	*Creation of centralised* ***vessel reporting system***, based initially only on data from PNG and Solomon Is re: fishing vessels operating in their EEZs.	5.
1985 (Feb)	*Legal consultations held in Suva* to consider how to enable Pacific Forum States to exercise more effective legal jurisdiction over fisheries in their EEZs.	6.
1985	*Creation of* ***regional fisheries surveillance programme****.*	7.
1988 (Jun)	***US Multilateral Treaty on Fisheries*** *came into force* on 15 June 1988, with a fee of US$12 million payable annually.	8.
1989	*Harmonised* ***minimum terms and conditions of access*** *("MTCs") adopted* for fisheries within member states' respective EEZs.	9.
1990	*Distant water fishing nations ("DWFNs") oppose minimum terms and conditions of fisheries access* demanded by Member States in negotiations.	10.
	Serious ***FFA-funding difficulties*** *came to a head* as 85% of cost of FFA work program now met from extra-budgetary sources, and only 15% from members' contributions, raising donor questions about members' commitment to FFA. The real purchasing power of member contributions to FFA has been reducing.	11.
1990 (Sep)	*Revised procedures for* ***Regional Register of vessels*** *implemented*, but with a very low compliance rate.	12.
1990 (Nov)	*4th* ***observer training course*** *held* to enable member states to supply on-board observers to monitor compliance under the US Multilateral Fisheries Treaty.	13.
1991 (Jul)	*DWFNs cease operating* ***driftnet fishing vessels*** after sustained pressure from member states supported by FFA.	14.
1992 (May)	*1st 10-year* ***extension*** *to US Multilateral Treaty on Fisheries agreed* by parties.	15.
	FAO asked to draft ***International Code on Responsible Fishing*** by international conference on responsible fishing.	16.
1992 (Jul)	***Niue Treaty*** *on Cooperation in Fisheries Surveillance & Law signed* creating a valuable means to enhance regional monitoring, control and surveillance.	17.
1992 (Oct)	***Arrangement for Management of Western Pacific Purse Seine Fishery*** *adopted* by sub-regional parties to 1982 Nauru Agreement to further its goals by harmonising conditions of fishery access licences and allocation priorities.	18.
1992	*Increase in illegal fishing by foreign vessels occurred*	19.
	Japan agreed to comply with substance of MTCs in bilateral agreements with Australia, FSM, NZ and Palau, but does not accept regional register of vessels.	20.

DATE	EVENT	REF.
1993	*Higher* ***access fees*** *negotiated by several FFA member states* (i.e. 5% of value of the catch, up from 4%)	21.
	Ban on transhipment at sea *implemented*.	22.
	Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas *adopted* from FAO draft, recognising the impact of high seas fishing on coastal-state EEZs.	23.
1993 (May)	***Niue Treaty*** *on Cooperation in Fisheries Surveillance & Law came into force*.	24.
	Parties to Nauru Agreement agreed to limit licenses for foreign purse seiners to vessels flagged by a state with a bilateral access agreement.	25.
	Parties to Palau Agreement agreed not to license foreign purse seiners flagged to 'open registries".	26.
1993 (Jun)	***1st 10-year extension to US Multilateral Treaty on Fisheries*** *came into force*, with access fees of US$18 million payable annually.	27.
1993 (Nov)	***Palau Arrangement*** *for the Management of the Purse Seine Fishery in the Western and Central Pacific entered into force* for Parties to the Nauru Agreement, limiting the number of purse seine vessels that could be licensed.	28.
1994 (Nov)	***UN Convention on the Law of the Sea*** *came into force*, after being ratified by 1 year earlier the 60th state. (It was adopted in Dec 1982!)	29.
1994 (Dec)	***1st Multilateral High Level Conference*** *on South Pacific Tuna Fisheries ("MHLC") convened by FFA* (including coastal states and DWFNs) to develop strategies for regulating fishing fleets operating in the Western Central Pacific.	30.
1995 (Aug)	***"Agreement for the Implementation of the Provisions of the UNCLOS … Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks"*** *adopted* by UN Conference.	31.
1995 (Sep)	***FSM Arrangement*** *for Regional Fisheries Access came into force* being in effect an internal multilateral access arrangement between Parties to the Palau Agreement to encourage locally-based purse seine fishing operations.	32.
1995 (Oct)	***Code of Conduct for Responsible Fishing*** *adopted by FAO conference*, providing a non-mandatory framework for national and international efforts to achieve sustainable fishing regimes.	33.
1996	***Changes to FFA's operating arrangements*** *to enhance its focus on fisheries management agreed* by its governing body, i.e. creating ongoing Species Working Groups and a Monitoring, Control & Surveillance Working Group.	34.
	US Multilateral Treaty ***targeted 20% observer coverage*** *achieved for 1st time*.	35.
	Taipei,China's albacore tuna longline fleet ceased operating in all but 2 member states (Fiji Islands & Vanuatu), as members did not renew bilateral fishery access agreements to encourage the fleet to accept a "Poly Melon" sub-regional access arrangement.	36.
1996 (Jul)	***Technical consultation*** *on collection and exchange of fisheries data, tuna research and stock assessment held* in New Caledonia.	37.
1996 (Nov)	***Technical consultation*** *on fishing vessel monitoring systems held* in Fiji Islands.	38.

DATE	EVENT	REF.
1997 (Mar)	***6th FFA/SPC Colloquium*** *held* in Vanuatu to coordinate work programmes.	39.
1997 (Apr)	***Number of purse seine vessel licences reduced by 10%*** *by parties to the Nauru Agreement* as part of the Palau Agreement.	40.
1997 (Jun)	***2nd Multilateral High Level Conference*** *convened* by FFA to consider means for conserving and managing highly migratory fish in the WCPO.	41.
1997 (Dec)	***Intersessional technical consultation*** *held* in the Solomon Islands on issues regarding fisheries management.	42.
1988 (Mar)	***Intersessional technical consultation*** *held* in Fiji Islands on issues relating to monitoring, control and surveillance.	43.
1998 (Jun)	***3rd Multilateral High Level Conference*** *convened* by FFA to continue its previous focus and start *serious negotiations* to resolve issues re: creating a body to oversee conservation and management of the WCPO tuna resource. .	44.
1998	***FFA Vessel Monitoring System*** *("VMS") became operational* to help coastal states to maintain the integrity of their EEZs via monitoring and better controlling access.	45.
	2 vessels now on ***VMS Register***	
	Regional Register*'s effectiveness as a compliance tool undermined* by lack of registrations in 1998/99 licensing year	46.
1999 (Feb)	***4th Multilateral High Level Conference*** *convened* by FFA to continue negotiations between coastal states and DWFNs on conservation and management of WCPO tuna resource.	47.
1999 (Sep)	***5th Multilateral High Level Conference*** *convened* by FFA to continue negotiations.	48.
1999	***Forum Fisheries Committee*** *met 5 times to resolve issues and strategies* relating especially to the ongoing work/ negotiations at the MHLCs.	49.
2000 (Apr)	***6th Multilateral High Level Conference*** *convened* by FFA to continue negotiations.	50.
2000 (Sep)	***7th Multilateral High Level Conference*** *convened* by FFA to continue negotiations which culminated in the adoption of the convention below.	51.
	Convention for the Conservation and Management of Highly Migratory Fish Stocks of the Western and Central Pacific Ocean *adopted* by the MHLC!	52.
2000 (Oct)	*Licensing of Japanese fleet in 2000 suspended by Palau until the vessels installed* ***VMS*** *equipment and registered with the* ***VMS Register****.*	53.
2000 (Dec)	***UN Fish Stocks Agreement*** *entered into force*.	54.
2000	***International Tribunal on the Law of the Sea*** *role in interpreting LOSC is growing* in importance (e.g. its rulings on prompt release of vessels detained).	55.
	Major DWFNs operating in the region sought ***lower access fees***	56.
	Fisheries Agreement and Licensing database *being updated* by FFA.	57.
2001	*FFA's* ***VMS Register*** *listed 608 fishing vessels of all types*, but only 23% of these are reporting regularly to the system.	58.
	FFA Corporate Plan 2002 – 2005 *adopted* providing a new "charter" for this planning period.	59.

DATE	EVENT	REF.
2002 (Mar)	*2nd 10-year extension of US Multilateral Fisheries Treaty agreed upon.*	60.
2002 (Jun)	*Data quality assurance project begun* to review Regional Register database.	61.
2003	***Palau Arrangement (1993)*** *modified* by the parties to manage their purse seine fisheries on the basis of a ***vessel day scheme*** (VDS) limiting the number of fishing days, instead of the number of fishing vessels as previously.	62.
2003 (Jun)	***2nd 10-year extension to US Multilateral Fishery Treaty*** *came into force* from 15 June, with a fee of US$21 million p.a. payable once ratified by all parties.	63.
2003 (Dec)	*Convention for Conservation and Management of Highly Migratory Fish Stocks of the Western and Central Pacific Ocean ratified by 13th state on 19 December,* triggering its coming into force 6 months later!	64.
2004 (Jun)	***Convention for Conservation and Management of Highly Migratory Fish Stocks of the Western and Central Pacific Ocean*** *came into force* on 19 June 2004.	65.

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Working Paper No. 5

Retrospective Cost-Benefit Analyses of Air Pacific and Pacific Forum Line

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Preface

This report was prepared for the Pacific Islands Forum Secretariat (PFIS) in Suva, Fiji Islands. The report is one output of an Asian Development Bank (ADB) technical assistance project (TA 6226 REG): "Developing and Implementing the Pacific Plan for Strengthening Regional Cooperation and Integration." The Commonwealth Secretariat provided funding to the project.

The lead author of the report was Dr. Roman Grynberg, Deputy Director of Trade and Regional Cooperation at the Commonwealth Secretariat. He was assisted by Michael Hyndman, a cost-benefit analyst contracted by ADB, and Sacha Silva, an economist contracted by the Commonwealth Secretariat. Consultants from PIFS and the Pacific region provided valuable inputs for the report. Bill Costello was the ADB task manager.

The report is published in three volumes. Volume 1 is the Executive Summary. Volume 2 is the main report. Volume 3 contains the working papers commissioned for the report–a series of independent studies assessing potential benefits and costs of implementing a variety of possible regional initiatives. Volume 3 has been printed in hard copy in only limited numbers. However, it is available on the websites of ADB (www.adb.org) and at www.pacificplan.org.

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CONTENTS

ABBREVIATIONS AND ACRONYMS

ACP	—	African, Caribbean and Pacific Group
AIDAB	—	Australian International Development Aid Bureau
ANL	—	Australian National Line
BOAC	—	British Overseas Airways Corporation
CCS	—	Chief Containers Service (Swires)
CFTC	—	Commonwealth Fund for Technical Co-operation
CGM	—	Compagnie Generale Maritime
CINL	—	Cook Islands National Line
ECU	—	European Currency Unit
EIB	—	European Investment Bank
ITF	—	International Transport Workers Federation
LCL	—	Less than Container Load
ODA	—	Overseas Development Aid
OECD	—	Organisation for Economic Co-operation and Development
P&O	—	Peninsula and Oriental Shipping Company
PFL	—	Pacific Forum Line
PIPA	—	Pacific Islands Producers Association
RSC	—	Regional Shipping Council
SCONZ	—	Shipping Corporation of New Zealand
SPARTECA	—	South Pacific Regional Trade and Economic Co-operation Agreement
SPEC	—	South Pacific Bureau for Economic Co-operation
SPF	—	South Pacific Forum
TEAL	—	Tasman Empire Airways Limited
UMS	—	Union Maritime Services
UNESCAP	—	United Nations Economic and Social Commission for Asia and the Pacific
UTA	—	United Travel Airways

CONCLUSIONS AND LESSONS LEARNED

After having undertaken the cost-benefit analysis of Air Pacific and Pacific Forum Line (PFL), two regionally operating commercial operations, there are important lessons or conclusions that we can deduce from the stark differences and similarities in the processes or stages that they individually went through towards attaining maturity, viability and stability.

Some of the stark differences that these two organizations went through are described and brief narratives are included to ascertain the consequences of the differing directions that they went through.

1. Air Pacific was a private company that went through the normal commercial process of growth with private equity participation from established international and aviation operators [Qantas, BOAC and TEAL], which fast-tracked its market-penetration capability to operate regionally and in the later years, internationally.

   The time, process and procedures that Fiji Airways went through prior to undertaking regional aviation services was more efficient, smoother and short-circuited due to the private nature of the establishment. Fiji Airways did not go through the processes and the procedures that had to be undertaken in establishing regional shipping operations, primarily because the latter was funded through public finances.

   As with PFL, preliminary investigations, studies, government / high level committee meetings, vetting consultancies, etc., had to be undertaken prior to firming up a decision to implement the project. It took more than four years to get the project implemented after it was initially introduced.

   With Fiji Airways the process included Qantas buying out controlling interest of the company, undertook their first board meeting where they identified the need to have an increasing level capital injection to finance their regional expansion program, identified interests from two international aviation companies and restructured the capital structure of the subject airline, thus accommodating new equity partners and the requisite funding to finance business expansion.

   It is clear that initiating a regional organization through a privately driven entity, is much more efficient relative to regional government participation. Furthermore, incorporating corporate entities with financing capabilities to 'jump-start' regional organizations as we saw through the intervention of international investors in Fiji Airways, enabled the airline company to access a sound capital base which easily allowed them to do what they wanted to do regionally.

   With PFL, the company was heavily under-capitalized and had it not been for New Zealand and Australian government intervention, the company would have died a natural death.

2. The structure of the market also influences how successful and how long it'll take for a regional organization to be established.

   The primary reason why PFL had to struggle to keep afloat during its infant years was due to the immense level of market competition it had been subjected with. In fact, it had to spend immensely to buy a market share and a niche to sustain its operations during these initial years of operations. It took more than a decade, injection of debt capital, renegotiating vessels charter rates, etc., before PFL was able to operate effectively.

The path that Fiji Airways had to go through was much smoother and friendlier primarily because there were no competitors in the regional market for almost two decades. It did not go through the market competition that PFL was subjected to. In fact the regional island countries incubated its regional business that enabled the company to grow and expand internationally.

Whenever a regional entity or organization had to be developed, a market study is essential to enable the subject entity to be rightly capitalized to enable the subject entity to comfortably absorb the costs of buying a market share and at the same time package an outfit that has a specific target market after careful analysis and market segmentation processes have been undertaken.

3. There must always be wisdom and understanding, especially if a regional entity requires regional participation - the long-term benefits and the multiplier effects of regional entities will always flow to all countries of the Pacific.

   One of the greatest lessons being learned when disagreement and disunity evaporates amongst regional government leaders is the huge public funds that are wasted when individual countries introduce ventures that directly compete with an established regional venture that they were a party to.

When disgruntled island leaders of Nauru, Samoa, Tonga, Solomon Islands and Vanuatu voted with their feet and walked out of Air Pacific alleging it was a predominantly Fijian airline, they initiated ventures of their own, either individually or in partnership with other international aviation companies.

The outcomes were disastrous, especially during the 1980's – Air Pacific experienced recurrent losses as market share dropped significantly, international airlines that were previously servicing the region withdrew their services due to increasing competition and prevailing supply-side market saturation conditions. All regional airlines incurred significant losses due to excessive carrying capacity as they were serving a much lesser traffic level. All these regional airlines are now defunct. The Pacific islands lost huge supply or traffic grounds as international airlines such as Continental, American Airlines, UTA, etc., discontinued their Pacific services. It was a classical case of a regional 'loose-loose' situation.
Another lesson that can be drawn from this issue pertains to the focused and limited nature of the regional market in the wider global context. It is therefore critical to understand that market participation in the Pacific islands is a focused and narrow market stream when considered in the global context, thus it is imperative that regionalized services or products that are heavily dependent on external drivers to drive the market must always incorporate the reality that attracting a global target market to venture into our world is contextually focused and limited.

On another front, the sustained regional cooperation that existed on the running of PFL enabled the subject company to go through the doldrums, despite the gravity of the exposure the regional company was in. This indicates that regional cooperation should always be pursued continuously if a project dictates that regional countries needs to pool resources to realize the establishment of a common organization.

If individual island countries were uncooperative in and during the PFL saga, the Pacific island states development status – especially with regards to economic and trade, would have been

gravely compromised. The price that would have eventuated would attest to a significant deceleration in the development pace and standard that we would like to have.

4. For any regional entity to compete effectively in the regional and global market place, it requires correct and sound financial backing / capitalization levels and a sound management team. The only variation that can be effected in this modern era pertains to the capacity and capabilities that skilled Pacific islands nationals have in managing these regional institutions with very minimal foreign intervention.

   Foreign management or expert intervention should only be sought if the Forum countries do not have the expertise, technology and the depth to undertake what needs to be done.

The similarities inherent within these two regionally owned entities pertain to the fact that they operate regionally and internationally, attained economies of scale status, matured companies and are well established in their respective target markets. It took at least two-decades for both these entities to establish themselves internationally – i.e. to operate viably and continuously sustain their operations indefinitely. The two companies are subjected to international currency trading exposures and are high consumers of imported fuel and fuel derivatives.

In conclusion, regional or common organizations have generated immense benefits for the Pacific island states. The underlying causes are obvious. The economies of scale, market size, economic status, organization size, financial backing, marketing capacity, market penetration capabilities, etc., are significant elements that are inherent in regional entities. This in itself gives strategic competitive advantage relative to an insignificant individualized country-based enterprise, which is not in a dominant position to inherit all the advantages of forming a common organization, let alone its ability to canvass the support of all other forum countries to support its 'self-promoting' initiative. In this context, the power to generate more far-reaching economic benefits to the citizens of the forum is superior when undertaken collectively.

EXECUTIVE SUMMARY

Air Pacific

The establishment of Katafaga Estates Limited, which operated Fiji Airways, eventuated after the pioneering owner and world-renowned airman, Harold Gatty was awarded a lucrative contract by the Colonial government to traffic Royal airmail from Suva to Nadi for onward transmission to London and to the outside world. In this regard, a major influencing factor or rationale for initiating domestic airline services in Fiji Islands emanated after Gatty first sealed the Colonial government's lucrative postal contract - the transporting of passengers to and from Nadi was a transient commercial activity.

After six [6] years of operation, Mr. Gatty suddenly died of a heart attack and Qantas negotiated to purchase the subject airline, which it successfully did in early 1958. Qantas, who had initially distanced itself from Gatty, faced stiff competition in its quest to purchase controlling interest in the airline. All the companies vying for ownership obviously saw enormous future growth potential in the airline.

After having attained controlling interest, Qantas executives immediately took strategic measures to propel Fiji Airways in becoming a regional liner. Qantas executives, with BOAC and TEAL having procured equity interests, identified that to 'fast-track' the airlines expansion into the region they had to 'rightly' capitalize the company, thus in its first board meeting the directors agreed to increase the nominal capital of the company.

Fiji Airways venture into the region was purely undertaken on a commercial basis. The viability of the services were strengthened due to the initial subsidies offered by Colonial powers – Great Britain, Australia and New Zealand to their respective jurisdictions. There was very minimal involvement or intervention by Colonial or island governments in determining the initiation of regional aviation services. Their intervention was only sought for negotiating landing rights and other administrative papers that required processing to formalize scheduled aviation services.

Fiji Island's colonial government participation in the company only eventuated after the airline faced financial difficulties during the mid-1960's due to the Herons capacity restrictions on long haul flights. The other regional countries purchased minority equity interests after the airline required further capital injection to sustain and expand its fleet in servicing the region.

Out of all the Pacific island states, only Fiji Islands had a national airline service prior to the establishment of regional aviation services. Fiji Islands had an edge relative to other island country destinations primarily because market demand for postal airmail services, tourism, public and private sector travel needs were available. Colonized island states had one-off aviation services from their colonial rulers and these services were not consistently effected at national levels.

In essence, the majority of island countries at that time did not have the economic power, market demand, skilled support personnel, support aviation infrastructure and the support services required to undertake national airline services.
The character of the region's aviation industry before the establishment of regional aviation services was monopolistic in nature, where Fiji Airways single handedly controlled Fiji Island's airways. The commercial airline also controlled and monopolized the regional aviation market for at least seventeen [17] years. As with all monopolies, the cost of air travel at that time was simply

expensive. This was not primarily due to the inherent market structure but it had more to do with the precarious operational conditions that the subject airline was being subjected to at that time.

To reflect the airlines regional status, the board of Fiji Airways thought it fit to assume a new name. The airline became known initially as Pacific Islands Airways and after some legal and industrial wrangling, the name Air Pacific, was adopted.

As the airline entered the eighties it was becoming increasingly obvious that the concept of Air Pacific as the sole regional airline, servicing all of the Pacific islands, was no longer a viable proposition. Disgruntled island government shareholders complained that the aviation company was really a Fijian airline and a number of them had voted with their feet and set up their own national airlines. Samoa, Nauru, New Caledonia, Tonga and the Solomon Islands established their own flag carriers. International airlines that were servicing the region were beginning to withdraw due to increasing competition, increasing diseconomies with increasingly supply-side market saturation conditions prevailing – primarily caused by the establishment of the aforementioned Pacific island-state carriers.

Despite their withdrawal from the region, these international aviation players formed airlines that were specifically developed to service the region, which clearly nullified the 'regional airline' concept. Air New Zealand teamed up with the Samoan government to form Polynesian Airlines. Melanesian Airlines belonged jointly to Qantas, BOAC and UTA.

It was also during the eighties that Air Pacific encountered repressive operating conditions. The reasons were obvious. The airlines quest to venture into the international aviation markets, through 'Project America' was a total disaster and almost brought the company to near collapse. Regional cooperation prevailed when Qantas proposed a management support contract, along with a series of soft loans and other forms of assistance.

Air Pacific has not looked backed since. The company has grown from strength to strength. Gradually, Air Pacific reduced and eliminated its domestic presence and this service is now controlled by two domestic airlines. It has continuously sustained its services to the region and has expanded its routes to Canada, US mainland and Japan and subsequently assumed the status of an international airline.

The company undertook a restructuring of the airline along with a total re-evaluation of the way Air Pacific undertook their business in 1999. This was necessary as it ensured that they [Air Pacific] had the resources to meet their future plans and challenges. The purchase of new generation aircrafts strengthened existing fleet and provided the company with the flexibility to facilitate growth, meet route demands and expand its carrying capacity. The company has ably demonstrated that it has the resilience and structure to weather significant domestic and global impacts due to its ability to adapt to prevailing operating conditions. In fact the sound level of capitalization has enabled the company to meet and adapt to the needs of the market.

In retrospect, we can all learn from what transpired out of a "shoe-string" concern. Fiji Airways was in an enabling position to expand its operations due to subsidies offered by the Colonial powers, critical inputs from foreign technical expertise / management presence and international capital inputs. In servicing Pacific routes, regional support is not an option, primarily because geography dictates otherwise. Providing an aviation infrastructure that supports overall development objectives of the Pacific islands transcends regional boundaries – it required collective inputs – from the public and private sector - to incubate and stabilize this commercial regional institution.

Sustaining Air Pacific operations through regional cooperation has underpinned its 'staying ability' in a dynamic global market. Had it been otherwise, the Pacific economies, especially Fiji Islands, would have not realized the enormous benefits that aviation has injected into its various economic sectors individually and collectively.

Pacific Forum Line

The establishment of PFL eventuated from Pacific leaders' dissatisfaction and anxiety over the regional shipping services provided to its community during a period of economically recessive maritime trading conditions. Pacific shipping became a high-risk venture during the 1960's and foreign-owned shipping companies tried to counteract falling revenue through repeated freight increases and reduced levels of service.

A major factor that hindered and invariably rendered the non-viability of shipping services to the region emanated from the strong New Zealand Maritime Union's dominance on industrial issues and the fact that New Zealand award wages were considerably above international rates and vastly superior to what Island seamen could expect.

During this era, there were political forces at play when newly independent island states sensed the difficulties they had, in voicing and seeing to the implementation of 'Pacific' opinions under the SPC, thus the establishment of the South Pacific Forum during this period of maritime volatility.

On another front, PIPA, the first regional organization driven by Island interests, also arose at a time when the South Pacific nations were gaining independence. PIPA was effective in voicing Pacific concerns relating to trade and its influence facilitated the justification for the establishment of a regional shipping line.

Shipping services then, at the national level, were very minimal and to a great extent – very substandard. This was due to the geographical dispersion of the islands, its smallness and obviously the uneconomical returns generated from servicing these maritime islands dissuaded shippers from servicing them. Even routes that were subsidized were rationalized amongst the sporadic island destinations and this directly impacted on the frequency of voyages that could be undertaken within a specified period.

Some island countries like Tonga, Nauru and later Papua New Guinea established their own shipping companies. These nationally owned entities serviced their countries and other regional countries that they traded with. All these entities made considerable losses and became insolvent. Studies were undertaken to examine the possibility of establishing a regional carrier based on their fleets, but by this time there was a growing support for wider regional involvement and conclusive findings suggested that it was not feasible to take this direction or strategy.

The character of the region's shipping industry before the establishment of a regional line was oligopolistic in nature - a few shipping entities dominated the market. Due to supply constraints, these shipping companies exerted significant levels of control and their modus operandi resembled that of a cartel as their pricing structures and cargo / passenger capacity were similar. To the detriment of Pacific traders and island governments, shipping schedules and cargo differentiation were to a great extent clearly demarcated between these operators.

With barriers to industry entry due to intensive capital requirements coupled with the cost and duration of attaining a market share, the Pacific Forum Line was established. These market

realities were beyond the cogitation of skilled planners at that time – even after numerous studies and processes were involved. The unintended ignorance of market realities manifested itself through cash flow problems, recurrent operating losses and a-near total collapse. This was a challenging period for Forum leaders where boardroom differences and commotions were glaringly publicized. At the end, Pacific diplomacy prevailed and the company was injected with funds predominantly from regional powers – Australia and New Zealand.

A study was again commissioned to reassess PFL's overall operation. The findings by consultants, Touche Ross & Co. and adopted by the Forum leaders' ascertained the following major weaknesses which required urgent redressing. The company was highly undercapitalized, the convoluted routes were not viable and trade going south incurred huge losses. In a nutshell, the regional shipping line was basically trying to be all things to everybody.

Strategic changes were undertaken to make PFL viable once the company was properly capitalized through an EIB loan. Container hiring fees were too high and vessel charter rates were above world market prices. PFL capitalized on purchasing its own containers and the entity successfully renegotiated vessel charter rates with contributing member countries. The company operated initially on a few core / viable routes, increasingly gained a foothold on its market niche, expanded into ancillary parts of the business and till today, have operated without any funding from member countries. The entity had a commercial focus.

The pioneering of a dedicated two-way regional shipping service developed regional markets and provided access to international markets. The strategic importance of shipping to the region spells enormous benefits that have accrued over the years and more so into the ever brighter future. Despite the struggles that the region had to go through to carve its own destiny, the positioning of the island economies in assimilating, adapting, participating and benefiting from transacting within the global economy has far outweighed the costs borne to initiate and operate the regional shipping entity.

I. AIR PACIFIC – A RETROSPECTIVE COST-BENEFIT ANALYSIS

A. The Historical and Financial Rationale for Creating a Regional Airline Service

Katafaga Estates Limited registered the name Fiji Airways that was established as a 'shoestring' concern by Australian and world-renowned airmen, Harold Gatty in 1951 [Addison R., p9, 2002]. This was after Mr. Gatty found himself in a committee which was commissioned by the then Colonial government in Suva to review New Zealand / Fiji Islands air service arrangements and to identify a suitable aircraft to fly domestic routes in the country. The subject committee's recommendation did not convince the Colonial administration and Qantas was approached to offer ideas for an air service in Fiji Islands. The subject committee endorsed Qantas's recommendation for a 14-seater Catalina flying boat but it was rejected in London on cost grounds [Addison R., p10, 2002]. This rejection opened the way for Gatty to undertake his own submission.

Being a member of the Legislative Council in Fiji Islands and having access to inside knowledge of how the Colonial government operated, Gatty was able to ascertain the mail subsidies an airline was expected to receive. Gatty's application was endorsed and this was how it all started [Addison R., p10, 2002].

It can be clearly ascertained from the aforementioned background that a major influencing factor or rationale for initiating domestic airline services in Fiji Islands pertained to the guaranteed income that was forthcoming from transporting Royal mail from Suva to Nadi for onward transmission to London and to other parts of the globe. The transporting of passengers to and from Nadi was a transient activity after Gatty first sealed the Colonial government's lucrative postal contract.

After six [6] years of operation, Mr. Gatty suddenly died of a heart attack and Qantas negotiated to purchase the subject airline from his widow, which it successfully did in early 1958. Due to the huge potential that Fiji Airways had, Qantas faced stiff competition from other bidders in its quest to purchase controlling interest in the company.

Recognizing the need to expand its services regionally, the company restructured its capital. The nominal capital of the company was raised to 5000,000 pounds. A fresh issue of 60,000 pounds for each shareholder was effected, which saw BOAC and TEAL purchase shareholding interests in the company. This injection of fresh capital together with the subsidization of routes offered by the Colonial administrators of the British Western Pacific High Commission, for provision of aviation services to New Hebrides and Solomons provided the impetus to operate regionally. This fresh injection of investment capital enabled the company to procure another airplane and launched its regional services [Addison R., p15, 2002].

It must be highlighted that the subject airlines venture into servicing the region was purely undertaken on a commercial basis – the routes serviced had to be profitable.

However, the Heron airplanes that were used during this period did have a major drawback when used on the longer Pacific routes – capacity. Normally able to carry fifteen passengers on short haul domestic flights, the capacity had to be reduced to eleven passengers on flights to Tonga and only eight to Solomons and Gilberts' services. These restrictions impacted severely on the economics of operating these routes. With losses approaching 70,000 pounds in the 1965 financial year, the Fiji Islands government came to the rescue of Fiji Airways and took up a

quarter share in the subject airline, injecting an additional 120,000 pounds in capital, bringing paid-up capital close to 500,000 pounds [Addison R., pp. 19-20, 2002].

There were subsequent flights to other regional island destinations and subsequent purchase of shares by these regional island countries. The stage was set to move the concept of a truly regional airline, representing the larger Pacific Island countries, to its next phase. In April 1968, Fiji Airways capital was boosted to just under one million pounds with equal contributions from all four shareholders. Later that year, the paid-up capital surpassed the 1,000,000-pound mark when the British Western Pacific High Commission [on behalf of Solomon, Gilbert and Ellice Islands] and the Kingdom of Tonga joined the consortium, by each subscribing 20,000 pounds [Addison R., p21, 2002].

The purchase of shares by independent and colonized island governments into the commercially-driven airline were undertaken due to the following reasons:

- To enable the subject airline company to sustain their services to their respective island countries, these colonized and independent island states prudently purchased equity into the subject entity. The increased capital injection facilitated the expansion of Fiji Airways fleet thus the ability of the airline to service their island destinations was greatly enhanced;
- By owning minority shareholding interests, the island colonies and independent states justifiably had their voices heard in the operation of Fiji Airways, especially during an era where the application of westernized development projects were in their infancy and the provision of a consistent airline service was strategic to their economic development goals;
- Colonial administrators had to spend weeks and at times months when they encounter storms in the Pacific Ocean through sea travel from the islands to reach either Australia or New Zealand where they catch flights to their destination countries. The provision of airline services to their respective island country of work drastically shortened traveling time.

However, it must be noted that the expansion of regional aviation services and acquisition of shares into Fiji Airways were all market and strategically driven without any formal processes nor high-level government / political involvement or negotiations undertaken to establish these regionalized services as was the case with the establishment of our regional shipping entity. Despite minority share ownership being held by regional island countries, their involvement was basically strategic and commercial.

SPEC's [now known as the Pacific Islands Forum Secretariat] guidance similar to that undertaken on the establishment of PFL wasn't effected in this aviation sector undertaking. Colonial and island government intervention was only sought for negotiating landing rights and other administrative papers that required processing to formalize scheduled aviation services.

In this context, there was no intention to form a regionally owned commercial airline but the commercial objectives of Fiji Airways and the economic development objectives of the colonial and island states were synchronized through the inherent benefits that can be derived through aviation.

1. The Provision of Transport Services at the National Level in the Aviation Sector Prior to the Establishment of Regional Services

Out of all the Pacific island states, only Fiji Islands had a national airline service prior to the establishment of regional aviation services. Furthermore, Fiji Islands was also serviced by TEAC from New Zealand as it had some established tourism infrastructure that were consistently demanded by mainly Australian, New Zealand and to a lesser degree, US travelers who wanted to experience the southern tropics. In this regard, another tourism-based airline carrier, Korolevu Air Transport [which was originally owned by Harold Gatty and sold to Bill Clark], with only one aircraft was specifically used to transport foreign visitors to Korolevu Beach Resort. Fiji Airways paid ten thousand pounds to take over this airline operation in 1961.

Fiji Islands had an edge relative to other island country destinations primarily because market demand for postal airmail services, tourism, public and private sector travel needs were available. This included Suva, Labasa, Nadi and Taveuni.
Colonized island states had one-off aviation services from their colonial rulers and these services were not consistently effected at national levels.

The reasons why many island countries [except Fiji Islands] did not have national airline services are obvious. The majority of island countries at that time did not have the economic power, market demand, skilled support personnel, support aviation infrastructure and the support services required to undertake national airline services. Aviation services were the domain of more advanced and larger economies such as Australia, Britain, New Zealand, United States, etc., as they had the capacity and the demand to provide these services relative to island states.

2. The Capacity of the Aviation Sector Prior to the Establishment of Regional Services

The character of the region's aviation industry before the establishment of regional aviation services was monopolistic in nature, where Fiji Airways single handedly controlled Fiji Island's airways. The commercial airline also controlled and monopolized the regional aviation market for at least seventeen [17] years prior to the establishment of Polynesian Airlines by the Samoan government. Fiji Airways purchased 20,000 shares in the company and simultaneously assisted in the management of the airline [Addison R., p10, 2002].

As with all monopolies, the cost of air travel at that time was simply expensive. This was not primarily due to the inherent market structure but it had more to do with the precarious operational conditions that the subject airline was being subjected to at that time. Because remote airfields offered little, if any, in the way of facilities, the subject airline had to carry engineers, extra fuel and spare parts thus cutting down passenger capacity and increasing costs [Fiji Times, p.7, 1970]. The consequent of charging high airfares was that it hindered efforts by Fiji Airways to build up tourist traffic on its routes.

The capacity of the region's aviation sector prior to the establishment of regional services was highly substandard and grossly underdeveloped.

The following capacity attributes inherent within the various island states prior to the establishment of regional services included the following:

- Very few crude airfields which were extremely isolated [far apart] from each other;
- Remote airfields barely had any standard infrastructure nor support facilities;

- Inexistent fuel terminals, workshops or spare parts facilities, etc;
- Inexistent support personnel such as land-based aircraft engineers, machinists, electricians, airport administration staff, customs officials, etc.

During these days regional island airports consisted of the remnants of small airfields that were constructed during the two world wars. Their conditions were simply basic without any other facility that we see in modern airports today. In most instances these airfields had small-thatched houses or sheds, which served all the requisite functions that, were appropriate then.

During the early beginnings when the route network was only confined to Fiji Islands, various copra plantation owners at times accommodated the aircrafts wherever the pilots chose to stop [Addison R., p11, 2002]. This was the flying condition during those early periods.

However, out of all the airfields that were in existent during those times, prior to the establishment of regional services, Fiji Island's major airports in Nadi, Nausori, Savusavu, Labasa and Taveuni were far superior than those that existed in other regional island countries. Fiji Island's airports had proper airport building structures, support personnel [engineers, pilots, fireman, cabin crews, electrical engineers, machinists, etc.] and support facilities [refueling terminals, workshops / hangars, etc.].

With these facilities available and Fiji Airways plans to expand into the region, Fiji Islands was indeed well positioned to gain its status as the region's hub for international aviation.

a. The Key Constraints of the Aviation Sector Prior to the Establishment of Regional Services

The key constraints of the aviation sector prior to the establishment of regional services pertained to the following:

- Very few crude airfields which were extremely isolated [far apart] from each other;
- Airport / airfield shortages;
- Crude nature of airfields dictated aircraft-type being used which limited choice, undermined capacity and limited fleet flexibility;
- Remote airfields barely had any standard infrastructure nor support facilities;
- Inexistent support personnel such as land-based aircraft engineers, machinists, electricians, airport administration staff, customs officials, etc;
- High air fares which hindered traffic growth levels;
- High operating costs due to unavailability of support facilities and personnel at other regional island destinations;
- Very limited or inexistent hotel / accommodation infrastructure which limited supply capacity;
- Underdeveloped, under-resourced and economically 'small' target markets;
- Highly limited and poor supply of aircraft spare parts and peripherals.

b. The Overall Profitability of the Aviation Sector Prior to the Establishment of Regional Services

Due to the start-up nature of the commercial domestic airline in Fiji Islands coupled with an inexistent provision of airline services in the country, Fiji Airways experienced phenomenal growth with almost a purchase of an airplane every two years for six years. The profitability of

the airline prior to the establishment of regional aviation services can be attributed to the following factors:

- Fiji Island's infant tourism industry was growing and this facilitated the demand for airline services to traffic tourists to various destinations domestically;
- Fiji Island's colonial administration, sugar and gold industry were fairly large employers of predominantly expatriate skilled personnel and their demand for airline services for commercial, public service and private needs provided the required demand to drive the subject airline into profitability and growth;
- The subject commercial airline had high capitalization levels and this can be ascertained from the number of aircrafts being purchased annually which resulted from healthy trading results;
- The fixed contract obtained with the Colonial government on the delivery of all public and private mail coupled with the granting of an additional five-year license from the Colonial government provided a lucrative contract, which boosted company profitability.

B. The Processes by Which Services at the National Level Were Regionalized

Gatty suddenly passed away in late 1957 and did not realize his long-term dreams. After gaining the approval of the Colonial government, Gatty's widow sold all her shares in Fiji Airways to Qantas. Qantas, who had initially distanced itself from Gatty, faced stiff competition in its quest to purchase controlling interest in the airline from Pan American Airways, W.R. Carpenter and others. All the companies vying for ownership obviously saw enormous future growth potential in the airline [Addison R., p13, 2002].

All links with the pioneering Gatty were finally severed on November 15th of the same year when at an extraordinary meeting held in Suva, the company's name was officially changed from Katafaga Estates Limited to Fiji Airways Limited.

The major processes that were involved to expand the commercial operation of Fiji Airways into a regional liner were as follows:

- By early 1959 a Qantas management team was in place already making changes. During their initial board meeting it was agreed that the subject airline needed a capital injection of one hundred and fifty thousand pounds and it was expected that TEAL and BOAC would shortly take shares in the company. The involvement of these two additional major players in the airline would provide the springboard for the next phase of development;
- Operations expressed concern about the ability of the Drovers to fulfill ever-increasing growth in passenger traffic. Two 15-seater Herons were chosen due to their payload, capacity and range;
- By March 1959, after some initial problems associated with finding accommodation for travelers [a deal was finally being struck with a Mrs. Riechelmann to take rooms at her Beach House Guest Accommodation], the company's first unscheduled regional service between Nuku'alofa in Tonga was established;
- British Western Pacific High Commission formally invites Fiji Airways to mount a service to the New Hebrides and Solomons. To be viable, the subject service was to be subsidized by the Colonial government at fifteen thousand pounds annually;
- An expanded board, comprising representatives of new shareholders, BOAC and TEAL, but still under the management and direction of Qantas, addressed the pressing issue of regional travel. It was agreed that the stake in Fiji Airways be split three ways, with each shareholder being issued with 60,000 one pound shares and the nominal capital of the

company was increased to 500,000 pounds to provide the requisite cash injection necessary to expand operations into the region;

- For the next five [5] years, this tripartite operation would make significant in-roads into the Pacific, establishing scheduled air services between isolated island nations for the first time and helping to open up the region [Addison R., pp. 15-17, 2002].

The processes that enabled the expansion of regional air services by Fiji Airways was greatly enhanced due to the following underlying factors:

- The new shareholders were well established financially and they contributed the required capital injection that enabled the regional airline to undertake expansion initiatives with very minimal Colonial, island government or high-level intervention from Australia or New Zealand;
- The Colonial government was ready to subsidize initial commercial operations into their jurisdictions which easily facilitated the expansion of regional aviation services;
- There was increasing demand for air services in the region due to the huge time savings generated in regional / international travel coupled with the increasing level of economic development and commercial activity that was springing up throughout the region from the early 1960's.

The expansion of Fiji Airways services to the region was greatly facilitated by the injection of capital funds into the subject airline. The capacity and capability to expand likewise was greatly enhanced by the involvement of three established international airlines – all British Commonwealth grown and had significant financial influence from London to facilitate the general development of the empire states in the Pacific region through the provision of aviation services.

Regional aviation service was also greatly facilitated because New Zealand and Australia – former colonies who have assumed colonial responsibilities in the region had a responsibility to facilitate the general development of their respective jurisdictions.

Despite its expansion into the region, Fiji Airways did not truly become a regional airline in the true sense of the word. In subsequent years, Samoa, Nauru, New Caledonia, Tonga and the Solomon Islands established their own flag carriers. Most of these airlines have since been defunct due to recurrent losses caused by huge diseconomies of scale. In most cases, these airlines did not have the demand-driven capacity, tourism-support infrastructure, source-market control and the financial capacity to sustainably fund losses to at least buy market share - in an increasingly competitive environment due to the presence of other international airlines that were servicing the region during the 1970's. This included British Pan Am, American Airlines, TEAL / ANZ, Continental, Qantas, UTA and Air Pacific [formerly known as Fiji Airways]. These international carriers [British Pan Am, American Airlines, Continental and UTA] withdrew their services from the region primarily because market demand dwindled due to increased supply levels caused by the establishment of Pacific island-state carriers.

However, it must be stated that despite their withdrawal from the region, these international aviation players formed airlines that were specifically developed to service the region, which clearly nullified the 'regional airline' concept. Air New Zealand teamed up with the Samoan government to form Polynesian Airlines. Melanesian Airlines belonged jointly to Qantas, BOAC and UTA [Fiji Times, 1973].

On another front, Fiji Airways experienced immense regional activity levels between the mid-1960s to early 1970's. During this period, the company board mooted a name change to reflect its regional presence. The name Pacific Island Airways was adopted and the board released the name 'Fiji Airways' to the Fiji Islands government, with provision that it only be used if the government decided to establish its own internal airlines some time in future [Addison R., p 26, 2002]. This new name was unintentionally an interim one as the company successfully negotiated the acquisition of a new name 'Air Pacific' after some legal wrangling.

1. The Institutional Structure of Air Pacific

The institutional structure of Air Pacific is not being expressly illustrated to highlight the main elements of the company's overall framework. However, it can be deduced from the various documents and interviews conducted with company representatives that the shareholders interests – as in all commercial undertaking – is paramount.

The major shareholders of Air Pacific are the Fiji Islands Government and Qantas. The other minority shareholders are Air New Zealand and the governments of Solomon Islands, Kiribati, Tonga, Western Samoa and Nauru.

The shareholders' interests are being looked after by the company's board of directors. Under Air Pacific's corporate governance charter, the board is accountable to the shareholders to protect and enhance shareholder value by guiding and monitoring the corporate strategies / strategic direction, plans, policies and performance of the company.

Furthermore, the board is tasked with monitoring the operating and financial performance, risk management, setting and reviewing senior executive succession planning and reporting to shareholders. In accordance with the Articles of Association of the subject international airline, the number of Directors must not be less than five and not more than nine and a majority of the company's directors must be Fiji Islands nationals.

The Board comprises five Fiji Islands directors, four Qantas directors for as long as Qantas holds more than 40% of all voting shares in the company. The directors may, if the person is a Fiji Islands citizen, elect two of the Fiji Islands directors to the office of chairman and deputy chairman of directors. The four non-executive Fiji Islands directors are appointed by the Fiji Islands government.

The other major component of Air Pacific's institutional structure pertains to the Audit and Remuneration Committee. The primary objective of the Audit Committee is to assist the Board in fulfilling its responsibilities in regard to the accounting and reporting practices of the company. The primary responsibilities are to:

- Review the internal and external audit plans;
- Reviewing the financial reports with particular emphasis on compliance with statutory obligations;
- Evaluating the adequacy and effectiveness of the company's operating and financial controls.

Four directors, one of whom is a Qantas director serves on the Audit Committee.

The Remuneration Committee meets once a year. It is tasked with recommending to the board, the remuneration package for the Managing Director and Chief Executive officer. This

committee consists of three directors, of which one is a Qantas director [Air Pacific Annual Report, p7, 2004].

2. Air Pacific Running Costs, Overhead, Etc.

Air Pacific Limited

Summary Profit & Loss Statement

For the Six-Year Period 1999 - 2004

	1999	2000	2001	2002	2003	2004
	F$'000	F$'000	F$'000	F$'000	F$'000	F$'000
Gross Revenue	309,279	391,066	266,145	357,703	407,502	421,699
Expenditure	286,728	360,625	305,701	348,028	382,362	387,061
Operating Profit / Loss	**22,551**	**30,441**	**-39,556**	**9,675**	**25,140**	**34,638**

Source: Air Pacific Annual Report 2004.

The summarized profit and loss statement clearly depicts the profitable status of Air Pacific from the period 1999 – 2004, with the exception of 2000, when the company was suddenly jostled with the effects of the May 19th coup. There could be a few underlying fundamentals that caused the subject regional and international liner to ascertain the aforementioned financial results:

- The company undertook a restructuring of the airline along with a total re-evaluation of the way Air Pacific undertook their business in 1999. This was necessary as it ensured that they [Air Pacific] had the resources to meet their future plans and challenges;
- The purchase of new generation aircrafts strengthened existing fleet and provided the company with the flexibility to facilitate growth, meet route demands and expand its carrying capacity;
- Their agility to negotiate and settle aircraft financing deals with low fixed interest financing for these new generation aircrafts;
- An emphasis on cost containment and achieving increased work efficiencies, especially in the presence of increasing fuel prices;
- The voluntary sacrifice undertaken by employees of the company to take outstanding leave without pay, reduced working hours per week, etc., to keep the airline afloat during periods of financial difficulties caused by political instability;
- The company's has ably demonstrated that it has the resilience and structure to weather significant domestic and global impacts due to its ability to adapt to prevailing operating conditions;
- The sound level of capitalization which has enabled the company to meet and adapt to the needs of the market;
- The ability of the company to expand and invest in critical peripheral business that will facilitate, sustain and strengthen its organization vision and goals.

C. The Qualitative and Quantitative Costs and Benefits of the Regional Aviation Service Over the Progression of the Project.

1. The Qualitative Benefits

The qualitative benefits are benefits that have been enjoyed by the travelers, hotel operators, traders, the island economies and those who derive their livelihoods from tourism or aviation services as a result of the provision of aviation services that cannot be tagged with a monetary value. The qualitative benefits of initiating a regional aviation service over the progression of the project includes the following:

- Exotic locations and unique cultures experienced by foreign travelers to regional island destinations;
- Economies of scale – provision of larger aircrafts that had greater carrying capacity, flexibility, faster, superior comfortability and on-board services relative to the initial fleet that was servicing the region during the 60's to the 80's that has been enjoyed by foreign and regional citizens alike;
- Airlines commitment to ensure fleet conformance to specific environmental certification standards on emissions by ICAO. Furthermore, the company's fleet comprises the latest technology aircraft which complies with noise abatement regulations;
- Significant facilitator of regional development in all sectors of the Pacific island economies;
- Rationalized timetables and destination markets;
- Employment opportunities for islanders in all sectors emanating from the travel and tourism dollar;
- Improved airport infrastructure and support facilities;
- Improved aviation and trade facilitation services;
- Increased foreign exchange earnings;
- Reduced dependency on external aviation services provided by foreign airline companies;
- Increased control on facilitating regional political, economic and trade development agendas and cooperation.

2. The Qualitative Costs

The qualitative costs are costs that have been incurred by the aviation company, travel agents, traders, hotels, etc., and the island economies, as a result of the introduction of regional aviation services that cannot be tagged with a monetary value.

The qualitative costs of initiating a regional aviation service over the progression of the project includes the following:

- Air and noise pollution;
- Exposure to foreign cultures and orientations which have negative social, medical and cultural consequences;
- Increasing levels of environmental degradation of shores, beaches, native flora and fauna, fisheries, inappropriate / illegal dumping of rubbish, etc. due to increasing levels of tourism activity and related developments;
- Erosion of sound moral and traditional values due to the adoption of westernized cultures and lifestyles;
- Increasing levels of breakdown in extended / kinship family relationships, family values, divorce and illegal sexual activities / relationships;

- Exposures to new forms of market imperfections which takes time to adapt to [longer learning curve], adaptation costs and adjustments to work cultures / ethics to assimilate these changes positively; and
- Loss of highly skilled and experienced personnel due to uncertainties and globalization.

3. The Quantitative Benefits – of Regional Aviation Services Over the Progression of the Project.

The quantitative benefits that have been realized through the introduction of regional aviation services to the regional countries have far exceeded the costs entailed in undertaking commercial aviation operations in the Pacific island states.

The aggregated net benefit over the subject study period was Fiji dollars (F$)8.8 billion. The key 'benefit' driver under this model emanates from tourism, trade and other economic benefits and this includes the generation of foreign exchange income – private and public sector, employment generation, tax receipts, infrastructural / systems development, technology transfers, product / service exposures, international market penetration, etc.

The other revenue drivers are primarily the income generated from existing capacity [gross income generated from regional airline services], dividends received and profits generated.

4. The Quantitative Costs – of Regional Aviation Services Over the Progression of the Project.

The quantitative costs that have been realized through the introduction of a regional aviation services to the regional member countries have been far lower than the benefits generated in operating the subject airline.

However, it must be noted that despite the surplus aggregated benefits that have accrued over the subject period, there were periods when critical interventions had to be introduced during times of financial and operational hardships.

Two material incidents worth mentioning under these net cost positions pertained initially during 1965, when Fiji Airways experienced considerable losses due to capacity constraints inherent within their Heron aircrafts during long haul flights. From its normal carrying capacity of fifteen [15] passengers on short haul flights, these passenger levels had to be reduced to eleven [11] passengers during long haul flights as the subject airline had to carry its own technical support personnel on these routes due to the absence of ground support personnel in their respective destinations. The mounting financial burden threatened the future of the subject airline and the Fiji Islands government intervened by injecting equity capital.

During the early 1980s Air Pacific embarked on an ambitious exercise dubbed 'Project America' when it mounted a three times a week service to Honolulu through a leasing of a Western Airlines DC-10 aircraft. The subject project was doomed due to a cash crisis that had been mounting steadily, fed by a string of losses dating back to 1979/80. The cost of operating this subject service pushed accumulated losses to $35 million [Addison R., p 35, 2002]. Regional diplomacy prevailed when Qantas stepped in with a package to reverse the airlines existing status. Qantas proposed a management support contract, along with series of soft loans and other forms of assistance to ease the financial pressure. It was clearly evident that Air Pacific was flying number of routes that were not profitable with aircrafts that were not ideally suited to do the job that needed to be done. To tackle this problem Schaap took over a Qantas-leased

Boeing 747-200. His first priority was a restructuring of the route network and a replacement for the Bandeirante as more efficient and effective way of servicing the Suva – Nadi sector and to a lesser degree, Suva – Labasa [Addison R., pp. 37-38, 2002].

Being seconded from Qantas, Schaap's mandate and brief was straightforward – return the airline to profitability, attack costs, build a professional operation and establish a model that would enable him to hand over to a local successor at the end of his three-year contract [Addison R., p 38, 2002]. Schaap fulfilled his mandate and left the airline in good stead.

The aggregated net cost over the subject study period was F$13.1 billion. The key 'cost' driver under this model pertains to tourism, trade and other economic costs together with the cost incurred by Air Pacific in operating its existing capacity and this includes group administration, operating and financial costs.

The other major cost driver is primarily the opportunity cost [foregone development potential in other sectors due to capitalization of funds in aviation infrastructure, airline fleet and related peripheral investments], whereas the other costs emanating from net losses make up the remaining expense contribution.

5. The Quantitative Costs and Benefits – Including Capacity, Key Constraints and Overall Profitability – of the Regional Aviation Services over the Progression of the Project

The subject analysis that has been undertaken in this study should be viewed as providing an indicative picture of the historical cost-benefit position under which Air Pacific operated from 1983 to 2004 [twenty one-year period]. The justification of underlining it as an indicative position stems from the fact that the multiplier rates used [both in ascertaining costs and benefits] are subjective. However, the rates used reflect the margins generated and the costs absorbed in the relevant industries being identified as having primary benefits derived through the provision of regional aviation services. It must be stated that wherever estimates are being introduced, their ascertainment are based on business principles of prudence and their values are not materially overstated or understated.

The economic data that is being used to ascertain benefits accruing to regional island countries pertains to the gross receipts generated by the tourism industry in Fiji Islands. This figure is being effected with an initial multiplier of 40% to account for the benefits to Fiji Islands and to the region and an additional annual multiplier of 20% to account for the positive flow-on or snowball effects of the dominant tourism trade dollar.

An allocation of 40% of the total benefit generated has been ascertained to gauge the cost of undertaking tourism, trade and other economic activities in regional island countries that have access to aviation services.

The reader must take note of the assumptions used and carefully note the major factors needing consideration when assessing / evaluating the cost-benefit analysis of Air Pacific.

D. Overall Assessment of the Net Quantitative and Qualitative Cost/Benefit of Pooling Regional Resources in the Aviation Sector in Retrospect

The benefits generated by the airline itself, the major snowball effect on island tourism, the trade and economic benefits accruing to regional island member countries [including Australia and New Zealand], the dividends received, the profits generated and the socio-political advantages gained through the development of this regional aviation service provider are indeed enormous. The elimination of a 'total-dependency' syndrome on foreign regional aviation services to facilitate tourism, trade and commerce in the islands is a significant achievement. Contributions provided by Air Pacific in facilitating and expanding the capacity and capability of forum island countries to undertake commercial tourism initiatives is highly critical to the viability of the subject leisure and travel industry in the region. Aviation does the physical 'leg walk' to channel visitors into the various shores of the Pacific. The provision of aviation services which traffics hundreds of thousands of visitors annually to our shores provides income for government, private enterprises, families and individuals who derive their livelihood from tourism.

The aggregated level of benefits attained by Air Pacific in servicing the Pacific far exceeds the net benefit if we account for the trafficking of nurses, soldiers, policeman, security personnel, care givers, skilled professionals who pour in hundreds of millions annually to their loved ones in the islands. The carting of highly skilled professionals within the region and to other offshore destinations to undertake assignments, which are redirected into the region is another enormous financial and non-monetary benefit.

Furthermore, the various taxes paid by tourism and peripheral organizations [food, refrigeration, transport, etc.] involved in the formal sector – VAT, PAYE, company tax, capital gains tax, property tax, tariffs on equipment / machinery offshore purchases, etc., signifies the enormous benefits that have accrued to public coffers over the study period are indeed exceptional. The increasing level of 'intra-regional' trade being facilitated through the operation of Air Pacific further justifies the significant benefits – social, economic and political – that the region stands to benefit from through the operation of this aviation institution.

All the sectors of regional island countries have directly or indirectly benefited from the services provided by Air Pacific. These positive externalities have significantly contributed to the development and deepening of these various sectors in the region. In this context, many broad-based initiatives would not have materialized to the stages they are at now, had it not been for the critical support infrastructure being provided by Air Pacific's airline infrastructure.

In retrospect, the provision of regional and international aviation services by Air Pacific has generated the requisite benefits that the island communities have visibly experienced. However, as with all ventures, it went through periods of troughs that emanated internally and externally. Regional cooperation, assistance and diplomacy eventuated to sustain the subject airlines operations as they foreknew the critical importance aviation had on our dispersed archipelagos.

II. PACIFIC FORUM LINE -- A RETROSPECTIVE COST-BENEFIT ANALYSIS

A. The Historical and Financial Rationale for Creating a Regional Shipping Service

The idea of having a regional shipping line first surfaced in 1956 during the first South Pacific Conference when regional leaders highlighted the need for sea transport among the islands that will serve as the artery for the region's economic development [Nightingale, T., p.5, 1998]. Even though these expressed views could have been considered farsighted by then, it provided an insight as to how regional leaders' wanted to shape the future of the Pacific despite the differing challenges and issues that were beckoning them at that time.

1. Union Steam Ship Company

The dominant ship-owning entity that serviced the Pacific route since the late 19th century was the Union Steam Ship Company of New Zealand. There were several Australian shipping companies that served the region, while European lines directly served Fiji Islands. A number of larger operators stopped off in the Pacific as part of their Australasia-America and Australia-Europe trade.

The New Zealand government initially incubated the regional routes through subsidization, but once the Union Company's subsidized operation became profitable the grant was withdrawn. The Union Company viably serviced the subject route and positively facilitated trade in the South Pacific region for almost a century, when financial misfortune plagued the entity during the 1960s. There were several underlying reasons that contributed to the non-profitable performance of the Union Company and these included the following:

- The serious decline in banana trade due to disease;
- Stiff competition from South American fruit producers;
- Increasing level of passenger air travel (Nightingale, T., p.1, 1998).

There were other factors that contributed to the increasing non-profitability in servicing the Pacific routes and these included the following:

- Shipping became a high-cost industry due to massive cost increases particularly on conventional vessels;
- Transport costs for Pacific Island agricultural exports were considerable since they were all high-bulk, low value cargoes;
- Increasing inability of local shippers to viably operate since they were unable to contain operating costs;
- Entities servicing the Pacific routes were suffering from competitive pressures partly caused by a trend towards containerization;
- Entities servicing Pacific routes neglected infrastructural developments, which induced cost hikes due to continuous utilization of ageing vessels that were increasingly inappropriate due to increasing maintenance costs, stop-start operating modes, lengthened route completion days due to mechanical depreciation and these vessels were considered non-adaptable in light of modernized maritime asset and support systems development.

The increasing non-viability of servicing Pacific routes resulted in Union Pacific ownership changing hands. This equity change transaction and the continuous utilization of an ageing fleet, despite the introduction of containerization provided increasing anxiety amongst Pacific leaders' as to the subject company's commitment to the region. As non-profitability levels continued unabated, Union Pacific discerned that Pacific shipping was a high-risk venture and it

tried to counteract falling revenue through repeated freight increases and reduced levels of service. This strategy frustrated and angered Island politicians and business leaders, which triggered calls for the creation of a regional shipping line.

2. New Zealand Maritime Union

Despite all the internal problems that the Union Company was facing, a major factor that hindered and invariably rendered the non-viability of shipping services to the region pertained to the strong New Zealand Maritime Union's dominance on industrial issues. Union Company ships had traditionally been crewed by New Zealand seamen and the practice remained, despite the fact that New Zealand award wages were considerably above international rates and vastly superior to what Island seamen could expect. While the Union Company might have wished to hire cheaper Island crews, this was politically untenable and would have caused widespread industrial disruption [Nightingale, T., p.11, 1998]. The industrial dominance of New Zealand's maritime unions were so immense, that it had a direct and powerfully negative influence on the future administration of regional interests due to its rigid stance on the adoption of International Transport Workers' Federation [ITF] wages and conditions by all seaman plying the New Zealand ports. Their hostile position on opposing foreign [non-New Zealand] crews also included their resistance on foreign-owned vessels operating in their 'traditional' routes – which included the Pacific.

The union's position on Island-crewed vessels was considerable. If Island-crewed vessels were not fully owned and operated by Islanders and offering wages at New Zealand levels, or if they engaged in cross-trading, then industrial action is usually effected. This had been a perennial problem for Island-manned vessels [Nightingale, T., p.11, 1998].

3. South Pacific Commission

There were other variables at play during this period of maritime instability in the Pacific that ultimately led to the creation of the Pacific Islands Forum and later, the Pacific Forum Line.

The South Pacific Commission was established in 1947 as a result of the 1944 Canberra Pact to give those with Pacific interests a say in post-war international reorganization. Its purpose was to link the colonial powers with Australia and New Zealand, two independent former colonies that had themselves assumed colonial responsibilities. From the 1960's newly independent Pacific states were encouraged to join but the agendas were controlled and 'political issues', particularly those associated with independence, were avoided. Moreover, the distribution of money was determined by the former colonial powers, which the independent Pacific states perceived as a tool for rewarding those who 'toed the line'. Emerging Pacific nations joined the South Pacific Commission but increasingly felt constrained [Nightingale, T., p.15, 1998].

4. South Pacific Forum

Sensing the difficulties the smaller Pacific Island states had, in voicing and seeing to the implementation of 'Pacific' opinions, a push for a new forum came particularly from Fiji Island's Prime Minister, Ratu Sir Kamisese Mara, who pressed for the formation of a distinct international body where issues affecting Island nations could be discussed. The South Pacific Forum was actually established during this period of maritime volatility.

The majority of South Pacific Forum members were former colonies and most were gaining independence after 1960 – this shared experience is an important factor in the Forum's perspective on a wide range of issues including that of having a regional shipping line [Nightingale, T., p.7, 1998].

5. Pacific Islands Producers' Association

On a another dimension, the Pacific Islands Producers' Association [PIPA] came into being as a result of discriminatory prices paid by New Zealand Fruit Distributors and succeeded in obtaining universal 'Free on Board' prices. Island banana growers had one major outlet through New Zealand Fruit Distributors – a government regulated body responsible for supplying bananas and pineapples to the entire New Zealand market. It's establishment in 1965 by the Fijian and Samoan governments and banana growers gained momentum as Tonga, Cook Islands and Niue joined the regional organization soon after its inception. The timing was important. PIPA, the first regional organization driven by Island interests, arose at a time when the South Pacific nations were gaining independence. In effect, the commercial operation of PIPA's members mirrored the wider post-colonial relationship. It was natural that the organization would come to embody emergent nationalism [Nightingale, T., p.6, 1998].

Transport costs for Pacific Island agricultural exports were considerable since they were all high-bulk, low value cargoes. As highly perishable bananas in particular needed to be moved as soon as possible after harvest, PIPA officials quickly began to put pressure on the Union Company to improve its schedules and service. PIPA did not wield significant power in the banana market. Island producers had considerable difficulty competing with Ecuadorian growers, while the 'Free on Board' price was only possible within the context of the Fruit Distributors' monopoly. By 1971, Island politicians and business leaders were frustrated by repeated freight rate increases and the irregularity of services. It was in this context that they called for the establishment of a joint regional shipping company at the 1971 PIPA conference in Nuku'alofa.

The move to form a regional shipping line was a part of a wider push for the development of regional autonomy. It was only with the advent of a sense of regional identity, cemented by the formation of Pacific organizations, that coordination became practicable [Nightingale, T., pp.5-6, 1998].

B. The Provision of Shipping Services at the National Level Prior to the Establishment of Regional Shipping Services

The majority of Island states were not 'self-sufficient' in the provision of shipping services at the national level, even to this day. The provision of shipping services to the various islands within a nation was so rare, especially for those that were isolated from the main shipping routes. For island destinations that were within the main trading or shipping routes, they could expect a service once or twice a year. The scenario was more perilous for small, isolated and resource-poor island states, which cannot even afford to attract a regional liner to their shores.

There were several reasons pertaining to the scarce provision of shipping services that were effected nationally and these included the following:

- The volume of intra-trade between the islands were very minimal both in terms of capacity and finance;

- Passenger and cargo volumes from one specific island destination were non-viable and shippers were required to cover at least a number of islands before their passenger and cargo capacity could be attained which implied high shipping and operating costs;
- Colonial government subsidies were rationalized amongst the sporadic island destinations and this directly impacted on the frequency of voyages that could be undertaken within a specified period;
- There were very few colonial government vessels that were available which, in many cases, cannot viably visit at least one-half of the inhabited islands within a year;
- Subsidizing private shipping operations was always kept to a minimum due to passenger and cargo volume constraints;
- Inter-island shipping was considered a high-risk business and this was reflected in the high turnover of companies that withdrew from the subject sector after a short-term period and the high level of ship ownership changes that accrue from this industry.

It must be highlighted at this juncture that the majority of commercial goods that were traded were predominantly confined to the main urban centres and the volume of imported goods that were traded to the rural centers during the early to mid twentieth century were minimal – in volume and scope. Thus the level of commercial activity in the rural and outer islands in most Pacific Island states were directly correlated to the level of shipping services that was provided at that time.

It must also be highlighted that during this era, many islands who were isolated from the main national shipping routes had to use traditional crafts to reach the nearest island that were serviced by the shipping companies. In some cases, the travel from the original destination to the final destination could take at least a couple of months as travelers had to wait for the motor vessels in the serviced islands for weeks or months as they had no preconceived idea of the vessels timetable.

C. The Capacity, Key Constraints and Overall Profitability of the Sector Prior to the Establishment of Regional Shipping Services

The character of the region's shipping industry before the establishment of a regional line was oligopolistic in nature, where a few shipping entities dominate the market – in this situation, they control 100% of the region's shipping industry. Under these supply conditions, these shipping companies do exert significant levels of control and their modus operandi resembled that of a cartel as their pricing structures and cargo / passenger capacity were similar. Furthermore, shipping schedules and cargo differentiation were to a great extent clearly demarcated between these operators.

Another element of the subject market pertains to the difficulty in entering this industry due to intensive capital requirements. With these preconceived notions of market entry barriers, foreign market players in the region's shipping industry primarily 'shaped' the industry and the Island states were attuned to their dictates.

These foreign shipping entities had no Island equity interest and their operations were commercially driven with the objective of attaining maximum profits.

It was not after the middle of the twentieth century that a few Island states managed to have vessels of their own that operated at the national and regional level. In most cases these vessels operated within the Pacific region and it was rare for any vessel to operate beyond

Oceania. The routes undertaken by these nationally owned vessels were primarily dictated by trade with other Island states, Australia and New Zealand.

Nauru had purchased ships since the 1960s and had three conventional freighter and passenger-freight vessels on the Australia-Nauru run and even for cruises. The Nauruans had plans to purchase further ships and were prepared to commit a considerable amount of capital into the development of a line. To crew the vessels, the company hired from outside Nauru, particularly from Tonga.

In 1970 the Tongan Shipping Agency operated two ships on overseas runs. The Aonui had been purchased in 1959 by the Tongan Producers' Board to trade between Fiji Islands and Tonga. In November 1963 the Tongan Copra Board purchased the Niuvakai, with the intention of transporting coconuts for the Tonga-Fiji Islands-Australia route, which was in direct competition with a service introduced by the Union Company earlier. In May 1972, these shipping interests, which had previously been managed by the Tongan Shipping Agency, were formed into a national line – the Pacific Navigation Company of Tonga Limited.

Tonga and Nauru worked independently to develop their shipping interests but both made considerable losses and the viability of their operations was brought into question, at least by other ship owners. However, there were various suggestions from Island leaders that these assets should be used as the basis of a regional shipping line. In early 1973, representatives from the two companies met to examine the possibility of establishing a regional carrier based on their fleets, but by this time there was a growing support for wider regional involvement [Nightingale, T., p.5, 1998].

In 1976 Papua New Guinea established its own line which was viewed by many observers at that time as putting the subject company in direct competition to the proposed Pacific Forum Line [PFL] in a restricted market.

1. The Capacity of the Sector Prior to the Establishment of Regional Shipping Services

The capacity of the regions shipping sector prior to the establishment of regional shipping services was highly restrictive – restrictive in both the supply and demand capacity.

On the supply side, capacity constraints emanated due to the following underlying factors:

- Vessels used to service regional routes were 'old' vessels that were generally inefficient, had low cargo capacity intake levels and slow turn-around time in port due to high maintenance requirements;
- Fragmented services whereby vessels only called into ports that were considered viable and those that were not, were totally eliminated unless subsidies were offered to supply these non-profitable routes;
- Low capitalization levels undertaken by shipping companies servicing the region at that time implied that ships on active duty were substandard in terms of cargo absorption levels, high stop-start mode, high down-time, slow turn-around time, etc.;
- Restricted / captive market.

Capacity constraints emanating from the demand side prior to the establishment of regional services included the following:

- The low unit value / high bulk of Island exports;
- The imbalance of north and south bound freight.

2. The Key Constraints of the Sector Prior to the Establishment of Regional Shipping Services

The key constraints that the subject sector was faced with prior to the establishment of regional shipping services included the following factors:

- Hostile and dominating maritime union;
- Huge freight rate increases;
- Geographical isolation and high dispersion of intra-regional trade routes;
- Port space shortages with outdated and inferior support facilities and lack of container facilities;
- Unreasonably high pilferage;
- High operating costs due to inflationary pressures;
- Underdeveloped, under-resourced and economically 'small' target markets;
- Aged and highly outdated conventional fleet.

3. The Overall Profitability of the Sector Prior to the Establishment of Regional Shipping Services

The subject sector was plagued with non-profitability prior to the establishment of PFL. The factors that contributed to the non-profitable status of regional / international shipping entities that were serving the Pacific region at that time included the following:

- High operating costs due to high maintenance and exorbitant New Zealand crew wages / salaries;
- Recurrent revenue losses due to reduced cargo and passenger volumes;
- Difficulties in containing costs both at sea and on-shore primarily due to poor capitalization levels;
- Non-existent reinvestment strategies / options to modernize fleet and support systems / infrastructure to maintain fleet competitiveness, efficiency standards, capacity requirements, etc.;
- Reluctance of successive New Zealand governments to reduce high labour costs due to fear of widespread industrial conflict;
- Massive reduction in passenger volumes due to increasing regional / international airline services;
- Decline in island produce exports due to crop infection thus contributing to increasing levels of empty return voyages from Pacific runs - meant a greater unit cost of freight to the islands;
- New Zealand based maritime operations were very expensive, while alternative Island services were restricted to direct trade between New Zealand and the shipper's original country;
- Entities serving the Pacific routes were suffering from competitive pressures partly caused by a trend towards containerization.

After commercially trading for a combined operational period exceeding thirty [30] years, individual Island shipping nations came to the realization that servicing the region's shipping needs was a high-cost industry and they did not have the individual capacity nor the expertise to fully service the region and simultaneously generate sound balance sheet profiles. They were of the view that to contain costs, the subject regional entity required intensive capitalization and had consensually concluded that this required a need for wider regional involvement and development.

D. The Processes by which Services at the National Level were Regionalized

The processes that were undertaken to regionalize shipping services at the national level took four years to complete after being commissioned. There were different private consultants and accounting firms, international agencies, regional council / teams and organizations involved in undertaking studies, surveys, analysis and scrutinizing various reports being generated during the course of this exercise. Furthermore a regional conference to brainstorm problems of Pacific Island shipping was undertaken to enable a better appreciation of the continuous problems that plagued the region that will provide insight as to how the regional shipping service can be undertaken effectively to nullify these 'real life' problems.

The processes that were undertaken to regionalize shipping services is conclusively documented below after Forum leaders gave the authority to SPEC to initiate investigations into the setting up of this regional shipping concept.

1. 1971 Review commissioned by SPEC.
    - Investigation of asset value of existing Island shipping lines.
    - Detailed revenue projection for the next five years.

    It must be noted that Tongan Shipping agency's submission was rejected due to the consultants findings that this subject shipping company had incurred consistent losses, profitability prospects were non-existent and a limited liability company based on this arrangement could not continue indefinitely if it always incurred losses.
2. Report on UNESCAP funded Regional Transport Survey.
3. Regional Minister's and Unions Conference in Apia to discuss problems of regional shipping.
4. PIPA & UNESCAP Report considered during 3rd Forum meeting in September 1972 in Suva and SPEC charged with determining the viability of a regional shipping line.
5. SPEC acquired Australian shipping advisor to develop a framework for a possible regional shipping line.
6. Forum decides to integrate framework report with a further SPEC paper on regional trade.
7. When both aforementioned studies completed – required reviewing by SPEC and referred back to the Forum.
8. March 1974 Rarotonga Forum – Authorized the establishment of the Regional Shipping Council that was tasked to set policy guidelines but favoured further studies before making any formal decision to proceed.
9. Australian government requested the Australian National Line [ANL] to estimate the viability of providing a container service between Australia, Samoa, Tonga and Fiji Islands.
10. Dutch shipping expert engaged to co-ordinate a range of studies to investigate the following:
    - Pacific trade flows.
    - Possibility of pooling current shipping resources.
    - Establishment of SPEC survey team to convert value and weight statistics into volume since an assessment of freight volumes would ascertain the viability of any new service.
11. Studies presented to the Regional Shipping Council in 1975 producing a development schedule for the regional shipping project.
12. Regional Council vetted the studies which had to demonstrate the following:
    - That a regional line could be commercially viable.
    - Ascertaining the best routes for the new line.
    - The types of ships required.

    - Types of cargo to be carried.
13. Regional Shipping Council's recommendations were accepted at the 1975 Nuku'alofa Forum and immediate steps were taken to form the shipping line [Nightingale, T., p.5, 1998].

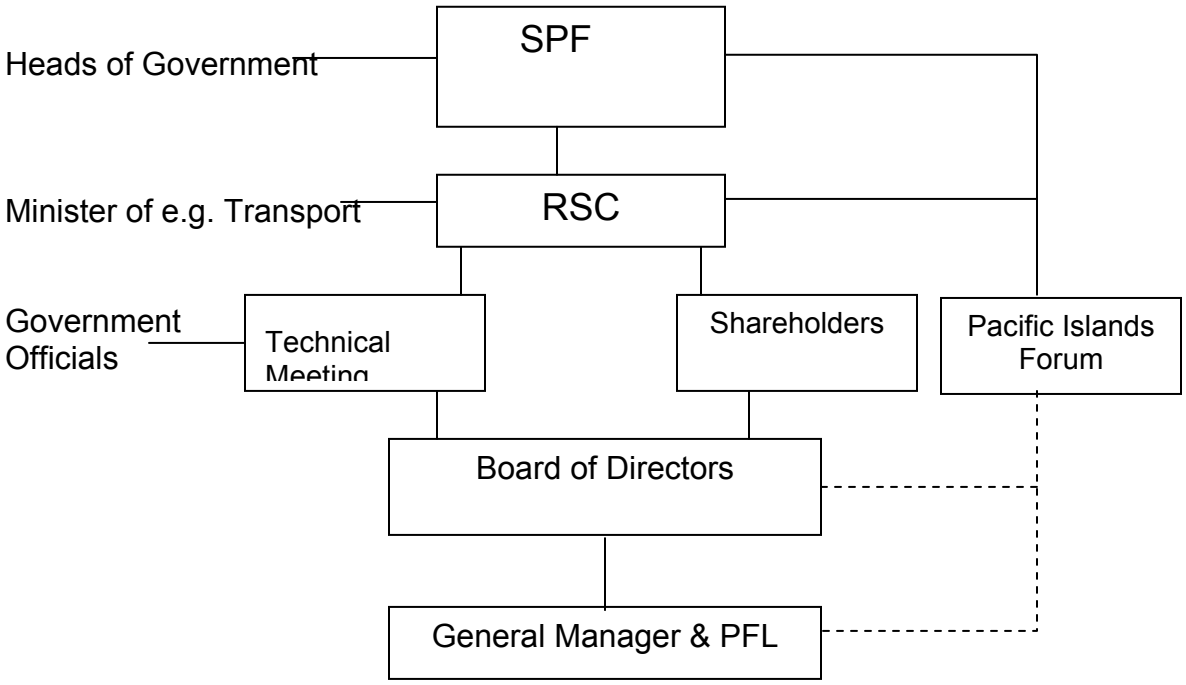
Once the Forum agreed to the setting up of the regional line, the process of reaching an agreement on the shape of the organization was a major political challenge. There were major decisions that had to be taken relating to how each Island state could participate so that all Pacific nations would have an equitable stake in the regional carrier.

The pooling system that was recommended by de Vlaming was accepted by the Forum whereby participating countries contributed vessels under charter to the line and this strategy effectively removed any need for capital to buy ships. Furthermore, it was agreed that working capital contributions should be within the means of smaller Pacific Island states and profit or losses would be apportioned to the participants according to their contributions [Nightingale, T., p.25, 1998].

A Memorandum of Understanding was drawn up which was the international agreement between the nations and the basis of the articles of association of the company. The main elements of this document are as follows:

- The company – Pacific Forum Line was established under Samoan law;
- Each contracting party was required to invest W$10,000 as part of a total capital of W$100,000;
- None of the participants was able to sell its shares except back to the other shareholders, so that control would remain within the governments;
- Governments – contracting parties – had to give a year's notice of intention to withdraw from the line;
- The line was to be administered through the board of directors and the Regional Shipping Council, with the latter determining general policy.

1. The Institutional Structure of the PFL



The institutional structure of PFL was developed primarily to ensure the need for public control – which stems from two main reasons – the maintenance of public interest and control of public expenditure [Touche Ross & Co., p.102, 1981].

The concept of public interest is based on service for and to the community. The institutional structure of the PFL stands to ensure the following:

- The economic and political interests of the Forum states are consolidated to ensure the future prosperity and posterity of the Pacific populace;
- The artery of the regions global trade aspirations is continuously subjected to public scrutiny to ensure that this facilitating regional infrastructure is not compromised as it forms a fundamental instrument in enabling the Island states economic vision and objectives;
- The commercial interests of the regional entity are not jeopardized and its continuity objectives promoted;
- The element of internal control and investigative powers to foster the growth, protection and management of this regional maritime instrument is upheld continuously with independent elements within and external to the subject framework given unrestricted powers embedded within the discretion of the Heads of Forum Island states through the Regional Shipping Council.

a. The South Pacific Forum

The South Pacific Forum [SPF] is made up of leaders of regional member countries who meet annually to discuss broad political, social and economic issues of interest to the region. The PFL owes its conception and birth to the SPF, which has continued to be the major source of funds

for the subject regional entity. The SPF's participation in the subject regional line is generally on an ad hoc basis and they have been involved during drastic periods of financial uncertainties, determination of regional routes, changes in directorship and in other critical issues that promotes the sustenance and continuity of the regional entity.

b. The Regional Shipping Council

The Regional Shipping Council [RSC] is largely made up of regional Ministers holding the transport portfolio whose primary concern pertains to general shipping policy and cooperation in the region. The RSC has a major role in determining policy direction and some of their functions are as follows:

- The determination of general policy;
- The review of PFL operations in the light of its objectives;
- The determination of basis for PFL contractual arrangements;
- The approval of criteria for the provision of non-viable services in special circumstances;
- The determination of policies for the establishment of tariffs.

The RSC usually discusses the affairs of the PFL on the basis of information papers drawn up by officials, shareholders or PFL itself. Discussions involving members of the RSC are separated into two distinct parts – an open session involving the chair and general manager of PFL and a closed session restricted to the RSC. Whilst the RSC is the formal link between governments and PFL there are two important informal links:

- Those governments with PFL directors are in a privileged position for access to information and views;
- Governments will directly approach PFL management for information on particular points.

c. Shareholders

Shareholders' meeting is usually held at the same time as the RSC. The directors' report to the shareholders also serves as the basis for RSC discussion.

d. The PFL Board

The Board of PFL currently has a directorship of seven [7] members with alternates. They are appointed by regional governments with equity interests and these nominees are appraised by the RSC before they are finally selected as directors. The meetings are conducted on a quarterly basis with varying meeting locations. Normally, the most convenient location changes depending on board preferences. The attendance register is very good with alternate directors attending on occasions. Board agenda and papers are circulated in advance with the attendance of the general manager PFL and finance director who is also the company secretary. The duration of the meeting is normally more than a day.

The principal functions Board pertains to the following:

- To implement the general policies of the RSC;
- To appoint a general manager who shall be the chief executive officer of the company and to fix the terms and conditions of his / her employment;
- To advise and direct the general manager in the general management of the company;

- To receive the annual or interim reports of the general manager on the operations of the company and to transmit such reports to the Council and to all regional members of the company;
- Approve the frequency of routes and scheduling of the services to be provided by the company;
- Ascertain and authorize the number, type and class of ships to be operated;
- Ascertain and approve general charter rates.

e. Pacific Islands Forum

The secretariat role of the Pacific Island Forum in relation to the SPF and the RSC is unambiguous. In relation to PFL the matter is less clear and has been the subject of some correspondence between PFL and the PIF. The RSC considered the relationship in 1979 and agreed, "that the PFL is directly responsible to the Council and the Council to the Forum. The relationship between the PIF and PFL devolves from PIF's role as the executive arm of the Forum and as secretariat to the Council [Touche Ross & Co., pp.102 - 108, 1981].

2. Running Costs, Overhead, Etc.

Pacific Forum Line
Summary Profit & Loss Statement
For the Three-Year Period 1978 - 1980

	1978		**1979**		**1980**	
	WS$m.	%	WS$m.	%	WS$m.	%
Gross Revenue	**1.7**		**4.5**		**16.1**	
Operating Costs						
Charter hire	0.90	32	2.00	29	4.40	21
Equipment costs	0.10	4	0.80	11	4.20	20
Fuel costs	0.30	11	1.20	17	3.50	17
Loading costs	0.60	21	1.40	20	3.20	15
Discharging costs	0.40	14	0.70	10	2.90	14
Port costs	0.30	11	0.60	9	2.40	12
Other costs	0.20	7	0.30	4	0.20	1
Total Operating Costs	2.80		7.00		20.80	
Total Operating Profit / (Loss)	**(1.10)**		**(2.50)**		**(4.70)**	
Administration Costs	0.30		0.60		1.20	
Net Profit / (Loss) for Period	**(1.40)**		**(3.10)**		**(5.90)**	

The summarized profit and loss statement clearly depicts the financial status of the PFL during the first three years of operation. The subject regional entity experienced cash flow problems as its operating and administrative costs exceeded gross revenue over the subject three-year period. There could be a few basic observations that can be deduced from this scenario:

- There was obviously limited capital and working capital funds pumped initially into the project and this is reflected in the cost of hiring capital items [ship charter and equipment], which encompassed the highest proportion of operating costs as a result of under-capitalization;
- The service-mix of the initial routes undertaken was summarily non-viable despite the profitability of some routes. This further suggests that there were demand-side limitations, which implies that some destination and return voyages were carrying insufficient capacity. This unprofitable route structure is clearly reflected in revenue shortfalls being generated in servicing and operating these routes;
- The loading and discharging costs was the second highest portion of operating costs implying great inefficiencies in support infrastructure in most destinations that also contributed to increasing port costs.

On another dimension, there were some major underlying market-access factors that contributed to the initial problems that eventuated during the embryonic period of PFL's operation. These market realities were beyond the cogitation of skilled planners at that time – even after numerous studies and processes were involved.

A major factor that initially underpinned PFL's struggling financial performance and its ensuing efforts to keep afloat during its infant years was due to the immense level of market competition it had been subjected with. The unintended ignorance of market realities manifested itself through cash flow problems, recurrent operating losses and a-near total collapse. In fact, it had to operate for at least a decade before it could sustainably generate and identify a niche market for its services. When considering the time frame it had to operate in, to realize an enabling market, PFL had to spend immensely to buy a market share and a niche to sustain its operations during these initial years of operations.

After having incurred drastic non-profitable operating results over a sustained number of years, another study was commissioned by the Forum to assess and evaluate PFL's overall operation and to ascertain measures that required incorporating to move the company away from its recurrent dismal financial performances.

The findings by consultants, Touche Ross & Co. and adopted by the Forum leaders' ascertained major weaknesses which required urgent redressing - the company was highly undercapitalized, the convoluted routes were not viable and trade going south incurred huge losses. In a nutshell, the regional shipping line was basically trying to be all things to everybody.

The other major changes that were conclusively recommended by the British consultants which required urgent undertaking included the following:

- A long-term business plan;
- Full capitalization of PFL to strengthen its balance sheet and also enable the company to compete for commercial loan finance;
- Surplus leased equipment, particularly containers be returned and purchase of containers would greatly improve trading results;
- PFL needed to bring agency work in-house instead of letting it out to external organizations;
- Relocation of head office from Samoa to Auckland due to the high costs, operational and organizational locational inefficiencies, etc., that were inherent in operating out of an economically and strategically substandard locality;
- Need to have a complete overhaul of PFL's tariff structure to curtail excessive discounts for freight forwarders and concessions to other shippers.

These major strategic changes were readily accepted and implemented however, the Forum decided against suggestions to delegate the RSC's supervisory authority to governments and having the company's board membership selection criteria changed from political appointments to selection of board candidates with commercial expertise.

Strategic changes were undertaken to make PFL viable once the company was properly capitalized through an EIB loan. Container hiring fees were too high and vessel charter rates were above world market prices. PFL capitalized on purchasing its own containers and the entity successfully renegotiated vessel charter rates with contributing member countries, despite initial rejections. The company rationalized its shipping operations and operated initially on a few core / viable routes. PFL increasingly gained a foothold on its market niche and after solidifying its grip on the targeted niche, it expanded into ancillary parts of the business. After these strategic changes were fully incorporated, PFL has operated viably and is in a sound financial position to withstand the vagaries of market competition. PFL has operated without any funding from member countries since. The entity had a commercial focus.

It took more than a decade of realignment, injection of debt capital, renegotiating vessels charter rates, relocation of head office operations, regional and international intervention, etc., before PFL was able to operate effectively.

On another front, the sustained regional cooperation [and at times publicized boardroom disputes] that existed on the running of PFL enabled the subject company to go through the doldrums, despite the gravity of the exposure the regional company was in. This indicates that regional cooperation should always be pursued continuously if a project dictates that regional countries needs to pool resources to realize the establishment of a common organization.

If individual island countries were uncooperative in and during the PFL saga, the Pacific island states development status – especially with regards to economic and trade, would have been gravely compromised. The price that would have eventuated would attest to a significant deceleration in the development pace and standard that we would have liked to achieve.

E. The Qualitative and Quantitative Costs and Benefits – of the Regional Shipping Services Over the Progression of the Project.

1. The Qualitative Benefits

The qualitative benefits are benefits that have been enjoyed by the exporters, the island economies and the importers, as a result of the introduction of 'dedicated' two-way regional shipping services that cannot be tagged with a monetary value. The qualitative benefits of initiating a regional shipping line over the progression of the project includes the following:

- Economies of scale – provision of larger containerized vessels that had greater carrying capacity and relatively faster than the ageing fleet that was servicing the region prior to the establishment of PFL;
- Rationalized timetables;
- Employment opportunities for islanders;
- Improved port facilities;
- Improved shipping and trade facilitation services;
- Increased foreign exchange earnings;
- Reduced dependency on external shipping;
- Customer service improvements to sales channels and resellers;
- Improved market penetration propensities due to consistent shipping services;

- Expanded scope of exporting perishable and marine products due to provision of reefer containers;
- Increasing level of control on transportation of goods;
- Increased and improved regional trade, economic and political co-operation;
- Increased independence in terms of reduced dependence on totally owned foreign shipping operations.

2. The Qualitative Costs

The qualitative costs are costs that have been incurred by the shipping company, shipping agents, exporters, importers and the island economies, as a result of the introduction of regional shipping services that cannot be tagged with a monetary value.

The qualitative costs of initiating a regional shipping line over the progression of the project includes the following:

- High management staff turnover that affects regional lines performance;
- Inappropriate selection of head office locality – communication difficulties, isolated from main revenue sources, inability to attract high quality staff, high cost of convening board meetings;
- Politically untenable decision-making compromising commercial viability;
- Under-rating market competition;
- Politicized institutional structure contributing to indecisive decision-making during frantic periods;
- Delayed or total elimination of specific development projects accruing to other sectors that could have benefited from Australian bilateral aid funding that were diverted to bail out PFL financially;
- Negative publicity of forum leaders' conference room disagreements and outbursts over PFL issues that strained regional diplomatic relations.

3. The Quantitative Benefits – of the Regional Shipping Services Over the Progression of the Project.

The quantitative benefits that have been realized through the introduction of a dedicated two-way liner service to the regional forum member countries have far exceeded the costs entailed in operating the liner.

The aggregated net benefit over the subject study period was New Zealand dollars (NZ$)3.7 billion. The key 'benefit' driver under this model pertains to trade benefits and this includes foreign exchange income – private and public sector, employment generation, tax receipts, infrastructural / systems developments, technology transfers, product / service exposures, international market penetration, etc.

The other revenue drivers are primarily the income generated from existing capacity [gross income generated from regional liner services], support infrastructure, dividends received and profits generated.

4. The Quantitative Costs – of the Regional Shipping Services Over the Progression of the Project.

The quantitative costs that have been realized through the introduction of a dedicated two-way liner service to the regional forum member countries have been far lower than the revenue generated in operating the liner.

The aggregated net cost over the subject study period was NZ$1.2 billion. The key 'cost' driver under this model pertains to the cost of operating the existing capacity and this includes group administration, operating and financial costs.

The other major cost driver is primarily the opportunity costs [foregone development potential in other sectors due to capitalization of funds in the maritime transport infrastructure, foregone aid facility into other potential sectors, etc.], whereas the other costs emanating from net losses make up a minimal contribution.

5. The Quantitative Costs and Benefits – Including Capacity, Key Constraints and Overall Profitability – of the Regional Shipping Services over the Progression of the Project

The cost-benefit analysis that has been undertaken in this study should be viewed as providing an indicative picture of the historical cost-benefit position under which the PFL operated throughout the twenty-seven [27] year period. The justification of underlining it as an indicative position stems from the fact that the primary data being used from 1978 to 1986 to generate this cost-benefit analysis is historical and its completeness is questionable given the lapse in time and the integrity of primary data being used to ascertain the subject analysis. The figures attached to the derived benefits that are external from the subject organization [e.g. trade benefits, economic multiplier effects and other positive externalities] are estimates and their exact values cannot be accurately gauged given the time lapse. The difficulty in ascertaining associated costs and the different cost accounting approaches being undertaken during those periods cannot be accurately ascertained, for example how costs are being amortized.

However, it must be stated that wherever estimates are being introduced, their ascertainment are based on business principles of prudence and their values are not materially overstated or understated.

On another token, the figures used since 1987 is, to a major extent, accurate. However, the reader must take note of the assumptions used and carefully note the major factors needing consideration when assessing / evaluating the cost-benefit analysis of PFL.

F. Overall Assessment of the Net Quantitative and Qualitative Cost-Benefit of Pooling Regional Resources in the Shipping Sector in Retrospect

The revenue generated by the liner itself, the trade and economic benefits accruing to regional island member countries [including Australia and New Zealand], the dividends received, the profits generated and the socio-political advantages gained through the development of this regional entity are indeed enormous. The elimination of a 'total-dependency' syndrome on foreign regional shipping services to facilitate trade and commerce in the islands, and to the region, were significant milestones and contributions provided by PFL in facilitating and

expanding the capacity and capability of forum members to participate in the global marketplace is indeed noteworthy.

The aggregated level of capitalization and turnover undertaken by regional forum companies engaged in global trade far exceeds NZ$3 billion over the subject 27-year period and the level of tariff income in terms of duties and other import / export levies also surpass this subject figure. Furthermore, the various taxes paid by forum resident companies involved in global trade – PAYE, VAT, company tax, capital gains tax, property tax, tariffs on equipment / machinery offshore purchases, etc., signifies the enormous benefits that have accrued to public coffers over the study period are indeed exceptional. The increasing level of 'intra-regional' trade being facilitated through the operation of PFL further justifies the significant benefits – social, economic and political – that the region stands to benefit from through the operation of this regional shipping institution.

All the sectors of regional island countries have directly or indirectly benefited from the services provided by PFL. These positive externalities have significantly contributed to the development and deepening of these various sectors in the region. In this context, many broad-based initiatives would not have materialized to the stages they are at now, had it not been for the critical support infrastructure being provided by PFL's containerized maritime infrastructure.

In retrospect, the very nature and vulnerability of Pacific island states to external trading forces would definitely be compounded had the island leaders together with New Zealand and Australia ignored the precarious conditions at that time. In essence, they took stock of the situation and established a visionary position that makes the region proud of what it has become of today.

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Retrospective Cost-Benefit Analysis

Airline Services
Air Pacific Limited
Cost-Benefit Analysis for Nine-Year Period

Major Factors Needing Consideration when Assessing/Evaluating Cost-Benefit Analysis of PFL

1. Airlines used in 1960's−80's considerably differ from those used in the recent past periods.
2. Data collection during start up period cannot be accurately and comprehensively ascertained due to time constraints.
3. Air Pacific's contribution/benefits to SPIEs tourism trade and general development is only limited to its market share of the regional aviation business.
4. Subject company is highly exposed and is at the mercy of foreign exchange fluctuations which affects revenue earnings, US Dollar payments such as fuel, aircraft leasing, airport handling charges and the like.
5. Foreign currency transactions are translated to Fiji dollars at the rates of exchange published by IATA at transaction date.
6. Air Pacific does not enjoy a monopoly, thus it faces constant pressure on margins and a limited opportunity to pass on costs to customers.
7. Air Pacific needs the ability to react swiftly to unforeseen problems due to the highly volatile nature of the industry it exists in, thus strategies developed to remedy these issues can be costly which can result in significant performance swings [from profitable positions to losses] in a very short span of time.
8. The volatile nature of the subject industry requires Air Pacific to undertake significant internal investment requirements to realize fleet flexibility, capacity and business growth through well articulated planning and forecasting. Should this investment be significantly undercapitalized, business performance will be greatly undermined. This would impact on the overall value of the business to Shareholders.
9. Due to the company's reliance on a relatively small number of significant assets, being the aircrafts, the exposure to disruption of business is increased.
10. Dividend recommendations are considered on an annual basis due to the volatile nature of regional and international airline operations.
11. The endogenous variables pertaining to the costs and benefits of undertaking regional aviation services are indicative figures as their ascertainment cannot be accurately quantified.
12. All costs and benefits that have been realized pre-1995 period have been aggregated and allocated into the year 1995.
13. Dividends proposed or paid from 1995-1998 has not been accounted for due to non-availability of financial information.
14. The gross tourism earning for the 2004 period is for the first six months only and data for the last six months are not available [WIP].

Assumptions

Benefits

1. Profits realized are categorized as other benefits.
2. Tourism and trade benefits have been ascertained by multiplying the gross revenue generated multiplied by an initial multiplier of 40% and 20% thereafter.
3. The aggregated tourism earnings from 1983 to 1994 have been included in the 1995 period.

Costs

1. Opportunity cost is calculated at 120% of the capital contribution of regional member countries during investment year and 20% of contribution over the subject period due to foregone positive externalities that could have been derived had these funds being used for public health, education, roads, etc.
2. Losses incurred are categorized as costs [other costs].
3. Opportunity costs have been ascertained by taking 120% of total capitalization level in the subject year and 20% thereafter for the foregone positive multiplier.
4. Tourism and trade costs have been assessed as 40% of tourism trade benefit figures [including the 1983-1994 period aggregated in 1995].

F$000	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Total
Capital Costs											
Aircraft, Property, Plant and Equipment	119,599			1,424	85,280	107,311	2,719	2,163	5,333	9,722	333,551
Subsidiary investments					2,293	510,076	458	180	422		513,429
Total Capital Costs	**119,599**	**0**	**0**	**1,424**	**87,573**	**617,387**	**3,177**	**2,343**	**5,755**	**9,722**	**846,980**
Group Costs											
Group admin., oper. & fin. costs	176,374	200,105	209,173	226,667	286,728	360,625	305,701	348,028	382,362	387,061	2,882,824
Opportunity costs	143,519	23,920	23,920	25,629	130,717	784,008	170,433	170,068	174,631	180,542	1,827,387
Tourism / trade costs	2,284,800	558,800	433,520	472,160	516,880	547,840	583,680	629,120	680,240	735,040	7,442,080
Other costs				3,586	4,000		45,772	15,315	20,742	19,088	108,503
Total Group Costs	**2,604,693**	**782,825**	**666,613**	**728,042**	**938,325**	**1,692,473**	**1,105,586**	**1,162,531**	**1,257,975**	**1,321,731**	**12,260,794**
Total Costs	**2,724,292**	**782,825**	**666,613**	**729,466**	**1,025,898**	**2,309,860**	**1,108,763**	**1,164,874**	**1,263,730**	**1,331,453**	**13,107,774**
Benefits											
Revenue	189,097	214,259	220,869	236,612	309,279	391,066	266,145	357,703	407,502	421,699	3,014,231
Dividends received				1,941	4,566	2,609	3,914			3,262	16,292
Tourism / trade benefits	5,712,000	1,397,000	1,083,800	1,180,400	1,292,200	1,369,600	1,459,200	1,572,800	1,700,600	1,837,600	18,605,200
Other benefits	12,723	14,154	11,696	9,945	79,057	144,480		5,335	16,693	27,798	321,881
Total Benefits	**5,913,820**	**1,625,413**	**1,316,365**	**1,428,898**	**1,685,102**	**1,907,755**	**1,729,259**	**1,935,838**	**2,124,795**	**2,290,359**	**21,957,604**
Net (Cost) / Benefit	**3,189,528**	**842,588**	**649,752**	**699,432**	**659,204**	**-402,105**	**620,496**	**770,964**	**861,065**	**958,906**	**8,849,830**

Retrospective Cost-Benefit Analysis

Regional Shipping Services
Pacific Forum Line
Cost-Benefit Analysis for Five-Year Period

Major Factors Needing Consideration When Assessing/Evaluating Cost-Benefit Analysis of PFL

1. Goods moved in 1978 considerably differ from those shipped in the recent past periods.
2. Costs incurred in start-up periods cannot be accurately compared against recent past figures due to inability to accurately quantify exchange rate differentials between different countries during start-up period.
3. Data collection during start-up period amongst SPIEs cannot be accurately ascertained due to inferior data collection capacity and capability.
4. PFL's contribution/benefits to SPIEs trade is only limited to its market share of the regional shipping business.
5. Market share data are indicative only and very dependent on the availability of information. The actual market share can fluctuate on one-off contract cargoes and the level of competitor activity.
6. Subject company is highly exposed and is at the mercy of foreign exchange fluctuations which affects revenue earnings, US Dollar payments such as fuel, charter rates, container leasing and the like. Furthermore, PFL's vulnerability to foreign exchange movements is further aggravated under volatile foreign exchange conditions as a high level of its business is conducted in minor Pacific currencies for which no option to hedge exists.
7. PFL does not enjoy a monopoly, thus it faces constant pressure on margins and a limited opportunity to pass on costs to customers.
8. PFL needs the ability to react swiftly to unforeseen problems due to the highly volatile nature of the industry it exists in, thus strategies developed to remedy these issues can be costly which can result in significant performance swings [from profitable positions to losses] in a very short span of time.
9. The volatile nature of the subject industry requires PFL to undertake significant internal investment requirements to realize business growth, often at short notice. Should this investment be significantly reduced, the business would need to seek external funding to continue to operate in its present manner. This would impact on the overall value of the business to Shareholders.
10. Due to the company's reliance on a relatively small number of significant assets, being the vessels, the exposure to disruption of business is increased.
11. Dividend recommendations are considered on an annual basis due to the volatile nature of regional and international shipping operations.
12. Investment plans and funding requirements are effected on an ad-hoc basis due to the subject volatile conditions the subject business is being exposed to.
13. The endogenous variable pertaining to the costs and benefits of undertaking regional shipping services are indicative figures as their ascertainment cannot be accurately quantified.
14. All costs and benefits that have been realized pre-1987 period [since start-up in 1978] have been aggregated and allocated into the year 1987.
15. The conversion rate used to report financials in NZD from the Samoan Tala is 1.5762.

Assumptions

Benefits

1. Profits realized are categorized as other benefits.
2. Trade benefits have been ascertained by multiplying the total tonnage lifted both ways multiplied by an average consignment value of NZ$20 per kg with an initial multiplier of 40% and 20% thereafter.
3. It is assumed that 3 million tones have been lifted to and from the region for the first eight years and this has been aggregated into 1987 estimates pertaining to trade benefits. Estimates are conservative as they do not take into account feeder services [to and from] and their multiplier effects as these have been considered in the major routes serviced and their ensuing multipliers.
4. From 1993-2004, the annualized revenue tonnage figures have been used as a proxy for trade benefits flowing to the region through trade and these figures have been effected with the same multiplier formula as in 2 above without the averaged consignment value.

Costs

1. Opportunity cost is calculated at 120% of the capital contribution of regional member countries during investment year and 20% of contribution over the subject period due to foregone positive externalities that could have been derived had these funds being used for public health, education, roads, etc.
2. Revenue and costs that can be accurately captured prior to 1987 [since start-up] have been captured under 1987 aggregates using a year ending average rate of US$0.56 (calculated over 5-year period since 1983 – NZDUSD Globally – ANZ Bank).
3. Losses incurred are categorized as costs [other costs].
4. Opportunity costs have been ascertained by taking 120% of total capitalization level in the subject year and 20% thereafter for the foregone positive multiplier.

NZ$000	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Total
Capital Costs																			
Container Vessels	854	854	854	18,054	854	854	854	854	854	854	854	854	854	2,449	2,371				33,122
Support vessel infrastructure	10,714					1,013	1,013	1,013	1,013	1,013	1,013	1,013	1,013	1,013	1,013	1,013	1,013	1,013	23,883
Land / Building / Office infrastructure	2,679								529	529	529	529	529	529	529	1,973	3,658	3,658	15,671
Peripherals acquisition	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86			1,376
Working capital	4,465																		
Other Pre-establishment costs				692	692	692	692	692											3,460
Total Capital Costs	**18,798**	**940**	**940**	**18,832**	**1,632**	**2,645**	**2,645**	**2,645**	**2,482**	**2,482**	**2,482**	**2,482**	**2,482**	**4,077**	**3,999**	**3,072**	**4,671**	**4,671**	**81,977**
																			0
Group & Other Costs																			0
Group administration, operating &	38,324	34,134	36,064	56,706	47,873	46,906	50,108	42,690	42,949	40,694	40,794	43,978	43,752	43,067	52,309	48,678	45,927	50,598	805,551
financial costs																			0
Opportunity costs	22,558	4,888	5,076	26,734	9,860	11,402	11,931	12,460	12,989	13,485	13,981	14,477	14,973	16,691	17,413	16,100	19,633	20,567	265,218
Other costs	17,143			2,670	3,170	2,284	4,862	2,517	1,215		2,072			934					36,867
Total Group & Other Costs	**78,025**	**39,022**	**41,140**	**86,110**	**60,903**	**60,592**	**66,901**	**57,667**	**57,153**	**54,179**	**56,847**	**58,455**	**58,725**	**60,692**	**69,722**	**64,778**	**65,560**	**71,165**	**1,107,636**
Total Costs	**96,823**	**39,962**	**42,080**	**104,942**	**62,535**	**63,237**	**69,546**	**60,312**	**59,635**	**56,661**	**59,329**	**60,937**	**61,207**	**64,769**	**73,721**	**67,850**	**70,231**	**75,836**	**1,189,613**
Benefits																			
Operating revenue	41,565	38,346	39,358	54,036	44,703	44,622	45,246	40,173	41,734	46,903	38,722	44,333	44,989	42,133	55,032	50,634	48,567	53,944	815,040
Trade benefits	105,000	47,464	36,323	39,931	43,430	46,357	108,870	122,136	186,227	249,414	314,102	374,783	379,233	395,974	410,279	364,685	416,806	429,546	4,070,560
Dividends received										654		404		673	336	979	658	900	4,604
Other benefits	3,241	4,212	3,294							2,895		355	1,237		2,723	1,956	2,640	3,346	25,899
Total Benefits	149,806	90,022	78,975	93,967	88,133	90,979	154,116	162,309	227,961	299,866	352,824	419,875	425,459	438,780	468,370	418,254	468,671	487,736	4,916,103
Net (Cost) / Benefit	**52,983**	**50,060**	**36,895**	**(10,975)**	**25,598**	**27,742**	**84,570**	**101,997**	**168,326**	**243,205**	**293,495**	**358,938**	**364,252**	**374,011**	**394,649**	**350,404**	**398,440**	**411,900**	**3,726,490**

Pacific Studies Series

Toward a New Pacific Regionalism

An Asian Development Bank—Commonwealth Secretariat
Joint Report to the Pacific Islands Forum Secretariat

VOLUME 3: WORKING PAPERS
Working Paper No. 6

Quantitative Assessment of the Cost of Governance Failure in Fiji Islands, Nauru, Papua New Guinea, and Solomon Islands

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Preface

This report was prepared for the Pacific Islands Forum Secretariat (PFIS) in Suva, Fiji Islands. The report is one output of an Asian Development Bank (ADB) technical assistance project (TA 6226 REG): "Developing and Implementing the Pacific Plan for Strengthening Regional Cooperation and Integration." The Commonwealth Secretariat provided funding to the project.

The lead author of the report was Dr. Roman Grynberg, Deputy Director of Trade and Regional Cooperation at the Commonwealth Secretariat. He was assisted by Michael Hyndman, a cost-benefit analyst contracted by ADB, and Sacha Silva, an economist contracted by the Commonwealth Secretariat. Consultants from PIFS and the Pacific region provided valuable inputs for the report. Bill Costello was the ADB task manager.

The report is published in three volumes. Volume 1 is the Executive Summary. Volume 2 is the main report. Volume 3 contains the working papers commissioned for the report—a series of independent studies assessing potential benefits and costs of implementing a variety of possible regional initiatives. Volume 3 has been printed in hard copy in only limited numbers. However, it is available on the websites of ADB (www.adb.org) and at www.pacificplan.org.

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CONTENTS

I. INTRODUCTION

As shown below, economic growth in Fiji Islands and Papua New Guinea (measured in terms of GDP) has barely kept pace with population growth since these countries became independent. There was a positive trend in per capita GDP in Solomon Islands up until the outbreak of civil unrest in the late 1990s, which resulted in a significant decline in per capita GDP. There are no time series data available on GDP in Nauru; however, the loss of the country's substantial trust funds is well known, as is its decline into its present almost insolvent position. The poor economic performances of these countries can be attributed to poor governance, used in the broad sense to include poor economic management at all levels of government.

How much has poor governance cost the citizens of these countries? How much better off would they have been if there had been good governance over this period? How much will they lose if their governance does not improve in the future? It is impossible to answer these questions with any significant degree of certainty. All that it is possible to do is to pose some counterfactuals in the form of comparisons with the economic performance of somewhat similar countries that have been well managed, or comparisons with the average of developing countries that do not appear to have suffered from poor governance.

Below, use is made of these counterfactuals to estimate the costs of poor governance in Fiji Islands, Papua New Guinea and Solomon Islands over the period since independence and to estimate the future cost to the citizens of these countries if governance is not improved. As there are no historical GDP data available for Nauru, an estimate of the cost of poor governance in that country is made by means of a counterfactual of good management of its trust funds.

II. ESTABLISHING COUNTERFACTUALS

Poor governance is essentially the outcome of the inappropriateness and/or the ineffectiveness of a country's basic institutions, including the lack of enforcement of the "rules" set by these institutions (such as constitutions, election systems, law and justice systems, and public administration systems). Lisa Chauvet and Paul Collier (2004) have estimated the impact of poor governance in developing countries through estimating the loss of economic growth associated with poor policies, institutions and governance. They estimated that, on average, developing countries suffering poor governance, that are not also suffering from civil unrest, record 2.3 percentage points less GDP growth per year relative to other developing countries. (A country also suffering civil unrest is estimated to lose an additional 3.8 percentage points GDP growth per year for each year of the civil unrest.)

The validity of applying this estimate of the costs of poor governance to the Pacific countries can be supported in part by a comparison of the economic performances of Fiji Islands and Papua New Guinea on the one hand and Mauritius and Botswana on the other. Fiji Islands and Mauritius are similar in many respects. Both are small island states with a similar mix of ethnicities and a similar history of colonial administration. At one point both countries were very heavily dependent upon sugar production and exports. With the implementation of sensible policies, the economy of Mauritius has undergone a fairly rapid structural transformation from a primarily agricultural economy to an economy in which manufacturing and services are predominant. Fiji Islands has attempted economic reforms, without much success, and except for the development of tourism and the limited growth of garment manufacturing under preferential market access, the economy remains largely rural. It may reasonably be argued that the coups in Fiji Islands in 1987 and 2000 may not have occurred if there had been stronger

economic growth, as underlying the coups has been resentment by indigenous Fijians of the economic success of Indo-Fijians.

The GDP growth performance of Fiji Islands and Mauritius is very different (see Table 1). Over the 1980 to 2003 period, per capita GDP growth in Fiji Islands (in 1995 US dollar terms) averaged 0.89 per cent. Over this same period, the average per capita GDP growth in Mauritius was 4.3 per cent. It may be argued that because Mauritius has had a larger quota for its sugar exports to the European Union than has Fiji Islands that it has benefited more from this aid. However, the receipt of such aid does not necessarily mean that the aid is well used. In Fiji Island's case, the aid that it has received in the form of prices for its sugar exports two to three times higher than world prices has been dissipated through pricing schemes that have encouraged the expansion of the sugar industry into marginal areas. As well, the high prices have allowed highly inefficient sugar mills to continue operations.

Table 1: Comparison of GDP/Capita and GDP/Capita Growth Rates in Fiji Islands and Mauritius, 1980-2003

	Fiji Islands: GDP/capita (constant 1995 US$)	**Fiji Islands: GDP/capita** (constant 1995 growth rate, %)	**Mauritius: GDP/capita** (constant 1995 US$)	**Mauritius: GDP/capita** (constant 1995 growth rate, %)
1980	2,372.3	-3.6	1,745.7	–
1981	2,475.6	4.4	1,802.9	3.3
1982	2,285.1	-7.7	1,882.4	4.4
1983	2,141.4	-6.3	1,918.4	1.9
1984	2,276.0	6.3	1,951.6	1.7
1985	2,150.3	-5.5	2,051.0	5.1
1986	2,261.6	5.2	2,202.7	7.4
1987	2,091.6	-7.5	2,389.3	8.5
1988	2,117.4	1.2	2,556.9	7.0
1989	2,244.5	6.0	2,680.2	4.8
1990	2,311.7	3.0	2,814.8	5.0
1991	2,209.4	-4.4	2,949.7	4.8
1992	2,352.0	6.5	3,067.8	4.0
1993	2,426.7	3.2	3,201.9	4.4
1994	2,537.3	4.6	3,298.3	3.0
1995	2,585.2	1.9	3,404.7	3.2
1996	2,645.9	2.3	3,543.4	4.1
1997	2,490.6	-5.9	3,705.1	4.6
1998	2,501.9	0.5	3,886.8	4.9
1999	2,706.6	8.2	4,044.0	4.0
2000	2,585.6	-4.5	4,159.7	2.9
2001	2,647.9	2.4	4,390.3	5.5
2002	2,735.9	3.3	4,538.1	3.4
2003	2,831.1	3.5	4,633.7	2.1
Average	–	0.9	–	4.3

Source: World Bank Indicators online.

Botswana is an appropriate comparator for Papua New Guinea. Like Papua New Guinea, Botswana is rich in terms of natural resources—in particular, diamonds, which account for around 40 per cent of the country's output. Botswana was a British colony that at independence in 1968 had only 12 kilometers of paved road, 22 university graduates, and 100 secondary

school graduates (Acemoglu *et al* 2001). Similar to Papua New Guinea, land in Botswana is collectively owned. As can be seen from Table 2 below, prior to independence Botswana had a much lower per capita GDP than Papua New Guinea. However, since independence, Botswana has experienced much faster economic growth than Papua New Guinea. Over the period 1970-2003, PNG's per capita GDP growth rate (in constant 2000 US$) averaged only 0.2 per cent, while Botswana's averaged 6.7 per cent. It is claimed that Botswana's record as the fastest growing country in the world over the past 40 years is due to its good economic policies, which are based in its good institutions (Acemoglu *et al* 2001).

Table 2: Comparison of GDP/Capita and GDP/Per Capita Growth Rates in Botswana and Papua New Guinea, 1970-2003

	PNG: GDP/capita (constant 2000 US$)	**PNG: GDP/capita growth rates** (constant 2000 US$)	**Botswana: GDP/capita** (constant 2000 US$)	**Botswana: GDP/capita growth rates** (constant 2000 US$)
1970	634.7	8.2	436.2	13.3
1971	658.6	3.8	530.4	21.6
1972	679.2	3.1	647.3	22.0
1973	706.4	4.0	758.0	17.1
1974	707.8	0.2	795.9	5.0
1975	685.3	-3.2	836.3	5.1
1976	646.5	-5.7	893.4	6.8
1977	636.3	-1.6	966.0	8.1
1978	674.0	5.9	1,065.0	10.4
1979	669.4	-0.7	1,153.7	8.2
1980	637.6	-4.7	1,246.8	8.1
1981	619.8	-2.8	1,312.2	5.2
1982	606.1	-2.2	1,420.2	8.2
1983	609.6	0.6	1,550.8	9.2
1984	591.7	-2.9	1,625.2	4.8
1985	599.3	1.3	1,681.9	3.5
1986	611.3	2.0	1,758.5	4.6
1987	612.5	0.2	1,902.4	8.2
1988	614.9	0.4	2,198.4	15.6
1989	591.6	-3.8	2,405.5	9.4
1990	560.3	-5.3	2,486.6	3.4
1991	599.0	6.9	2,587.6	4.1
1992	665.2	11.1	2,579.5	-0.3
1993	766.6	15.2	2,546.9	-1.3
1994	791.3	3.2	2,557.6	0.4
1995	745.0	-5.8	2,588.1	1.2
1996	781.9	5.0	2,655.9	2.6
1997	732.3	-6.3	2,766.7	4.2
1998	687.0	-6.2	2,867.4	3.6
1999	720.7	4.9	2,962.3	3.3
2000	694.6	-3.6	3,135.0	5.8
2001	662.6	-4.6	3,260.4	4.0
2002	642.1	-3.1	3,371.6	3.4
2003	644.6	0.4	3,532.0	4.8
Average	—	0.2	—	6.7

Source: World Bank Indicators online.

Another comparison that lends some support to the use of the Chauvert/Collier estimate of the costs of poor governance is that between the Pacific island countries and the Caribbean countries. For the 12 Caribbean countries for which World Bank per capita GDP data are available, the average per capita GDP growth rate for the period 1970-2003 (not all countries have data covering the full period) is 2.76 per cent. For the ten Pacific island countries for which these data are available, the average per capita GDP growth rate is one per cent.

The Chauvet and Collier (2004) estimate of 2.3 percentage points loss of GDP for each year of poor governance is used here to make estimates of the costs of poor governance in Fiji Islands, Papua New Guinea, and Solomon Islands. It is assumed that GDP growth in the countries during the periods of poor governance would have been 2.3 per cent higher on average than actually occurred. The remaining difference between the country's trend GDP growth and the average rate of GDP growth for developing countries not suffering badly from poor governance is assumed to be due to country-specific circumstances (such as the fluctuations due to natural disasters or the civil unrest in the Solomon Islands).

III. PAPUA NEW GUINEA

According to World Bank statistics, in real terms the GDP per capita of Papua New Guinea was the same in 2003 as it was in 1976, the year following independence. Simple log-linear estimates of the trend in per capita GDP in Papua New Guinea show that growth in this variable has been negligible over the past 34 years. A test of whether per capita GDP growth has performed differently since 1989, the year of closure of the Panguna mine in Bougainville, showed no difference—0.12 per cent during the pre-1989 period and 0.13 per cent during the post-1989 period. The only period when per capita GDP showed any substantial increase was during the mineral boom of the 1991-94 period. This increase was temporary.

Therefore, it is assumed that per capita GDP in Papua New Guinea has been static in real terms since independence in 1975 and that poor governance has been a major factor in this poor performance. To estimate the cost to the country of the poor governance, it is assumed that in the absence of the poor governance per capita GDP would have increased throughout the period since independence at an average rate of 2.3 per cent. In 1995 constant US dollar terms, the estimated per capita GDP loss due to poor governance over the period 1975-2003 is calculated at US$12,000. Expressed in other terms, in the absence of poor governance per capita GDP in 2003 would have been double what it actually was (US$1,773 versus US$881).

According to these calculations, the total loss in GDP due to poor governance over the period 1975-2003 was US$52.8 billion. This amount is equivalent to over ten times the value of Papua New Guinea's GDP in 2003 (US$4,850 million in 1995 constant dollar terms). This may appear to be a large number. However, Chauvet and Collier (2004) estimate the average net present value of the future costs for a developing country and its neighbours of its poor governance is US$82.4 billion.

What would be the likely cost of the continuation of poor governance in Papua New Guinea? If, say, the poor governance were to continue for the next ten years, and have the same adverse impact in terms of GDP growth as assumed above, the present value (discounted at 5 per cent) of the cost to the people of Papua New Guinea is estimated at US$4.9 billion (in 1995 dollar terms).

IV. FIJI ISLANDS

For Fiji Islands, log-linear trend analysis of per capita GDP (in 1995 US dollar terms) for the period from independence in 1970 to 2003 shows that there is a structural break around 1987 (the year of the first coups). In the pre-1987 period the trend in per capita GDP is estimated to be a slight decline of –0.3 per cent, while for the post-1987 period the rate of growth is a slight 0.02 per cent. Per capita GDP in the pre-1987 period is characterised by an upswing in the 1979-81 period (which coincides with the peak in the Investment-GDP ratio), while in the post-1987 period per capita GDP has shown some growth over the 1994-2003 period. The change from a negative per capita GDP growth trend in the pre-1987 period to a slightly positive trend in the post-1987 period could be explained by the fact that in the wake of the 1987 coups there was a period of economic reform. However, the post-1987 period has also been characterised by continuing political uncertainty (culminating in the coup of 2000), uncertainty over access to land, and the loss of skilled and highly skilled labour. Thus, the beneficial impacts of the reforms and the adverse impacts of the coups appear to have cancelled each other out.

If we assume, therefore, that there has been no growth in GDP per capita in Fiji Islands since independence, and also assume that in the absence of poor governance that GDP per capita would have increased at an average rate of 2.3 per cent, the gap in per capita GDP over the period to 2003 is US$14,000 in 1995 constant dollars. This means that GDP per capita would have been US$1,050 higher in 2003 than it actually was ($3880 versus $2830). Under these assumptions, the estimated total GDP foregone over the period since independence due to poor governance is calculated to be US10.8 billion (in 1995 dollars).

If it is assumed that there has only been poor governance in Fiji Islands since the coups in 1987, and that in the absence of the poor governance per capita GDP would have increased at 2.3 per cent, the loss in per capita GDP over the 1987-2003 period is estimated to be US$5,456 (in 1995 dollars). In line with these assumptions, the loss of GDP over this period has been US$4.3 billion (in 1995 dollars).

What would be the likely cost of the continuation of poor governance in Fiji Islands? If poor governance were to continue in Fiji Islands for the next ten years, and have the same adverse impact in terms of GDP growth as assumed above, the present value (discounted at 5 per cent) of the cost is estimated at US$2.4 billion (in 1995 dollar terms).

V. SOLOMON ISLANDS

The civil unrest in the Solomon Islands over the period since 1997 had a dramatic impact on output and incomes, with per capita GDP (in 1995 constant US dollar terms) declining from the historical peak of US$850 in 1996 to US$534 in 2002. Log-linear trend analysis of the period since 1970 gives an estimate of the positive trend in per capita GDP of 2.6 per cent up to 1996.

While there was reasonably strong growth in per capita GDP in Solomon Islands over the period from Independence in 1978 to the beginning of the civil unrest, from reports of economic management and corruption in the country (for example, in the logging industry), it appears safe to assume that the country experienced poor governance during this time and therefore could have done so much better in terms of economic performance. Therefore, the costs of poor governance have been estimated for the period 1978 to 2003. As Chauvet and Collier (2004) note, civil unrest has an additional adverse impact on a country's economic performance. From their cross-country analysis, Chauvet and Collier estimate that civil unrest costs an economy an additional 3.8 per cent of GDP output for each year of the unrest. Therefore, in estimating the

costs of poor governance in Solomon Islands for the period 1978-2003, an adjustment of per capita GDP was made for the period 1997-2003 so that the costs of civil unrest would not be counted as costs of poor governance. Hence, for each of the years 1997 to 2002, an additional 3.8 per cent was added to the per capita GDP. For 2003, with the economy beginning to recover following the RAMSI intervention, the add-on percentage was reduced by 3.8 percentage points.

According to the calculations, the total loss of per capita GDP over the period 1978 to 2003 due to poor governance is US$6,960 (in 1995 constant dollar terms). In the absence of both poor governance (over the 1978-2003 period) and the civil unrest (over the 1997-2002 period), the adjusted per capita GDP in 2003 is three times the actual level (US$1,670 versus US$538). The estimated loss in per capita GDP due to the civil unrest over the period 1997 to 2003 is US$608.

The estimated total loss of GDP over the period 1979 to 2003 due to poor governance is US$2.8 billion (in 1995 constant dollar terms). This is equivalent to 11.4 times the value of Solomon Islands' GDP in 2003. It is estimated that an additional US$260 million of GDP was lost due to the civil unrest (equivalent to the value of a full year's output in recent years).

If poor governance continues in Solomon Islands, what could be the cost in terms of lost GDP? If poor governance were to continue in Solomon Islands for the next ten years, and have the same adverse impact in terms of GDP growth as assumed above, the present value (discounted at 5 per cent) of the cost is estimated at US$250-320 million (in 1995 dollar terms), depending upon how quickly the economy recovers from the civil unrest.

VI. NAURU

There are no historical GDP data available for Nauru. Therefore, the above exercise could not be carried out for Nauru. Obviously, there has been a horrendous economic loss suffered by this country due to poor governance. A substantial part of this loss is the almost complete loss of the trust funds established from the sales of phosphate. This has been as a result of incompetence in business deals and corruption associated with the use of the trust funds. Gosarevski *et al* (2004) have estimated that if the trust fund monies had instead been invested with conservative commercial investment brokers, they would in today's terms be valued at around Australian dollars (A$)10 billion. In a sense, therefore, there has been a loss of A$10 billion of assets suffered by Nauruans as the result of poor governance.

On the basis of the income received from their trust funds, in the 1970s Nauruans were believed to have the second highest incomes in the world—next to Saudi Arabia. According to the Government of Nauru's 2004-05 Budget, the country will only be able to pay its public servants (who account for the bulk of the formally employed labour force) A$70 per week for the foreseeable future. Clearly, in the light of this change in their incomes, Nauru is an outlier in terms of the costs of poor governance.

If the country had invested its phosphate earnings wisely, and that they were today worth US$8 billion and earning 4 to 5 per cent from interest and dividends, this would mean that the present population of approximately 12,000 would have a per capita income of around US$20,000. Instead, their per capita GDP is probably about 1/20th of that amount.

VII. DEVELOPMENT ASSISTANCE PROVIDED TO FIJI ISLANDS, PAPUA NEW GUINEA, NAURU, AND SOLOMON ISLANDS

Comprehensive information on development assistance since 1973 is available from the OECD's Development Assistance Committee (from their online database). Overseas development assistance for the four countries was extracted from the database. The total amount of grant assistance and the total amount of grants from each country's major donors are provided below for the periods specified.

Table 3: Grants from Bilateral Donors, Fiji Islands, Nauru, Papua New Guinea, Solomon Islands
(US$ million, constant 1995 dollars)

Donor	Fiji Islands (1973-2003)	Nauru (1975-2003)	Papua New Guinea (1973-2003)	Solomon Islands (1978-2003)
-Australia	318	61	7,400	276
-European Community	111	10	594	211
-Japan	122	5	227	108
-New Zealand	20			16
-United Kingdom			44	163
Total	**593**	**76**	**8,300**	**778**

Source: OECD Development Assistance Committee online data base.

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Valuation of Imports into Fiji Islands, Kiribati, and Papua New Guinea and Avoidance of Customs Duty

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Preface

This report was prepared for the Pacific Islands Forum Secretariat (PFIS) in Suva, Fiji Islands. The report is one output of an Asian Development Bank (ADB) technical assistance project (TA 6226 REG): "Developing and Implementing the Pacific Plan for Strengthening Regional Cooperation and Integration." The Commonwealth Secretariat provided funding to the project.

The lead author of the report was Dr. Roman Grynberg, Deputy Director of Trade and Regional Cooperation at the Commonwealth Secretariat. He was assisted by Michael Hyndman, a cost-benefit analyst contracted by ADB, and Sacha Silva, an economist contracted by the Commonwealth Secretariat. Consultants from PIFS and the Pacific region provided valuable inputs for the report. Bill Costello was the ADB task manager.

The report is published in three volumes. Volume 1 is the Executive Summary. Volume 2 is the main report. Volume 3 contains the working papers commissioned for the report—a series of independent studies assessing potential benefits and costs of implementing a variety of possible regional initiatives. Volume 3 has been printed in hard copy in only limited numbers. However, it is available on the websites of ADB (www.adb.org) and at www.pacificplan.org.

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CONTENTS

I. INTRODUCTION

There are two ways in which customs duty on imports may be avoided or reduced. The first is by an import being classified to a lower duty rate than the correct rate. The second is by declaring a value for the import that is less than its true value (under invoicing). However, as with all corrupt practices, measurement of their incidence is extremely difficult if not impossible, as such activities are carried out in secret. Avoidance through misclassification of the duty rate applied to imports can only be detected by inspection of the imports and the documents declaring its duty rate classification. Hence, this form of detection can only take place by means of on-the-spot inspection. Detection of avoidance of customs duty through under-invoicing also requires on-the-spot inspection of the goods and of the invoices, and knowledge of the internationally traded prices of the goods.

This paper addresses the question of the cost and value to Forum Island countries (FICs) of a regional body that in some way complements the work of the customs authorities in the FICs and assists in the full collection of the customs duties levied. After the event, it is very difficult to detect corrupt practices in the collection of customs duties. Therefore, there is no attempt here to estimate the possible loss of customs revenue in the FICs. Nor is there any presumption that customs authorities in the FICs are corrupt. The paper reports the results of a review of trade data in three countries that, at best, can raise suspicions about corrupt behaviour on the part of importers through false declaration of the value of imports. The paper then goes on to discuss the form and cost of a regional mechanism for ensuring improved compliance on the part of importers.

To some extent, detection of duty avoidance through declaration of false values of imports is possible. The values of countries' imports and exports are reported to the United Nations. Therefore, from the United Nations (UN) Trade Database it is possible to compare the value of imports reported by a country with the value of exports to that country as reported by other countries. The two figures will usually not agree since they are not provided on the same basis—imports are valued on a cif (costs including freight) basis while exports are valued on a fob (free on board) basis. Also, the data are reported in terms of United States (US) dollars and the exchange rates used for the conversion of the import and export values may not be consistent with the timing of the imports. Further, in the case of developing countries, the recording of export data by their major trading partners—usually the high-income countries—is likely to be more accurate than the recording of import data by the developing countries. Still, where the discrepancies are overly large, questions may be raised as to their propriety. The International Monetary Fund (IMF) uses a figure of 15% as the average of the difference between the cif value and the fob value. Of course, the amount of "costs including freight" will vary from country to country, depending on the size of insurance premiums, transport charges, port charges, etc. However, for our purposes we use the estimate of 15% as a benchmark.

An analysis of the valuation of imports into Fiji Islands, Kiribati, and Papua New Guinea (PNG) was undertaken to see whether there is any suspicion that imports are not being declared at their true value, which may indicate avoidance of customs duty. Available data were drawn from the UN Trade Database for imports reported by these countries at the one-digit SITC (Standard International Trade Classification) level. Exports by all other countries (Rest of the World, ROW) to these countries at the one-digit SITC level were also extracted. The aggregate values of imports and exports and the percentage differences between them are reported in Tables 1-3.

II. FIJI ISLANDS

The available data for Fiji Islands (Table 1) is for the years 1980 to 1994 and 2000 to 2003. During this period there is only one highly suspicious observation, that for 1993. For this year the value of exports from the rest of the world to Fiji Islands exceeded the value of imports reported by Fiji Islands by 9.2%. At the one-digit SITC level, exports exceeded imports in the case of SITC 1 (Beverages and tobacco), SITC 2 (Crude materials), SITC 5 (Chemicals), SITC 6 (Manufacturing), SITC 7 (Machinery and transport), SITC 8 (Miscellaneous manufacturing) and SITC 9 (Commodities not elsewhere classified). The largest disparity is in SITC 9 where the export value exceeds the import value by 220%. The next largest disparity is in SITC 2 (Beverages and tobacco), where the export value exceeds the import value by 31.5%.

On average, over the 19 years of data in Table 1 the excess of import values over export values is 14.7%, which is very close to the average difference between the cif and fob values used by the IMF. Using this benchmark, it cannot be claimed that there is significant undervaluing of imports taking place. However, over the three-year period 2000-2002, the differences between the import values and the export values are only around 8%, which is substantially below the difference in most of the other years. Inspection of the data in these years at the one-digit SITC level shows that export values consistently exceed import values for SITC 3 (Mineral fuels, lubricants) and SITC 9 (Commodities n.e.c.), and import values consistently exceeded export values by a considerable amount in the case of SITC 0 (Food). The export values are up to three times the import values in the case of SITC 3, and up to 14 times in the case of SITC 9. The export value reported for SITC 9 in 2003 was also 14 times greater than the import value reported.

Inspection of import data reported by the Reserve Bank of Fiji Islands for the 2000-2002 period shows values of imports of SITC 3 that are closer to the reported values of exports by the rest of the world but still well below these fob values. Also, there is an even larger gap between the value of SITC 0 imports reported by the Reserve Bank of Fiji and SITC 0 exports to Fiji Islands reported by the rest of the world. One suggestion is that the high level of SITC 3 exports to Fiji Islands from other countries includes re-exports, as Fiji Islands is a transhipment port for other FICs. However, the data over the period 1980-94 do not have these features. If re-exports are not being netted out, it is a recent phenomenon. It is quite likely that there are differences in SITC classification between the exporting countries and Fiji Islands. However, it is difficult to believe that this could account for the excess of reported export values over reported import values in the case of SITC 3 and for the reverse situation in the case of SITC 0. Differences in classification could account for the large differences between the two series in the case of SITC 9. This could be for the purpose of reducing the import duty paid by changing the duty classification but such a conclusion cannot be tested.

The total values of imports reported by the Reserve Bank of Fiji for the 2000-02 period are more consistent with the aggregate fob values of exports reported by the rest of the world than are the import values reported by Fiji Islands to the UN. Therefore, the differences in values at the one-digit SITC level between the import data reported to the UN and the import data reported by the Reserve Bank and the export data reported by the rest of the world suggest that at least there is room for improvement in the classification and reporting of the Fiji Islands trade data to the UN.

Table 1: Comparison of Import Values Reported by Fiji Islands with the Value of Exports to Fiji Islands Reported by the Rest of the World, 1980-2003
(US$ million)

	Total Imports Reported by Fiji Islands (cif basis)	Total Exports to Fiji Islands Reported by the Rest of the World (fob basis)	Percentage Difference
1980	500.8	455.3	10.0
1981	604.8	506.2	19.5
1982	493.7	456.3	8.2
1983	464.1	427.3	8.6
1984	427.4	369.4	15.7
1985	417.3	356.1	17.2
1986	409.8	331.8	23.5
1987	352.2	277.4	27.0
1988	423.7	350.7	20.8
1989	536.4	461.7	16.2
1990	701.2	566.3	23.8
1991	615.3	507.8	21.2
1992	602.6	539.7	11.7
1993	504.7	551.1	9.2+
1994	802.0	673.3	19.1
2000	701.2	647.8	8.2
2001	698.5	646.0	8.1
2002	756.7	702.8	7.7
2003	1,025.5	845.9	21.2

cif = cost, insurance and freight, fob = freight on board.
Source: International Economics Data Base, The Australian National University, Canberra.

III. KIRIBATI

Table 2 shows import and export values reported for Kiribati for the years 1990 to 1999. It is important to note that in the case of Kiribati imports are reported at fob values, not cif values. Therefore, it would be expected that the import and export values would be the same. Export values are substantially in excess of import values over the 1990-1994 period, but import values are in excess of export values over the 1997-1999 period. This pattern could suggest that there was substantial undervaluation of imports in Kiribati in the earlier period but that the problem was corrected over the 1997-99 period. The lack of recent data does not allow any conclusions to be drawn about recent behaviour.

Table 2: Comparison of Import Values Reported by Kiribati with the Value of Exports to Kiribati Reported by the Rest of the World, 1990-99
(US$ million)

	Total Imports Reported by Kiribati (fob basis)	Total Exports to Kiribati Reported by the Rest of the World (fob basis)	Percentage Difference
1990	26.9	40.1	49.1+
1991	25.9	48.9	88.8+
1992	36.7	66.3	80.7+
1993	27.8	49.5	78.1+
1994	26.5	50.8	91.7+
1995	34.1	24.8	37.5
1996	38.0	42.7	12.4+
1997	38.9	30.6	42.0
1998	32.6	27.4	19.0
1999	41.0	31.9	28.5

cif = cost, insurance and freight, fob = freight on board.
Source: International Economics Data Base, The Australian National University, Canberra.

IV. PAPUA NEW GUINEA

Table 3 presents the import and export values for Papua New Guinea for the years 1981 to 1990, 1998, and 2000 to 2003. Over the 15 years, import values reported by Papua New Guinea average 11.6% higher than the reported export values, which is below the IMF benchmark of 15%. The most suspicious looking figures are in the early years, from 1981 to 1984. In 1983, reported export values were in fact 3.5% higher than reported import values. The figures for the period 2000 to 2003 are unusual in that in 2000 exports are only 1.8% lower than imports, while in 2001 exports are 41.8% less. This unusual behaviour in these two years could be the result of a timing difference in the year the exports were reported by the exporting countries and the year the imports were reported by Papua New Guinea. The average difference between the import values and the export values over the period 2000-03 is 20%, which suggests no undervaluation of imports and that there has been an improvement in performance from the earlier period.

However, inspection of the data at the one-digit SITC level shows a consistent pattern over the period 2000-03, with the value of imports of SITC 0 (Food and live animals) reported by Papua New Guinea being much larger than the export values reported by PNG's trading partners and the export values of SITC 9 (Commodities n.e.c.) being much larger than the import values reported by Papua New Guinea. Again, this outcome could be the result of innocent differences in the classification of merchandise. Or it could be due to due to differences in classification for the purpose of reducing the duty paid.

Table 3: Comparison of Import Values Reported by Papua New Guinea with the Value of Exports to Papua New Guinea Reported by the Rest of the World, 1990-99
(US$ million)

	Total Imports Reported by PNG (cif basis)	**Total Exports to PNG Reported by the Rest of the World** (fob basis)	**Percentage Difference**
1981	1,074.4	1,040.0	3.3
1982	1,001.9	916.8	9.3
1983	917.5	949.3	3.5+
1984	932.0	862.9	8.0
1985	861.5	772.9	11.5
1986	890.7	809.4	10.0
1987	1,126.4	995.3	13.2
1988	1,297.5	1,195.2	8.6
1989	1,527.9	1,337.6	14.2
1990	1,177.1	1,131.7	4.0
1998	1,290.4	1,108.1	16.5
2000	998.5	980.7	1.8
2001	1,272.1	897.1	41.8
2002	1,156.1	937.0	23.4
2003	1,268.0	1,133.8	11.8

Source: International Economics Data Base, The Australian National University, Canberra.

V. RECOMMENDATIONS

This evaluation suggests it is less likely that import undervaluation has taken place in Papua New Guinea in recent years than in earlier years. The same can be said for the period studied for Kiribati. However, in Fiji Island's case, the opposite appears to hold. In the case of both Fiji Islands and Papua New Guinea, there are substantial and persistent patterns of differences in classification of merchandise at the one-digit level that merit further inquiry. These patterns could be innocent differences in classification between exporting countries and the two importers, or they could point to duty avoidance.

Even though more disaggregated data on imports are available in Fiji Islands and Papua New Guinea, it would be difficult even from this data to confirm the suspicions. As noted previously, on-the-spot inspections are necessary to say whether there is misclassification or undervaluation of imports (under invoicing) being carried out in order to avoid the payment of duty.

Globally, the most frequently used means of reducing corruption in customs operations is the use of independent surveillance teams to check the valuation of the merchandise imported and to check the classifications of goods for purposes of charging customs duty. These independent inspections may be comprehensive or they may be random. An alternative adopted in the case of Indonesia, where the customs service was seen as particularly corrupt, was to have an independent inspection agency take over the role of customs. The result in terms of the increase in the customs duty collected was dramatic.

The services of these inspection agencies are quite expensive and to have such an agency take over the role of customs services throughout the Pacific Island countries seems extreme. Corruption in customs services is more likely where the average rate of duty is high and there is significant variation in rates. Therefore, if an independent inspection agency were to be used, it would likely have its largest payoff in those countries where customs duty regimes have these features and in the larger countries such as Fiji Islands and Papua New Guinea where a significant amount of customs duty is collected (around Fiji dollars [F$]150 million a year in Fiji Island's case).

An alternative means of checking corruption in customs services within the region would be to have an independent inspection team stationed in one of the FICs and for it to undertake random checks on customs practices in those countries that have tariff regimes. Such an exercise would not be as effective as having a continuous inspection service stationed in each country but should not be nearly as expensive. Random audits, together with severe sanctions for actions taken to evade customs duties, could be quite effective in reducing corruption and increasing duty collection.

The cost of a customs surveillance team that would undertake random checks of custom authority practices in the FICs, as well as carrying out training programs for personnel in the customs services, should be no more than F$1 million per year. This estimate is based on a budget for the surveillance team of four staff at an average salary plus on-costs of F$200,000 each (including administrative support costs). The total cost of an average of five country visits by each staff member for purposes of inspections and training of F$5,000 per visit would amount to around F$100,000 annually. Office rental, equipment and supplies should take the total amount to around F$1 million annually.

According to the Central Bank of Solomon Islands, revenue collection problems in the form of evasion of duties on log exports appear to be continuing in Solomon Islands. The surveillance team could help to reduce such evasion through in-the-spot inspections and maintenance of global timber prices. However, to undertake this task in Solomon Islands and Papua New Guinea, the two major timber-exporting countries, could add considerably to the cost, while the benefits from the surveillance would be highly dependent upon severe penalties being levied for corrupt practices.

Pacific Studies Series

Toward a New Pacific Regionalism

An Asian Development Bank—Commonwealth Secretariat
Joint Report to the Pacific Islands Forum Secretariat

VOLUME 3: WORKING PAPERS
Working Paper No. 8

A Pacific Regional Panel of Auditors: Cost-Benefit Analysis

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Preface

This report was prepared for the Pacific Islands Forum Secretariat (PFIS) in Suva, Fiji Islands. The report is one output of an Asian Development Bank (ADB) technical assistance project (TA 6226 REG): "Developing and Implementing the Pacific Plan for Strengthening Regional Cooperation and Integration." The Commonwealth Secretariat provided funding to the project.

The lead author of the report was Dr. Roman Grynberg, Deputy Director of Trade and Regional Cooperation at the Commonwealth Secretariat. He was assisted by Michael Hyndman, a cost-benefit analyst contracted by ADB, and Sacha Silva, an economist contracted by the Commonwealth Secretariat. Consultants from PIFS and the Pacific region provided valuable inputs for the report. Bill Costello was the ADB task manager.

The report is published in three volumes. Volume 1 is the Executive Summary. Volume 2 is the main report. Volume 3 contains the working papers commissioned for the report–a series of independent studies assessing potential benefits and costs of implementing a variety of possible regional initiatives. Volume 3 has been printed in hard copy in only limited numbers. However, it is available on the websites of ADB (www.adb.org) and at www.pacificplan.org.

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EXECUTIVE SUMMARY

Establishing a regional panel of auditors for the public sectors of the Forum Island countries requires far more then simply making adequate budgetary provision. This paper considers the differences in institutional frameworks that the island countries offices of Auditor General (OAG) operate under and demonstrates that these will need to converge prior to the effective establishment of a regional panel of auditors.

There are substantial difference in the operating capacities of the OAG's. These too will need to be addressed if the work of the national offices are to be merged.

This paper seeks to address these development needs. It suggests a phased approach. The initial phase is to involve an empowerment of the South Pacific Association so Supreme Audit Institutions (SPASAI), an embryonic federation of OAG's by funding training and secondment programmes through its operations. The costing of these programmes is estimated at some Fiji dollars (F$)2.35 million and is entirely exclusive of the budget provisions already made for the national OAG's by the individual Forum Island countries.

This phase would last until such time as the appropriate action had been taken to establish a common institutional environment under which OAG's operate in the Forum Island countries. It would then seem feasible to establish a full federation of Forum Island OAG's, which could establish a regional approach to audit issues and possibly directly take on the audit role for regional institutions. It is accepted that operational capacities would need to continue to develop firstly to establish a common standard and ultimately to develop further.

The federal arrangement is costed at a minimum of F$29 million with an ideal budget set at F$39 million. These figures are inclusive of the budget provisions already made for the individual Forum Island countries for their national OAG's. It is expected that the annual budget will be set at a figure close to the minimum initially rising to the ideal figure eventually as the operating capacities of the constituent members continue to develop.

Once operating capacities of the national OAG's approach convergence establishing a fully integrated regional panel of auditors is seen as feasible. Establishing such a regional facility is seen as a possible third phase in the development of public sector audit capacities in the Forum Island countries. Certain advantages for a Regional Panel of Auditors over what can be secured from a federal system are identified. However, these are not seen as being so substantial to justify any material increase in the upper limit in the proposed budget provision of F$39 million, identified as appropriate under the federal system.

I. BACKGROUND

An office of the Auditor General (OAG), or its equivalent, exists in each of the Pacific Islands jurisdictions. These offices have already established a network through the South Pacific Association of Supreme Audit Institutions (SPASAI), which includes the New Zealand OAG and some of the State offices of Australia among its members. (The constitution of SPASAI is attached). Its role is primarily that of providing a forum for senior members of staff to identify common issues and problems and consider appropriate strategies to deal with them. It also performs a training function, ensuring that the developments in international regulations are disseminated and understood. This work is primarily funded by the European Union.

Practical limits are imposed on collaboration between various offices, quite apart from considering their formal integration. This is due to the following:

(a) Different jurisdictions use different regulatory frameworks. The Federated States of Micronesia (FSM) employs United States generally accepted accounting practices. Fiji Island's point of reference is the Fiji Accounting Standards, although adoption of the International Public Sector Accounting Standards developed the International Federation of Accountants is under active consideration. Other jurisdictions refer to International Financial Reporting Standards. However, a number of these standards either have no relevance to the Pacific Island economies, or are impossible to apply in these economies undeveloped and thin markets. The actual application will therefore vary from jurisdiction to jurisdiction.

(b) The responsibilities of the offices of the Auditor Generals varies from jurisdiction to jurisdiction. For example the office in Fiji Islands is charged with the audits of local authorities. This task is generally understood to be outside the jurisdiction of an OAG. Additionally, despite constitutional provisions, not all public agencies are "accountable" directly to parliament or its equivalent, because the mandate and scope of the Audit Office are incomplete. For example, the audit of commercial statutory authorities and government commercial companies is undertaken by private sector auditors that do not have a mechanism to report directly to Parliament except via the minister. (ADB:2004)

(c) The status of the OAG's office will also differ among jurisdictions. For example the office of the Auditor General is not completely independent of the executive government, because its budget appropriations and staff appointments are subject to executive government decisions, such as those of the Ministry of Finance and the Public Service Commission.

(d) Anomalies in the legislative framework can also create operating conditions which are likely to be unique to a particular jurisdiction. For example, Vanuatu's Comprehensive Reform Program, launched in 1998 and supported by the ADB, was premised on the enactment of legislation to improve public service administration and public financial management, and to commercialize/corporatize statutory authorities. Thus, Parliament enacted all the 8 pieces of legislation very quickly as required under the program loan, with little consideration being given to implementation. However, after consultants departed in December 2002, few changes can be seen in the way the Government operates or the way public finances are managed. (ADB: ibid).

(e) The effectiveness of the OAG's also varies because of:
   - (i) The status of the office. Some report to their country's parliament or congress, while others report to the government. (ADB: ibid)
   - (ii) The disposition to act on the report of he OAG varies. Even where the OAG reports to the parliament its observations and recommendations may be largely ignored.

(iii) Institutional capacities vary.

(f) A further fundamental difficulty exists to the establishment of a fully effective regional count of auditors. The regional almost certainly does not possess the appropriately qualified accountants to staff it!

These limitations are not insurmountable. Internationally the accounting profession is working towards a worldwide harmonized regulatory framework. Other regional initiatives to be fostered by the Pacific Plan can be expected to move Forum countries towards a common framework for governance. However, give the substantial differences in the environments under which OAG's operate establishing a regional panel of public sector auditors must be considered a medium to long-term objective. Added to the difficulties already identified, OAG's are generally perceived as performing an oversight role of government on behalf of the population that funds it, through its parliamentary, or equivalent, representatives. The role is therefore very much a national rather than a regional one. Surrendering what is essentially a national role to a regional body is not likely to be well received.

This argument does however serve to suggest that regional institutions might appropriately be audited by a regional panel of auditors. This may serve as the basis for establishing such a panel which could expand its role overtime. While the establishment of a regional panel of auditors may serve to strengthen both the capacity and independence of the public sector audit function, it would seem appropriate to consider other means of working towards these objectives in the medium term.

II. INSTITUTIONAL CAPACITIES – MEETING THE OBJECTIVE: A PHASED APPROACH

As has been already noted and can be expected, the capacities of OAGs in the different jurisdictions varies. However no office is capable of providing all audit functions. The OAG in Fiji Islands is perhaps the best resourced of the region's auditor generals. It succeeds in completing the most troublesome of audit exercises within eight months. Audits in other Forum Island jurisdictions may take more than a year to complete. However, while it carries out annual compliance audits, risk management assessments and special investigations, it does not conduct value for money, or environmental audits. The Fiji Islands government processes of accounting do not enable the former, although this is currently being addressed. The OAG, does not possess the expertise to deal with the latter.

Establishing a fully effective regional panel of auditors goes beyond making an appropriate financial provision. Provision will have to be made to:

(a) Establishing a training provision to ensure that audit expertise is maintained and developed to meet existing audit regulations and to keep pace with change.
(b) Ensure the independence of OAGs offices.
(c) Eliminate anomalies in legislation that pertain to work of the OAG.
(d) Establish a common regulatory framework.
(e) Establish a mechanism to ensure the active consideration of the OAG's annual report, with appropriate action taken where necessary.
(f) The adoption of a common regulatory framework (accounting system).

These issue have to be addressed in random with the provision of appropriate resources to enable all aspects of the audit function to be carried out effectively in the Forum Island countries.

In developing a regional panel of auditors consideration could also usefully be given to:

(g) promoting understanding and co-operation among national OAG offices, until such time that the establishment of a fully integrated regional panel of auditors becomes feasible.

(h) establishing a center for the accumulation and dissemination of information pertinent to the field of public audit in the region.

(i) provision of technical assistance and the exchange of expertise among OAG's in Forum Island countries. (SAPASAI: 1988)

Of the issues raised above items (c), (d), (e), (f) and (g), have no real budgetary implications. While they are necessary developments they lie outside the work of this paper. As such they are not discussed further, other than to note that the development of this paper proceeds on the assumption that these issues will be addressed as necessary by the Forum Island jurisdictions. This requires legislative reviews and reorganization, which cannot be reasonably be expected to be completed in less than two years at a minimum. During this time steps need to be taken to develop capacities of the individual OAG's to a common level.

A. Phase 1: Strengthening SPASAI — Developing Co-operation while OAGs Operating Environments are Converged

SPASAI (1988) already has the remit to facilitate training, act as a clearing house for technical information and provide for inter member office assistance. However, SPASAI's administration is sustained largely by the goodwill of its better resourced member bodies. Currently SPASAI's role is effectively limited to making provision for the most senior staff to confer and undertake training. This work is funded by the European Union. It is assumed that this kind of financial support will continue. While provision for training of all but the most senior staff may be considered a national, rather than a regional responsibility, the quality of training available at the national level will vary substantially from jurisdiction to jurisdiction. Some countries are simply too small to sustain an entity, which would provide such training. A regional provision is therefore needed to ensure that the necessary training is available and that the training seeks to establish a common quality in the public sector audit function in Forum Island countries. Financial provision therefore needs to be made for:

(a) The establishment of a secretariat for SPASAI that can provide a clearing house for operations.

(b) The establishment of a wider training function.

(c) Provision for secondments between offices, to provide assistance and facilitate an exchange of expertise.

The secretariat at least initially, need only be a modest operation. As it would function as an information base and a means of co-ordination SPASAI activities, it might resonablly be headed by the equivalent of a senior librarian with secretarial assistance. Office space and equipment would be required. USP senior librarian and secretary compensation packages have been assumed and rental charges in Suva's central business district taken to assess office costs. Suva given its location at the hub of the Forum Islands is taken as the appropriate place to establish the secretariat. Alternative locations could of course be considered.

USP is currently offering training programmes at a charge of Fiji dollars (F$)2800 per day, plus travel associated costs where pertinent. Given the acute need for upgrading each officer may need to undertake ten person days of training per annum. Quite possibly training will have to be conducted for senior and intermediate staff as a separate exercise. These two levels are likely to incorporate the greater part of the staff. There is limited scope for employing junior staff in

audit activities. Training required by junior staff should be undertaken through established tertiary programmes.

Given the limited resources available in the Forum Island nations secondments will almost certainly have to be drawn from Australia and New Zealand. Initially secondees may have to be sought from the United States in the case of the Federated States of Micronesia, the Marshall Islands, and Palau, and possibly France in the case of Vanuatu. The average salary of audit staff at the New South Wales office is Australian dollars (A$)8,000 (www.audit.nsw.gov.au) (F$64,000).

Staff seconded may also require compensation for dislocation effects. A one third premium is factored into the costing, giving a cost of F$85,000 per secondee. Relocation costs will also have to be considered. Airfares for a family of four, (4xF$1000=F$4000), movement of personal possessions ($F2000) and settling and out allowances ($F3000) have been allowed for.(Comperable allowances are made by USP) As all OAG's in the Forum Islands could undoubtedly benefit from one such secondment, it has been assumed that an annual secondment will be made to each office.

Annual costs associated with this upgrade in SPASAI's operations can therefore be estimated as follows:

	F$
Secondments fourteen senior staff at F$85000 per annum	1 190 000
Relocation Costs	126 000
Training	
20 person days per jurisdiction for 14 jurisdictions at F$2800 per day	784 000
Travel costs (taken to be F$1000 per travel exercise in an average) for 14 jurisdictions	14 000
Living allowances (taken to be F$200 per day for 28 days assuming that Senior and Intermediate training is undertaken consecutively) for 14 jurisdictions	78 400
Secretarial Costs	
Executive officer	90 800
Secretary	21 200
Officer operating costs	20 000
Office rental	24 000
Total	**2 348 400**

An additional one off charge to equip the office would also be required, say F$20 000.

B. Phase 2: Establishing a Federation of Offices of Auditor Generals. A Convergence of Institutional Expatriates

A federation of OAG's might reasonably be considered when convergence of the offices standing as instruments of governance is achieved and a common system of accounting adapted. At this point staff could move from one jurisdiction to another without their effectiveness being limited by having to operate in a context different to that which they are used to. This is not to suggest that institutional capacities will converge at the same time or the

same rate as operating environments. The current capacities of OAGs in the different jurisdictions vary drastically. The OAG in Fiji Islands is perhaps the best resourced of the region's auditor generals. It succeeds in completing the most troublesome of audit exercises within eight months. Audits in other jurisdictions may take more than a year to complete.

Fiji Island's OAG reports that 92% of the audit staff hold a relevant first degree qualification, at a minimum. 14% of staff in this office are studying to secure further academic and/or professional qualifications. Staff in this jurisdiction are required to complete a minimum of 30 hours continuing professional development work per annum. All audits are currently conducted per annum, with 29 contracted out. The office in question conducts compliance and risk management audits. Audits are completed on a reasonably timely basis, completion times being between four to eight months.

However, while environmental audits and value for money audits are part of the office's scope of work, Parliament has yet to determine a commencement date for there activities. Implementation of these responsibilities will inevitably require additional resourcing and substantial training.

At the other end of the spectrum OAG's exist in the region which have one or two staff members with a degree or profession qualification only. (One French territory reports that the equivalent office is staffed only with paraprofessionals.) Employment carries no professional development requirement and no staff members are undertaking advanced studies. In some cases audits take in excess of twelve months from balance day to complete.

Clearly if the relatively well resourced office does not currently carry out the full range of audit functions it cannot be regarded as having more than the minimum acceptable resourcing. Clearly considerable inputs have to be made in other jurisdictions to provide an effective OAG.

While training programmes provided under phase I should do something to address the disparity in institutional capacities, these can be expected to persist when the convergence of operational environments have been achieved. Phase 2 would continue with the secondment arrangements, which may even grow under a federal arrangement. A federation of OAG's should serve to address the issue of institutional capacities. A formal federation of offices may be established by strengthening SAPSAI, or by superseding it by establishing a new institution. If the latter option is adopted it is presumed that the federal organisation will subsume the work of SPASAI and therefore require the resources identified in the costing already for phase 1 as well as the costs for additional functions that it will undertake.

The role of the federation could be seen to be:

(a) Continue training programmes established in phase I.
(b) Establish resourcing at the national level to enable common operating capacities across jurisdictions
(c) Consider the merits and drawbacks of establishing a panel of public sector auditors as a single regional entity.

In addressing point (b) it is necessary to consider at what level of operations convergence should be sought.

Given the effectiveness of the operations of the OAG in Fiji Islands its budget may be regarded as providing an initial indicator of the resourcing required to provide an effective public sector audit facility in the region. It must however be born in mind that this level of funding does not resource Fiji Island's OAG to conduct either environmental or value-for-money audits. It should

therefore be regarded as the minimum benchmark in identifying the resourcing required to provided an effective public sector audit facility in the region.

SUMMARY BUDGET FOR THE OFFICE OF THE AUDITOR GENERAL IN FIJI ISLANDS, 2004

Total	**F$3,281,900**
Payroll:	
Audit Staff	2,246,626
Non Audit Staff	120,074
Training	50,000
Travel	40,000
Office operating expense other than personnel	735,200
Capital outlays	90,000
Special investigations	Not shown separately

Source: Office of the Auditor General, Fiji Islands (2004)

The ideal, would be reflected by an office, or a federation of offices, which is capable of executing the full range of audit functions efficiently and effectively. Given concerns expressed in many quarters regarding the extent of corruption in the public sectors, (ADB, ibid) resourcing equivalent to that available to an OAG in a developed economy may be required. A summary of the 2004-5 budget for New South Wales OAG may be regarded as an indicator of the desirable level of resourcing for the public sector audit function in the region.

	A$'000	**F$'000**
Total	27,714	37,085
Payroll:		
Audit Staff	17,912*	23,784
Non Audit Staff	2,725	3,632
Training	599	899
Travel	283	374
Office operating expense other than personnel	6,195	8,260
Capital outlays	1,048#	1,357
Special investigations	Nil	

* Financial Report Audit Staff	15,581
Performance Audit (Value for Money) Staff	2,331

Not included in total expenses

Exchange rate F$1 = A$0.75

The difference in the minimal acceptable and the ideal capacities are also reflected in the qualitative differences between the staff in the OAG in New South Wales and in Fiji Islands. This is reflected by the qualifications held by the personnel.

Qualifications of Audit Staff	New South Wales	Fiji Islands
Holding a professional qualification and a relevant degree	89 (35%)	6 (9%)
Holding a professional qualification only	92 (37%)	6 (9%)
Holding a relevant Degree only	67 (27%)	49 (74%)
Holding a para Professional Qualification	3 (1%)	5 (8%)

Upgrading the quality of staff from within the region's own resources will prove difficult. Fiji Islands of the Forum Island countries has by far the strongest accounting profession, but only had a little over 300 accountants holding a full professional qualification, although there are many more accounting graduates. A qualitative increase in the capacity of the regional OAG's will clearly require introducing expatriate accountants in the short term, notwithstanding the concerted training programme to be put in place in phase I. It is worth noting at this point that USP graduating students in seeking employment regard training opportunities as an important factor in identifying a preferred employer. While their motives may well be to increase their career mobility, rather than out of a sense of professionalism, introducing a higher profile training programme may serve to attract good graduates into the OAG's. Their long-term commitment may be secured by offering better compensation packages than those currently available.

Transposing to a costing from both the minimum acceptable indicator offered by the budget of the OAG in Fiji Islands and the desirable indicator offered by the budget of the OAG for New South Wales is problematic. The collective population of the island states of SPASAI as at 1999 approximates to 6.5 million, which is comparable to the population of New South Wales. Fiji Island's population is a little over 800,000. Adjusting the indicative figures of Fiji Islands by a value of 8.125 and simply accepting the indicative figures for NSW without adjustments to obtain an appropriate costing is simplistic. This does not allow for the size of the economies, or the size of the public sector within the economies. The capacity to contract out audits will also vary from jurisdiction to jurisdiction. While per capita incomes in Forum Island countries are lower than in NSW, the public sector in the island countries will be a relatively larger part of the economy than in NSW. Adjusting the budget of the OAG for Fiji Islands by a factor of 8.125, while simplistic, may therefore be regarded as as good an approximation to a minimum acceptable budget that can be made. This would yield the following summary costing:

Total	**F$26,675,400**
Payroll:	
Audit Staff	18,235,800
Non Audit Staff	975,600
Training	400,600
Travel	320,500
Other operating expenses	5,972,400
Capital outlays	101,200

An 8.125 fold increase in staff would require a total payroll of 536. This compares with the staffing level at the New South Wales office of 251. A figure of 536 staff in total may be seen as high, but not unrealistically so when the following are born in mind.

(a) The New South Wales office will be able to enjoy economies of scale that are not to be found in the Forum Island countries.
(b) In general the NSW office staff are better qualified then those in the Forum Island countries
(c) The public sector is relatively larger in the Forum Island countries than in New South Wales.

A real problem with regard to the Forum Island countries capacity to utlize such a budget can be expected to persist simply because the required number of accountants are not available in the local market. Providing resources to even the minimum acceptable level to the OAGs may well prove impossible unless non-regionals are recruited. As has already been noted such personnel will require premium salaries to attract them. These additional costs may be broadly offset by accepting a total payroll of less then the 536 staff indicated.

The training element in the costing as stated above would also prove to be lamentably inadequate as the has been demonstrated in the costing for an upgrading of SPASAI in phase I.

The issue of employee retention also needs to be addressed. The OAG in NSW lost 26 of its current staff base of the last three years to retirement or movement to other employment. The loss in the Fiji Islands office was 33%. Given the demographics of NSW and Fiji Islands a greater proportion of the staff losses would be due to retirement then in Fiji Islands. The lower staff retention in Fiji Islands was certainly due in part to staff opting to leave Fiji Islands subsequent to the 2000 political crises and in part to the greater relative shortage of accountants in the economy generating more possibilities for career development by switching employers.

This latter factor can be expected to persist and be found in all jurisdictions. It is reinforced by the regions accountants disposition to migrate to economies which are seen to offer more attractive living and working conditions. To counter this, OAG's must ultimately be in a position to offer a compensation package to staff that is sufficient to limit staff migration to manageable levels. This may well approximate to the terms and conditions currently offered to staff in the OAG in NSW.

The federation's operations would clearly require oversight and direction, particularly with regard to the need to address the issue of establishing a fully integrated regional panel of auditors. SPASAI/Federation administration would require upgrading, with at least one experienced accountant to be appointed to write position/policy papers on issued the federation would have to address. Such an individual might be expected to commend a compensation package well in excess of $100 000. One further secretary at least would be required. Office operating costs

would rise. SPASAI's congress currently meets every second year. A fully fledged federation could be expected to meet annually. Executive meetings would also have to be budgeted for. The costing of a federation's operations will therefore incorporate the following elements:

			F$
Operations to be established in SPASAI in phase I			2348 400
Operations of national offices within the federation			26 075 400
		to	37 085 000
Additional costs of an expanded federation office			
Policy advisor	F$120 000		
Secretary	21 200		
Additional office operating costs	30 000		
Additional rental	12 000		
			183 200

Costing of a federal system of offices of auditor generals can therefore be anticipated to be in the range F$29 million to F$40 million. As the lower end of the range represents the costing for minimum acceptable institutional capacities and costing at the top of the range the ideal operating capacity it may be appropriate to set a budget at the low end of the range initially and move to the upper end as offices demonstrate the ability to increase the range and effectiveness of their operations.

It must be stressed that these costings reflect the totality of the public sector audit operations. They are therefore already funded in part by the Forum Island countries by way of the financial provision they are currently making to the OAG's operations. The cost of implementing this aspect of the Pacific Plan will therefore be the sums indicated above net of the amounts Forum Islands already provide to resource their respective OAG's.

To summarise it would seen inappropriate to recommend a budget for a federation of Forum Island countries OAGs that is less then that derived by adjusting the current budget for the Fiji Islands OAG by 8.125. As capacities are progressively upgraded over time it will become desirable to expand the roles of the OAG and to stabilize the work forces by offering compensation packages comparable to these, which can be secured elsewhere. This will require a resourcing of the order currently available to the OAG in NSW.

C. Phase 3: Establishing a Regional Panel of Public Sector Auditors

In moving to phase 3 it will be necessary to consider whether a regional panel of auditors can achieve more than a federal system, or can achieve the same objectives, more efficiently.

The clear advantages that would seem to present themselves from a regional arrangement are as follows:

(a) That the independence of the public sector of the audit function from national governments that contribute in part to its funding is strengthened.
(b) It would seem natural that regional institutions be audited by a regional audit body. If regional institutions are to develop/emerge under the Pacific Plan this may prove to be a significant activity in itself. However it would seem difficult to sustain an argument for a significantly increased budget over and above the upper costing limit of $40 million

identified for phase 2 on the basis of these two benefits. If there is a desire under the Pacific Plan to set up a regional cornt of auditors it might be most appropriate to establish a time frame under which this is to be achieved and a financial ceiling to its operations. The analysis offered here suggests that the establishment of a regional panel of auditors should be seen as a medium to long term objective and will require a total budget in the order of $40 million per annum.

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VOLUME 3: WORKING PAPERS
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A Permanent Economic and Statistical Technical Assistance Body for the Pacific Island Countries

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Preface

This report was prepared for the Pacific Islands Forum Secretariat (PFIS) in Suva, Fiji Islands. The report is one output of an Asian Development Bank (ADB) technical assistance project (TA 6226 REG): "Developing and Implementing the Pacific Plan for Strengthening Regional Cooperation and Integration." The Commonwealth Secretariat provided funding to the project.

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I. INTRODUCTION

A considerable amount of short- and long-term economic and statistical technical assistance has been given over the past decade or so to the Pacific islands countries by international financial agencies and bilateral donors for the purpose of improving economic and financial management, and the provision of economic and financial statistics. However, improvements in performance as the result of this sometimes coordinated and sometimes uncoordinated assistance are difficult to discern. For example, the Untited Nation Development Program (UNDP) Pacific Human Development Reports of 1994 and 1999 register a similar level of disappointment at the extent and quality of the available statistics.

Some of the forms of technical assistance provided are: (i) the Pacific Financial Technical Assistance Centre (PFTAC), established in 1993 with funding from UNDP, International Monetary Fund (IMF), Asian Development Bank (ADB), Australia, New Zealand and Japan; (ii) the economic services in the Pacific Islands Forum Secretariat (PIFS); (iii) the economic and statistical services provided via the Pacific Community (SPC) in Noumea and Suva, the Forum Fisheries Agency (FFA) in Honiara, and the South Pacific Regional Environmental Program (SPREP) in Apia; (iv) the advice on legislation relating to investment provided by the World Bank Group's Foreign Investment Advisory Service's Asia Pacific Regional Office in Sydney; (v) ad hoc technical assistance provided by donors such as the AusAID, NZAID, and DFID; and (vi) ad hoc technical assistance provided by the IMF (mainly during their Article IV consultations), the ADB and the World Bank.

It is disappointing that there are no indicators available to measure the outcome from this assistance. Ideally, it would be desirable to have performance indicators measuring the availability and quality of useful statistical series, the frequency and timeliness of the publication of national accounts, the quality and availability of budget documents, the adoption of improved budgetary procedures, and the performance of financial institutions.

Because of the apparent lack of response to this wide variety of technical assistance, the question arises whether a significantly larger, and more coordinated technical assistance effort would lead to a substantially different result. The formation of PFTAC is an effort to provide a coordinated set of technical assistance covering public financial management, financial sector supervision, tax administration, and economic and financial statistics. However, with only one staff member covering each of these areas and with 15 Pacific islands countries to advise, each country can receive only a very limited amount of attention. It is physically possible for each staff member to visit each country only about once every two years on average, and therefore the technical assistance cannot be immediate and constant in terms of monitoring and mentoring.

It is necessary to recognise the obstacles from the individual country's side of things. The required technical skills and physical and financial resources are limited (often extremely so). As well, the high level of mobility of staff makes the maintenance of the required level of technical expertise very difficult. These difficulties show up frequently in the lack of effective implementation of reforms. As far as the provision of appropriate statistics is concerned, there is even a suspicion that governments are unwilling to provide resources for these activities because doing so will only advertise their weaknesses.

Given these difficulties, it cannot be assured that a substantially larger and perhaps different form of economic and statistical technical assistance will make a difference. However, the idea of the various donors that are providing such technical assistance to the Pacific Island countries

pooling these resources to establish a single, large organisation appears to have merit. If such an organisation were to be considered, what size and form should it take?

II. RELEVANT AREAS OF TECHNICAL ASSISTANCE

The areas of economic and statistical technical assistance provided by PFTAC—public financial management, financial sector supervision, tax administration, and economic and financial statistics—are clearly very important and should be included. If the Organisation for Economic Co-operation and Development (OECD) Secretariat is taken as a guide, economic and other technical assistance is also provided in areas such as trade and investment policy, environmental policy, infrastructure, education, labour markets, science policy, and governance. The OECD Secretariat also devotes considerable resources to the compilation and publication of statistical databases. Some of these more micro-economic areas covered by the OECD Secretariat, such as trade, infrastructure, and governance, are covered by the PIFS. Other areas such as the environment and natural resources are covered in other regional organisations such as SPREP, Forum Fisheries Agency, and SOPAC. Statistical assistance is also provided through the SPC. Technical assistance in areas such as trade and investment is also being provided by other organisations supported by the international agencies and bilateral donors. However, it is questionable whether the level of staff resources in each of these areas provides the necessary breadth and depth of assistance needed. Moreover, the wide dispersion of the resources does not appear to lead to the degree of contestability of ideas needed to result in the formulation of good policies and effective assistance with implementation of any needed changes.

Given their current and likely future interests, trade and investment will remain important areas in which the Pacific Islands countries will need technical assistance. Environmental policy and natural resources management policy are also areas in which strong technical assistance is necessary. Education and labour markets are other critical areas. As noted above, implementation of policies is a frequent area of poor performance. The shortage of skills and the high demand for the few available resources within countries mean that changes that are difficult to implement are not carried through. A system of mentoring of public officials in charge of putting new policies in place could possibly assist in improving implementation.

III. STRUCTURE, SIZE, AND LOCATION OF THE TECHNICAL ASSISTANCE FACILITY

If most of these dispersed economic and statistical technical assistance resources were to be brought together, they could be placed in a structure of four divisions: Macroeconomics and Tax; Financial Sector Supervision; Microeconomics; and Statistics. The Macroeconomics and Tax division could cover public financial management (budgeting, accounting and financial management systems), taxation, and macro-economic policy analysis. The Financial Supervision division could assist with supervision and regulation of the banking and other financial institutions, insurance, provident funds and pensions, and money laundering. The Micro-economy division should cover at least trade, investment, and competition policy, management of natural resources, environmental policy, and education and labour market policy. Finally, the Statistics division would provide assistance in the collection and compilation of financial statistics, national accounts, balance of payments information, and labour market statistics. It would also provide assistance in the construction of price indices, the development of questionnaires for surveys such as household expenditure, employment and investment surveys, as well as population census. It would also assist in the management of databases. The four divisions would provide technical assistance to the relevant government departments as well as provide training and assist in the development and implementation of policy.

One possible arrangement for this facility would be to merge most of the existing economic and statistical technical assistance resources from the various regional and other bodies presently being supported by international agencies and bilateral donors. It would appear that the best location for such a body would be in the PIFS, where it would also consolidate existing resources in the PIFS devoted to these areas. The facility could be under a Deputy Secretary-General, with Directors at the head of each division. Divisional staff could comprise one Adviser, three Project Officers, and four Technical/Support staff. However, it may be desirable to establish the statistical division within the SPC, given the statistical services resources already in place in that organisation.

In order to provide more direct assistance to the Pacific Islands countries, local offices of the facility could be set up in several of the countries. These local offices would have a representative from each of the divisions under the supervision of a Director. For example, the head office in Suva could service Vanuatu and New Caledonia as well as Fiji Islands. Sub-regional offices could be set up in Port Moresby, Apia, and Majuro.

This arrangement would involve the following personnel: Deputy Secretary-General, seven Directors (four in the main office and three in the three sub-regional offices), four Advisors, 24 Project Officers (12 in the main office and 12 in the sub-regional offices), and 22 Technical/Support staff. The total salary bill (including on-costs) would be in the region of Fiji dollars (F$)6 million (assuming tax-free status). With travel costs in the order of F$500,000 annually, in-country training costs of F$500,000, and costs of facilities and administrative support of F$1 million, the total annual cost of the facility would be around F$8 million annually.

An alternative arrangement to the establishment of the facility within PIFS would be to consolidate the various economic and statistical resources from the regional organisations and other bodies into the existing PFTAC along the same lines as outlined above. However, it would still be desirable to establish local offices in several of the Pacific countries in order to provide the needed breadth and intensity of interaction with government departments.

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Benefit-Cost Analysis of a Pacific Regional Nurse Training Facility

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Preface

This report was prepared for the Pacific Islands Forum Secretariat (PFIS) in Suva, Fiji Islands. The report is one output of an Asian Development Bank (ADB) technical assistance project (TA 6226 REG): "Developing and Implementing the Pacific Plan for Strengthening Regional Cooperation and Integration." The Commonwealth Secretariat provided funding to the project.

The lead author of the report was Dr. Roman Grynberg, Deputy Director of Trade and Regional Cooperation at the Commonwealth Secretariat. He was assisted by Michael Hyndman, a cost-benefit analyst contracted by ADB, and Sacha Silva, an economist contracted by the Commonwealth Secretariat. Consultants from PIFS and the Pacific region provided valuable inputs for the report. Bill Costello was the ADB task manager.

The report is published in three volumes. Volume 1 is the Executive Summary. Volume 2 is the main report. Volume 3 contains the working papers commissioned for the report—a series of independent studies assessing potential benefits and costs of implementing a variety of possible regional initiatives. Volume 3 has been printed in hard copy in only limited numbers. However, it is available on the websites of ADB (www.adb.org) and at www.pacificplan.org.

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I. INTRODUCTION

Is there justification for a regional nurse training facility to be set up in one of the Pacific island countries for the purpose of training nurses from the Pacific region to work off shore? This report provides an evaluation of the arguments for public support for such a facility and a preliminary assessment of the qualitative and quantitative private and social benefits and costs that could be associated with the establishment of a government-supported Pacific regional nurse training facility.

It is recognised that there is considerable concern that the health systems in Pacific countries are suffering because of the emigration of trained medical and nursing staff to higher-paying jobs overseas. This emigration is in response to the large and increasing demand for nursing staff in both developed and developing countries and the higher wages offered. Therefore, it would be important in establishing a regional nurse training facility to try to ensure that it did not have the effect of reducing the quality of health care in the Pacific countries, but rather to improve it. This objective may be achieved if the facility builds upon an existing training facility and leads to improvements in the local health system by improving the quality of training of nurses employed locally.

The benefit-cost study results show that the benefits of a regional nurse training facility far outweigh the costs (an estimated benefit-cost ratio of 11.2 at a discount rate of 3 % and a benefit-cost ratio of 6.1 at a discount rate of 8 %), if it is assumed that the facility trains additional nurses and does not lead to the loss of nurses from the local health system.

II. ARGUMENTS FOR A GOVERNMENT-FUNDED, PACIFIC REGIONAL NURSE TRAINING FACILITY

For reasons that may be placed under the headings of 'push' and 'pull' factors, there has been a rapid increase in the numbers of nurses emigrating from developing countries to work for short or long periods in high-income countries. This phenomenon has also been evident in the Pacific region in recent years. Many concerns have been raised about the impact of this so-called 'brain drain' on the source countries, such as the decline in the quality and volume of health services. But there are also perceived benefits from this international flow of services, most importantly the reverse flow of remittances. The question has arisen as to whether the prospective benefits are so large that they could justify a Pacific island government or governments setting up a training facility to train nurses to work overseas, as has happened in other countries.

However, before moving to this point, the question should be answered as to why the establishment of such a facility should not be left to the market. In the Philippines, for example, the country with the largest international flow of nurses, the training of nurses to work overseas is primarily undertaken by the private sector. If it is possible for the private sector to undertake this activity in the Philippines, why cannot it be left to the private sector in the Pacific? Are there 'market failures' and resulting external social benefits that could justify either subsidizing a private facility, or a Pacific island government—or a number of Pacific island governments jointly—establishing and running such a facility?

It is clear from reports of the hiring of immigrant nurses that there are often substantial requirements to be met in order for an immigrant nurse to obtain permission to work in the nursing profession in high-income countries. Countries such as the Philippines, with a reasonably long history of their nurses working overseas, have been able to establish a

reputation for their nurses, and therefore new immigrants find a well-established route for gaining employment as a nurse. However, for the Pacific island countries, there is no such established path. A new private training facility attempting to create demand for its graduates in the high-income countries would have a difficult job in establishing its credentials. This "barrier to entry" appears to be one of the major obstacles to the setting up of a private training facility.

Therefore, a major argument for a Pacific-wide regional nurse training facility is that the Pacific island governments could together negotiate with the destination governments to establish a uniform set of regulations under which nurses would be hired, and have the Pacific regional nurse training facility accredited with the destination countries so that its graduates would be recognized. Such negotiations on the part of the Pacific island governments appear to be the only way to overcome this "market failure". Otherwise, nurses from Pacific island countries will continue to experience difficulties in finding jobs in nursing and instead have to take on so-called "care giver" activities, which are less well paid. The larger the number of Pacific island governments involved in the negotiations with the destination countries, the greater would be their negotiating power. With even the smallest of them now members of international bodies such as the UN, their bloc bargaining power is considerable.

However, once having overcome this entry barrier by gaining international agreements for the accreditation of the regional facility, is there justification for public financial support for such a facility? There are clearly economies of size and scope in the training of nurses, given the different kinds of nursing functions. Therefore, it appears that it would be desirable for a facility to be set up that would accept enrollments from all Pacific countries. One means of establishing a training facility of sufficient size and scope, while at the same time meeting the certification requirements of the destination countries, would be for a training facility presently operating in one of the destination countries to establish a facility in a Pacific country. Such a facility may not need to be subsidized, or may only need to be subsidized for an initial establishment period. The easiest way to establish a high-quality regional training facility may therefore be for the Pacific governments to provide a loans scheme to fund training at a private facility.

Are there other reasons for the governments of the region to establish a government facility or to subsidize a private facility? Are there other market failures? Another possible market failure is that the setting up of a high quality nurse training facility to meet the standards of the destination countries—which it may be assumed would be of a higher level than in the source countries—could have beneficial impacts on the nursing services and health facilities within the Pacific countries. Not all nurses trained in the facility would necessarily emigrate and, being trained to a higher level than the existing nurses, could well lift health standards within the country. Further, those nurses returning from off-shore assignments, after having had substantial experience in the destination countries, would also help lift the standard of nursing. These benefits may not be captured by the nurses in the form of higher salaries and the resulting social benefits could justify government subsidies of the training facility.

III. BENEFIT-COST ANALYSIS OF A REGIONAL NURSE TRAINING FACILITY

In constructing a benefit-cost analysis of the proposed training facility, private and social benefits and costs have to be considered. The net private benefits are the increased benefits the nurses and their families derive from the training, less the costs of the training. The social benefits and costs are those benefits and costs not captured by the nurses' increased income and the training costs. The private benefits and costs may be considered as being split between the nurses and their families and the government, with the government receiving taxes

and perhaps training fees paid by the nurses, and paying any additional training costs from its taxation base.

As it is expected that most, if not all, the nurses graduating from the training facility will go overseas to work for a period, it is important to make clear the perspective from which the benefit-cost analysis is undertaken. One perspective is to consider the overseas workers as part of the Pacific country's economy and therefore to consider all of their net increase in income as being private benefits from the training facility. An alternative perspective is to consider only the portion of income remitted as comprising the additional private benefits. In this preliminary analysis, we will consider both cases, as it is not clear where the decision should lie. In the case of Filipino nurses, for example, it is clearly understood that they will be working overseas for fixed periods and that they will be repatriated at the end of their contract. In the case of Pacific Islanders working in Australia and New Zealand, obtaining permanent residency may be relatively easy and it cannot be assumed that they will be returning, at least during their working life. Where the overseas workers return, it appears reasonable to consider them as a part of the economy while they are overseas.

However, if emigration is thought of in the way in which Oded Stark (1991) has pioneered—i.e., it is primarily a means of the household spatially and temporally diversifying its risks—then it is reasonable to think of emigrant workers—especially those who send back remittances—as an integral part of the economy. Therefore, the analysis here is biased towards considering the net increase in the incomes of emigrants as private benefits resulting from the project.

Based on the arguments above, it is assumed that, without government intervention to obtain accreditation for a nurse training facility in the Pacific, nurses from the region will find it difficult to obtain employment overseas as nurses, and therefore the number of people able to gain employment overseas as nurses will be considerably less than if such a training facility existed. It is also assumed that there is considerable potential for increases in the number of people trained as nurses and willing to work overseas. In view of the high levels of unemployment and underemployment in the Pacific island countries, and the large proportion of the population under 15 years of age in most of these countries, this appears to be a valid assumption.

The key questions as far as the private benefits from this government intervention are concerned are, first, what is the likely increase in wages to be earned by the emigrating nurses as the result of the training? Second, for how long will they earn the higher wage? Third, what is the amount that emigrant nurses are likely to remit annually? The private benefits of the training facility will also include any increase in the incomes of the nurses who do not emigrate and of those nurses who return. Looking at the proposal from the governments' point of view, there is also the question of how much the increase in remittances is likely to add to consolidated revenue?

If nurses' wages in the Pacific countries reflected their productivity, there would be little in the way of external benefits from the training of nurses who do not emigrate or those who return from overseas. However, it is probably not correct to assume that Pacific labour markets are competitive and that productivity increases will be reflected in wages. Therefore, some allowance should be made for the external benefits of the improved training and experience.

Where it can be assumed that there is a large pool of unemployed or underemployed labour, the opportunity cost of the untrained person who remains in a Pacific island country is probably close to basic living or subsistence costs. If Fiji Islands is taken to be the country supplying the

bulk of trainees to the regional training facility, the annual opportunity cost can be set at around Fiji dollars (F$)4,500, which approximates the annual earnings of people with no training beyond secondary school. This opportunity cost is assumed to increase at 4% per year.

For the purpose of the exercise, Australia is assumed to be the emigration destination country. The starting wage for a registered nurse in Australia is presently around Australian dollars (A$)32,000. At the current A$/F$ exchange rate of around 0.8, this wage is equivalent to F$40,000 (as compared to the starting wage for a registered nurse in Fiji Islands of F$11,600). Hence, the increase in wages in the first year as the result of training would be F$35,500, i.e., the wage received in Australia less the opportunity cost of remaining untrained in Fiji Islands (F$40,000-F$4,500).

How long can emigrant nurses be expected to remain overseas? The only information available on this question is that from a study of emigrant nurses from Samoa and Tonga (Connell and Brown 2004). In a 1994 survey, Connell and Brown found that the average period of overseas stay was 11.5 years and that annual remittances by these nurses totaled A$4,000 in 2003 dollar terms (i.e., F$5,000). On the basis of this information, it appears reasonable to assume that emigrant nurses will remain in employment for 10 years. It is further assumed that the nurses will undertake a three-year degree program at the regional training facility and therefore they do not start earning in Australia until year four. It is also assumed that the nurses will progress up the salary scale and be promoted within Australia at a reasonable pace.

With respect to the increase in incomes earned by the emigrant nurses, there is the question of how to treat income taxation and other taxes they would pay in Australia. There is also the question of how to allow for the difference between the costs of living in Fiji Islands and the costs of living in Australia. As far as taxation is concerned, it is assumed that the nurses receive the full benefit of the taxes they pay in the form of the services provided by governments in Australia. Therefore, there is no deduction of taxes from income.

As for the difference in the living costs between the two countries, it is assumed that the equivalent to a basic standard of living in Fiji Islands is the unemployment benefits paid to a single person in Australia. This basic living cost is set at F$16,250 in the first year of the nurse's employment in Australia and is assumed to increase at 3% a year. The difference between the unemployment benefit and what it actually costs the nurses to live in Australia is assumed to reflect the higher level of living experienced by the nurses and therefore is counted as a private benefit received by the nurses. The alternative is to assume that the only benefit from going to work in Australia is the value of the remittances—assuming these are equivalent to the savings of the emigrant nurse. However, this assumption would not make any allowance for the difference in living standards between Australia and Fiji Islands, nor for any savings the emigrants may retain in Australia.

The most difficult benefits to evaluate are: (i) the increase in income earned by a nurse trained at the facility who does not go overseas, and (ii) the incomes earned by nurses who return following their employment overseas. With respect to (i) it is assumed that the difference in income due to the training is the difference between the income of a registered nurse in Fiji Islands and the wage of an unskilled worker. However, it is difficult to know what percentage of nurses trained at the facility will elect not to go overseas. With regard to (ii), the unknowns are: how much will the nurses earn upon their return; and for what period of time will they work following their return. For the exercise, it was assumed that 10% of the nurses trained at the facility do not go overseas. Therefore, the benefits from their training are assumed to be equal to one-tenth of the difference between the lifetime income for a registered nurse in Fiji Islands

(assumed to be over a period of 25 years, with regular salary increases and promotions) and the income of an unskilled worker. Because 10% of graduates do not go overseas, the overseas benefits of the training are reduced by 10%.

For nurses who return following overseas employment it was assumed that they would be able to obtain work as nurses or in some form of care-giver role. Hence, it was assumed that, starting in year 14 and for the next 15 years, they would earn additional income equal to the difference between the unskilled wage and the wage of an experienced nurse in Fiji Islands (presently around F$23,000). As stated previously, the unskilled wage is assumed to increase at 4% per year.

The benefit-cost exercise is undertaken in terms of Fiji dollars. The Australian salaries are converted to Fijian dollars at an exchange rate of 0.8 for the first 6 years that the nurse is overseas and at 0.75 for the next four years. The present value of the benefits and costs are evaluated at a low (3%t) and a higher (8%) discount rate. The results from the various assumptions made are set out in the table below. At a discount rate of 3%, the present value of the net increase in income as the result of the project is F$371,880. At a discount rate of 8%, the present value of the net increase in income is F$194,400.

What is the expected cost of training in the regional facility? One means of establishing the cost is to use as a benchmark the tuition fees in similar kinds of training organisations where there are no government subsidies involved. Such a comparator is the subsidiary of the Central Queensland University established in Suva. This organisation has been in operation for several years and its fees should reflect the business environment in Fiji Islands reasonably well. Moreover, it is mainly training people to leave Fiji Islands for work off shore, mostly in Australia and New Zealand, and therefore its pricing should to some degree reflect the expected overseas earnings of its students (including the remittances that will be sent back to the family).

For a three-year degree (Information Technology) at the Central Queensland University, the student is required to take 24 units at a cost of F$1,125 per unit. This works out to annual tuition charges of F$9,000. Presumably, this charge allows for the university to make a profit on its activities. Students have to meet their accommodation costs separately.

By comparison, for a three year Diploma in Nursing at the Fiji School of Nursing, the annual tuition and accommodation costs total F$9,000, of which one-half is paid by a sponsor and one-half is paid by the student. Accommodation is provided on campus. In order to receive the scholarship, the nurses are bonded for three years, including one year of internship (with the public hospitals). At the University of the South Pacific (USP), annual regional tuition costs for a three-year undergraduate degree at the Suva campus are around F$5,000.

Given the necessity to provide a high-quality training facility for nurses that would enable them to meet the accreditation requirements of the high-income countries, the annual tuition costs of the University of Central Queensland (UCQ) in Suva of F$9,000 would appear to be a more appropriate comparator for the tuition costs of a regional nursing facility than the tuition costs of the Fiji School of Nursing or those of USP. In setting the tuition fees, consideration would have to be given to being able to afford the salaries of instructors capable of providing the training needed to satisfy the accreditation requirements of the destination countries. Moreover, the training at the regional facility is likely to be equipment-intensive, as it will be providing training over a range of nursing and medical procedures. Therefore, for the purpose of this exercise, the annual tuition fee is set at F$10,000. It is likely that there will be a fairly high drop-out rate—at least in the first year of training. If the drop-out rate is assumed to be 30% in the first year

and 10% in the second year, the effective tuition fees over the three years are F$13,000, F$11,000 and F$10,000, totalling F$34,000.

Accommodation and other living expenses are not included in the analysis of the costs, as whether these are paid for by the trainee nurse or the trainee nurse's family, or by the government, they are transfers and not extra costs arising because of the development of the training facility.

The present value of the training costs of F$34,000 over the three years is F$33,110 using a discount rate of 3% and F$31,756 using a discount rate of 8%. The benefit-cost ratio of the regional nurse training facility is therefore calculated at 11.2 at a discount rate of 3% and 6.1 at a discount rate of 8%.

Undiscounted Benefits and Costs of a Pacific Regional Nurse Training Facility (assuming emigrants remain part of the Pacific economy)

	Costs (Fiji dollars)	**Benefits** (Fiji dollars)
Australian nurse's salary earned over 10 years, less 10 per cent (allowing for graduates who do not emigrate)		483,120
Less opportunity cost of Fiji Islands employment over 10 years (times 0.9)		-48,780
Less living expenses in Australia, equiv. to Aust. unemployment benefits, over 10 years (times 0.9)		-172,890
Subtotal		261,450
Increased income earned by emigrant following return (times 0.9)		304,700
Increased income earned by 10% of graduates who do not go overseas		26,500
Tuition fees for 3 years training	34,000	
Total	**34,000**	**592,650**

If it is assumed that the benefits accruing to the emigrant nurse from working overseas do not add to the welfare of the source country, only the value of the remittances count as benefits from the graduate training facility, plus the additional income earned by those graduates who do not go overseas, plus the additional income earned by returning emigrants. For this case the value of the remittances over the ten-year period was estimated as follows. As noted above, Connell and Brown (2004) found that the average annual remittances by nurses from Samoa and Tonga in 1994 were the equivalent of F$5,000. These were assumed to have increased in real terms by 2 per cent per year over the past ten years and to increase at 2 per cent per year over the ten years that emigrant nurses from the regional training facility will work overseas. Hence, average annual remittances are assumed to be F$6,100 at the start of the period of

emigration; and therefore total remittances over the ten-year period of offshore employment of the graduate from the training facility are F$66,700.

The estimates of the additional income earned by the 10 per cent of graduates who remain in the country and the additional income earned by the returning emigrants are based on the same assumptions made above for the case where the benefits accruing to the emigrant nurses while they are overseas are counted as benefits of the training facility. These benefits (see table above), together with the total undiscounted benefits of the remittances, amount to F$397,900. At discount rates of 3 per and 8 per cent, the total discounted flows of benefits from remittances and from the additional income from increases in incomes earned locally are F$225,400 and F$97,500, respectively. The benefit-cost ratio at a 3 per cent discount rate is 6.8; at a discount rate of 8 per cent, the benefit-cost ratio is 3.1.

A. External Benefits and Costs

It will likely be necessary that trainees of the regional nurse training facility receive practical experience in a hospital. If this is unpaid work, the value of the work can be considered as an external benefit of the project. If, say, third-year nurses are required to undertake 20 hours per week for 50 weeks, and this work is valued at F$2.50 per hour, the total worth of their contribution would be F$2,500 (as compared to the starting salary in Fiji Islands of F$11,600 for a registered nurse).

As it is assumed that the nurses trained at the regional training facility would be additional to the numbers of nurses already being trained, social costs in the form of a decline in the quality of health services due to nurses emigrating should not be claimed against such a facility. Further, it is sometimes claimed that there are social costs arising from the loss of younger people from rural areas, reflected in the reduced quality of care for the elderly and for children. However, it is likely that the young people undertaking the training would be moving out of the rural areas regardless of the establishment of the training facility. Thus it would not be valid to charge these social costs against the training facility.

B. Government Budgets

As far as the Pacific governments' budgets are concerned, to what extent would the tax revenues accruing from the additional remittances received from the additional nurses working off shore off-set the expenditure incurred in establishing and running a Pacific regional nurse training facility?

The governments would benefit directly to the extent to which the remittances were spent on consumption and VAT and/or import duties were in place. In Fiji Island's case, for example, there is a VAT of 12.5 percent and import duties of up to 27 per cent on many items with high priority in the consumption basket, such as rice, flour, milk, and tinned fish. Therefore, the government probably captures 20-25 per cent of the remittances spent on consumption goods (including durable goods such as clothing and shelter). That is, from each graduate working overseas, it would receive F$1,000-1,500 each year for a period of ten years. The governments would also benefit to the extent that some of the remittances are invested in taxation-generating activities.

If the governments meet the tuition costs of the students, the per student total costs over the three-year period (allowing for drop outs) would be F$34,000. If the governments pay the living

expenses of students as well as the training fees, their total financial commitment for each student would be around F$50,000 over the three-year period.

C. Other Considerations

What is the minimum economic size of a regional nurse training facility capable of providing the breadth and quality of training needed to satisfy the accreditation requirements of the destination countries? Economies of size and scope mean that the facility should be of a certain minimum size if it is to provide the necessary training facilities. The larger the intake of students, the lower will be the individual costs of training.

According to the Pan American Health Organization (PAHO) there are 19 nursing schools in the Caribbean region, with ten of these in the two largest countries (Jamaica and Trinidad and Tobago). Those schools located in the smaller island countries range in size, in terms of student capacity, from 20 to 60. A few of the others are larger, with student seating capacity up to 150. However, there is no information about the financial viability of these operations. It is doubtful that these small schools could provide a high-quality training program without substantial financial support from government or private donors.

A facility capable of enrolling 150 to 200 students appears to be about the minimum viable size. For a three-year training program (resulting in graduates with the equivalent of a B.Sc. degree), this number of students would entail first-year classes of around 80 and would require the equivalent of six to eight instructors plus technicians and administrative assistants. The resulting salary bill, given that the instructors are paid at salaries equivalent to USP salaries, would be in the region of F$1.2 million. Therefore, if annual tuition fees were to be set at F$10,000 and with, say, 180 students, there would F$600,000 available after the payment of salaries to pay for buildings and equipment and operating costs. However, for the training facility to have a major impact in terms of creating overseas employment opportunities for the large numbers of young people presently unable to find local jobs, and to be a significant contributor to remittances, the facility would have to be many times larger than this—possible ten times this size.

If the regional training facility is government-funded, there arises the question of whether trainees should pay training fees and accommodation expenses. The reason that the issue of the payment of fees for education and training presents so much difficulty and so much argument is that education is partly consumption and partly investment, and moreover, it is also partly a private good and partly a public good. Because education is partly an investment and because it is very difficult, if not illegal, to borrow against human capital, there is an argument that the state should pay for education, or at least subsidise it. The public good nature of education is claimed on the basis that the education of the people contributes to the effective functioning of a society.

Hence, the issue of whether the state should subsidize education arises whether or not the training facility is private or public. A judgment is therefore necessary as to whether to charge tuition fees, and if so, how much. If a fee is charged, however, equity considerations arise. It may be argued that people from low-income households will be discriminated against if they are forced to pay fees. A mechanism that may be used to overcome this difficulty is to adopt a scheme similar to Australia's Higher Education Contribution Scheme (HECS) for students undertaking tertiary education. Under this scheme, fees are charged but repayment is delayed until the person is employed and earning above a certain level of income. However, adoption of

this kind of scheme in a situation where people are being trained to work overseas for extended periods poses obvious difficulties as regards repayment of the loan.

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Pacific Studies Series

Toward a New Pacific Regionalism

An Asian Development Bank—Commonwealth Secretariat
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Working Paper No. 11

A Regional Sports Institute: Preliminary Cost-Benefit Investigation

Secretariat
Oceania National Olympic Committees
Suva, Fiji Islands

Preface

This report was prepared for the Pacific Islands Forum Secretariat (PFIS) in Suva, Fiji Islands. The report is one output of an Asian Development Bank (ADB) technical assistance project (TA 6226 REG): "Developing and Implementing the Pacific Plan for Strengthening Regional Cooperation and Integration." The Commonwealth Secretariat provided funding to the project.

The lead author of the report was Dr. Roman Grynberg, Deputy Director of Trade and Regional Cooperation at the Commonwealth Secretariat. He was assisted by Michael Hyndman, a cost-benefit analyst contracted by ADB, and Sacha Silva, an economist contracted by the Commonwealth Secretariat. Consultants from PIFS and the Pacific region provided valuable inputs for the report. Bill Costello was the ADB task manager.

The report is published in three volumes. Volume 1 is the Executive Summary. Volume 2 is the main report. Volume 3 contains the working papers commissioned for the report–a series of independent studies assessing potential benefits and costs of implementing a variety of possible regional initiatives. Volume 3 has been printed in hard copy in only limited numbers. However, it is available on the websites of ADB (www.adb.org) and at www.pacificplan.org.

Disclaimer

CONTENTS

ABBREVIATIONS AND ACRONYMS

ABS	—	Australian Bureau of Statistics
AIS	—	Australian Institute of Sport
ASC	—	Australian Sports Commission
ASP	—	Australia South Pacific Sports Program
CISNOC	—	Cook Islands Sport and National Olympic Committee
CMP	—	Competition Management Program
FASANOC	—	Fiji Amateur Sports and National Olympic Committee
FIFA	—	Federation of International Football Associations
FSM	—	Federated States of Micronesia
FSMNOC	—	Federated States of Micronesia National Olympic Committee
IAAF	—	International Amateur Athletics Federation
IF	—	International Federation
ITF	—	International Tennis Federation
IWF	—	International Weightlifting Federation
IYSPE	—	United Nations International Year of Sport and Physical Education.
KNOC	—	Kiribati National Olympic Committee
MINOC	—	Marshal Islands National Olympic Committee
NOC	—	National Olympic Committee
NOCSI	—	National Olympic Committee of Solomon Islands
NSI	—	National Sports Institute
ONOC	—	Oceania National Olympic Committees
OSEP	—	Oceania Sports Education Program
OSIC	—	Oceania Sports Information Centre
OSFO	—	Olympic Sports Federations of Oceania
PNG	—	Papua New Guinea
PNOC	—	Palau National Olympic Committee
RDC	—	Regional Development Centre
RTC	—	Regional Training Centre
SASNOC	—	Samoa Amateur Sports and National Olympic Committee
SDO	—	Sports Development Officer
SDU	—	Sports Development Unit
SIFF	—	Solomon Islands Football Federation
SPARC	—	Sport and Recreation Council of New Zealand
SPGC	—	South Pacific Games Council
TASANOC	—	Tonga Amateur Sports Association and National Olympic Committee
TV	—	Television
UNESCO	—	United Nations Educational Scientific and Cultural Organisation
USP	—	University of the South Pacific
VASANOC	—	Vanuatu Sports Association and National Olympic Committee

EXECUTIVE SUMMARY

The following Report reviews the current national and regional mechanisms that are currently in existence in the Pacific Island Region, with respect to sport, placing particular emphasis on the value of establishing Sports Institutes or Training Centres. It provides information on a number of regional initiatives that have been undertaken in recent years to assist in the development of sport, and identifies recent projects that aim at further enhancing sport through pooling resources at the regional level.

In particular, the feasibility of Sport as a viable 'Tool for Development' is examined as a means of justifying expenditure on the establishment and development of this important industry, in accordance with the intent of the Pacific Plan for Strengthening Regional Cooperation and Development.

The authors feel strongly, that Sport, as an entity in itself has an import role to play in fostering both, economic growth and development and sustainable development for the improvement of livelihoods, two key premises of the current Pacific Plan (Forum Sec. 2004).

The benefits of establishing a regional sports facility are, potentially significant. There is an established need for a greater support infrastructure for athletes, coaches, sports administrators and sports scientists at the national and regional levels, throughout the Pacific and the successful establishment of a Regional Sports Institute would be likely to make positive contributions in this regard.

Properly established, a Regional Sports Institute would provide high level training and development for athletes as well as their coaches and administrators.

The greatest benefit would be in establishing an infrastructure that would enable the Pacific Islands to directly gain from the sporting talent it produces while at the same time establishing sport and physical education in its proper place as tools for ensuring the improved health and productivity of people throughout the Region in both urban and rural sectors of the community.

If there is a regional acceptance of the need to progress with the establishment of a Regional Sports Institute, then a number of issues need to be addressed. Would the facility be a central one, or would it be decentralised around the region?

Experience with the establishment of Sports Institutes overseas suggests that a centralised facility does not meet the needs of client groups. Furthermore, such an Institute must have the full cooperation of both Government and non-government agencies and stakeholders in order to be operated effectively.

There also needs to be a clear understanding of the roles of Government and non government organisations involved in the establishment of a Regional Sports Institute and in particular the operation of such an entity.

In the Pacific Region, the use of the University of the South Pacific (USP), and its associated campuses and centres in member countries, and facilities such as the Fiji School of Medicine as resource providers in the field of sports research and support services is recognised. There are also prospects of utilising the USP and other recognised educational centres to provide educational opportunities for athletes 'on scholarship' to a Regional Sports Institute. The

experience of establishing the USP in itself provides clues as to how a similar exercise in sports development would evolve.

Similarly the existence of sports specific Regional Centres of Excellence is acknowledged, as is the existence of general and specific Sport Development Facilities at various levels of development, throughout the nations of the Pacific.

We can learn also from attempts by Papua New Guinea, and to a lesser extent from Nauru, Fiji Islands, Vanuatu, Tonga, Samoa and Cook Islands all of whom have attempted to establish Sports Training Centres or Sports Development Units. Sustainability of programs and the need for specialist expertise has often been identified as major problem limiting factors to the establishment of viable sports infrastructures. A Regional Sports Institute may well provide the framework to solve this on-going problem.

The costs associated with establishing a Regional Sports Institute are discussed although this discussion is clearly limited by the decisions that need to be made on the extent and scope of such an Institute should it ever be established. However, based on admittedly rough estimates of health and vocational economic benefits it has been demonstrated that these can match the potential costs. Once properly measured, a more accurate assessment of the size and scale of such an Institute can be properly estimated.

The establishment of a Regional Sports Institute would logically grow from the proper, strategic application of appropriate resources, aimed at achieving whatever goals are established for its inauguration.

Should the member Governments of the Pacific Islands Forum agree that a Regional Sports Institute is desirable as a vehicle to promote standards of sporting performance in the region, as well as a means of addressing some of the health concerns of the region then a strong financial commitment for a minimum of ten years, must be made during the establishment phase. This must include ongoing operational support, including a commitment to training appropriate personnel from within the Pacific Islands Region to manage and operate all aspects of the Regional Sports Institute.

RECOMMENDATIONS

That a Regional Sports Institute be established that will support existing or planned future sports specific Regional Training Centres and existing or planned future National Sports Development Units.

That consideration is given to establish the Regional Sports Institute as an integral part of the University of the South Pacific Network,

That an on-going financial commitment be guaranteed by the Pacific Leaders to support the development and operations of the Pacific Sports Institute, for a minimum of 10 years.

It is suggested that this Project be established under the responsibility of a Forum Minister's Sub-Committee, administered from the Forum Secretariat or through the Oceania National Olympic Committees (ONOC) Office that has already been established at the Forum Secretariat Buildings in Suva.

I. INTRODUCTION

During March 2005, the Secretariat of the Oceania National Olympic Committees (ONOC) was approached by the Pacific Plan Office to prepare a report on the costs and benefits of establishing a Regional Sports Facility.

Pacific Island Forum Leaders have recently agreed to create a "Pacific Plan for Strengthening Regional Cooperation and Integration" with the aim of deepening and broadening regional cooperation by pooling regional resources. The Plan seeks to increase participation, ownership and regional collective action and to facilitate the inclusion of regional initiatives in Pacific Islands Countries' national development strategies. The Regional Sports Institute or Facility proposal is one such initiative.

Following the agreement by the ONOC Secretariat to prepare this report the following research methodology was undertaken:

- An extensive literature review covering a wide range of published documentation relating to the establishment of Sports Institutes in a number of countries, both within the Pacific region and elsewhere. The review also took into account various studies and research articles on the socio-economic benefits of supporting and encouraging sports development programs. Research on health statistics for the Forum Island Countries, predominantly drawn from data published by the World Health Organization (WHO) Regional Office for the Western Pacific
- A series of interviews with management of Sport Institutes in Australia, New Zealand and Fiji Islands on the costs of establishing and operating these projects.
- Interviews with executive management of the University of the South Pacific
- Circulation, collection and analysis of a questionnaire on the desirability of the establishment of a Regional Sports Institute. This questionnaire was circulated during the 2005 ONOC Annual General Assembly, held in Brisbane, Queensland, Australia to representatives of the 15 National Olympic Committees in Oceania and representatives of the Olympic Sports Federations of Oceania (OSFO) who were present at the Assembly.

In developing this report, the ONOC Secretariat took into account the *2003 Report of the United Nations Inter-Agency Task Force on Sport for Development and Peace*, which, inter-alia, recommended that:

1. Sport should be better integrated into the development agenda.
2. Sport should be incorporated as a useful tool in programs for development and peace.
3. Sport-based initiatives should be included in the country programs of United Nations agencies, where appropriate and according to locally assessed needs.
4. Programs promoting sport for development and peace need greater attention and resources by Governments and the United Nations system
5. Communications-based activities using sport should focus on well-targeted advocacy and social mobilization, particularly at the national and local levels.
6. The most effective way to implement programs that use sport for development and peace is through partnerships.

The ONOC Secretariat Report has been constrained by a lack of hard statistical evidence on the economic benefits of sports development specifically in Pacific Islands' nations, specifically those arising from the establishment of a regional sports facility. As a result, we accept that it may only lay the platform for a more detailed feasibility study, should Governments in the Pacific

Islands agree that such an initiative will do much to enhance the implementation of the Pacific Plan.

The authors strongly believe that by establishing such a facility in conjunction with current sports development programs in the region, including those coordinated through ONOC, International Sports Federations and the Australia South Pacific Sports Program, positive health and economic outcomes would no doubt be generated throughout the Pacific Region.

Substantial primary research involving interaction with the main stakeholders in sport, including National Olympic Committees, Regional and National Sports Federations, Government instruments and operators of sports centres of excellence in the region, was undertaken. A close analysis of the evolution of the Australian Institute of Sport is included as well as experiences drawn from the New Zealand model, which has not committed Government funding support to the same degree.

ONOC is also pleased to note that this report is being submitted for consideration of Pacific Island Leaders during the United Nations International Year of Sport and Physical Education. The IYSPE 2005 provides the international community with an opportunity to promote the value of Sport and the Sport Industry as a partner for the achievement of development, a quality of life and peaceful co-existence throughout the nations of the Pacific Forum Community.

A. Constraints

- The proposal has been developed within a tight time frame, which has limited the amount of data collection and input by ONOC members and from other sources. Consequently it is accepted that the outcomes of this research might reflect a bias, natural to the sample of research responses obtained.

- The data collection methodology employed has its own inherent limitations in directing thinking according to a predetermined model and impression of what would actually constitute a Regional Sports Institute.

- The proposal has relied on responses to requests for data and where data has not been readily forthcoming this has not been further pursued due to the time constraints.

- Facts provided in the data collection have not been rigorously tested or independently verified by either practical or detailed theoretical modelling.

- The authors are not practising economists. However, between them they have over 90 years of practical experience in sports development work in the Pacific Region and beyond and can attest to the practical economic benefits arising from investments that lead to increasing opportunities to participate in sport, having worked directly in sport, in international sports organizations as well as in Government agencies.

- The proposal has been based without assumptions as to the budget available for such a project if agreed, nor with the benefit of the specific outcomes sought from the establishment of a Regional Sports Institute. As such the final recommendations would be subject to modification to reflect the financial commitment available and the specific objectives sought.

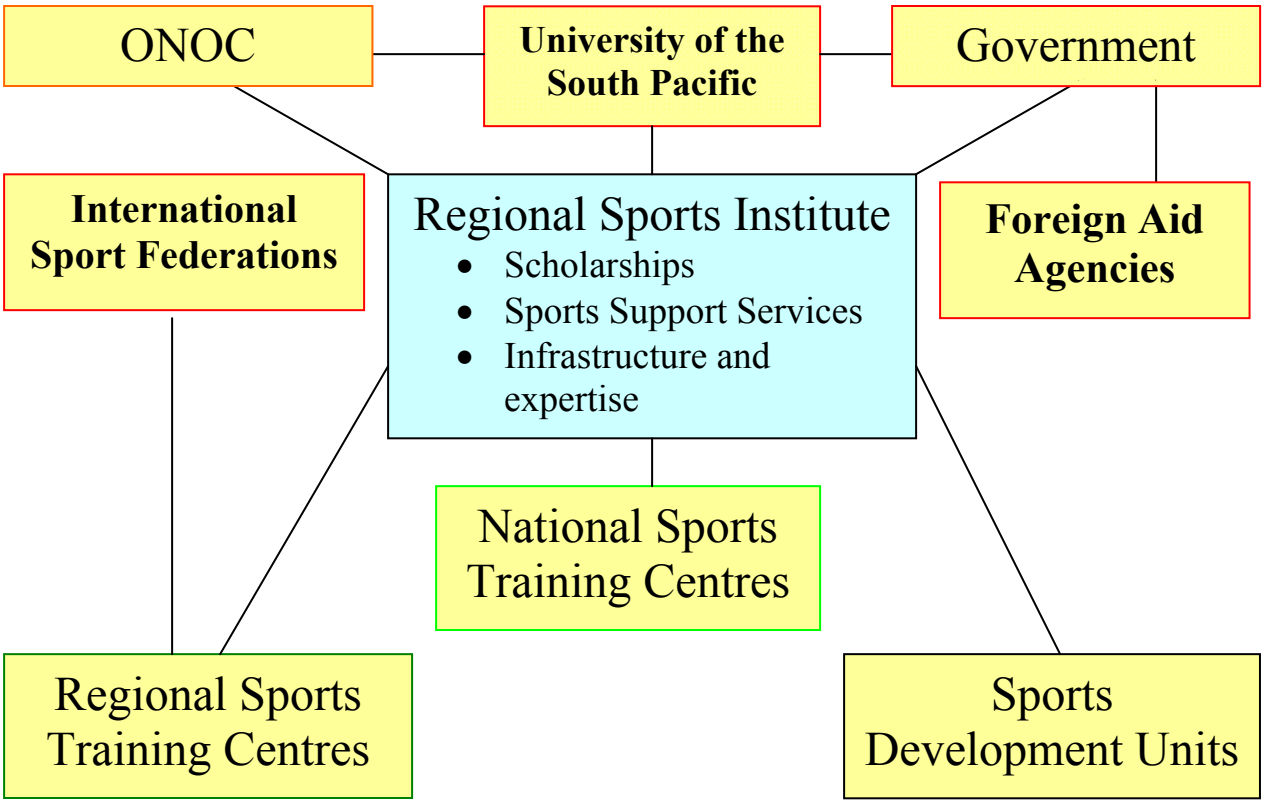
B. Assumptions

- The proposal is based on the establishment of a Regional Sports Institute, initially with a central base at the University of the South Pacific in Suva and satellite centres in countries that are part of the USP network with the following proposed objectives:
  i. To provide opportunities for talented Pacific Islands sports people to achieve excellence in high performance sport from within a Pacific Islands environment.
  ii. To provide opportunities for young Pacific Islanders to further develop their sporting careers in association with or as a part of their education or work.
  iii. To organise and promote sporting meetings for the purpose of developing the personal skills and levels of excellence of Pacific Islands sports people.
  iv. To conduct research that will assist the development of sporting excellence.
  v. To provide and disseminate sport science information and literature.
  vi. To provide and develop coaching resources, facilities and information and to make the same available to assist the development of sporting excellence.
  vii. To seek and administer funds to be used to develop and promote sporting excellence amongst Pacific Islands individuals and teams through the provision of travel, competition, equipment, information or any other requirement.
  viii. To enhance the personal, educational and vocational development opportunities for elite athletes
  ix. To improve the efficiency and effectiveness of national level sporting agencies.

- No commitment to the ongoing advancement of the proposal has been given or been presumed by any party.

- The benefits calculated are derived from current statistical data, which cannot be directly linked to the establishment of a regional sports facility.

Figure 1: Proposed Macro-Structure of a Regional Sports Institute.



II. BACKGROUND

Sport has long been considered a part of the 'way of life' throughout the Pacific Region, an activity to be enjoyed after the day's work has been done and a reason for families to get together to enjoy each other's company. Although not considered a serious pursuit around the general community it has no doubt entrenched itself as an important part of daily life.

The athletic potential of Pacific Islanders is clearly in evidence when one considers the number of athletes that have succeeded on the world stage in sport despite having a total population base less than New Zealand (PNG excluded).

Pacific Islanders have won Olympic medals, World Championships and Commonwealth Games medals, or have gone to other countries to represent them in the highest levels of sports including; American football, Australian Rules Football, Basketball, Body Building, Beach Volleyball, Golf, Netball, Power-lifting, Rugby Union, Rugby League, Rugby Sevens, Sumo Wrestling, Springboard Diving, Sailing, Track and Field, Volleyball and Weightlifting.

Since 1997, Pacific Islands Governments, through the Pacific Forum have gradually come to recognise the significant role that sport may have to play in the overall economic development of the Region as well as the social cohesion of the Countries within the Region. However, for sport to be worthy of major Government and non-government investment, it must demonstrate a 'real benefit' to the Region both in terms of the opportunities it generates for the development of individuals as well as towards the healthy economic growth and development of the Pacific Community, as measured by the employment it generates and the secondary employment generated by existing industries directly affected by a viable sport infrastructure. These have been reflected in a series of Communiques from Pacific Forum Meetings (Appendix 1).

The concept of a Regional Sports Institute has been advanced as a possible strategy towards meeting the objectives of the Pacific Plan and the resources required for the establishment and operation of such a facility given due consideration. Three international sports federations have seen fit to establish Regional Training Centres somewhere in the Pacific in an attempt to mine this rich vein of talent. Other sports, such as rugby union and rugby league, sumo wrestling, American Football, professional boxing and wrestling have recruited heavily from the Islands to bolster their professional stocks.

The WHO Western Pacific Regional Office documentation highlights the growing, and in many cases, alarming, incidence of non-communicable diseases, such as diabetes and cardiovascular diseases, in the Pacific Islands region. An increased emphasis on sport and physical education will no doubt contribute a decline in these "lifestyle" diseases.

Furthermore, sport has been known to contribute to the reduction of delinquency and social malfunction. "A Kid in Sport is a Kid out of Court" (Hooper, 2000).

In the first instance however, it is felt that within existing resources, there is potential to establish a viable framework for a Regional Sports Institute, using a similar model to the University of the South Pacific. Such a model would evolve specialist centres of excellence and make use of the facilities, talent and expertise, as and where they are already in place.

III. CURRENT REGIONAL AND NATIONAL INFRASTRUCTURES FOR SPORTS DEVELOPMENT

The following Section attempts to summarise the current infrastructures for sport development that exist in the Pacific Region.

A. Sport Structures at the Regional Level

Established in the Pacific Islands Region, the three main sports-related institutions are the Oceania National Olympic Committees (ONOC), the recently inaugurated Olympic Sports Federations of Oceania (OSFO) and the South Pacific Games Council (SPGC). These are all non-government organisations. Their place in world sport is illustrated at Appendix 5.

Two major regional initiatives in sports development that have been implemented by ONOC have been the establishment of the Oceania Sport Information Centre and the implementation of the oceaniasport.com web portal for sports bodies in the region.

Members of OSFO independently operate Regional Sports Development initiatives at widely varying levels of commitment.

The major regional sporting event is the South Pacific Games, held every 4 years. The Games are owned by the South Pacific Games Council and awarded following a bidding process to the peak sporting body in the Country, affiliated to the South Pacific Games Council (SPGC).

The Australian Government, through the Australia South Pacific Sports Program, also plays a significant role in sports development programs and activities in the region.

1. Oceania National Olympic Committees

Institutional Framework

In 1981, acting on an initiative of IOC President Juan Antonio Samaranch, who was encouraging the formation of regional zones in the Olympic Movement, a meeting of sports leaders from Oceania was held in Baden Baden, Germany on the occasion of the Olympic Congress being conducted there. The meeting discussed procedures for establishing the "National Olympic Committees of Oceania", promoting the development of Olympism in the area and the coordination and distribution of Olympic Solidarity funds.

National Olympic Committees (NOCs) present at the meeting were Australia, Fiji Islands, New Zealand and Papua New Guinea - the founder members of ONOC. Since then the NOCs of American Samoa, Cook Islands, Federated States of Micronesia, Guam, Kiribati, Nauru, Palau, Samoa, Solomon Islands, Tonga and Vanuatu have joined the Olympic Family and ONOC.

ONOC is governed by its constituent members (NOCs in Oceania), which meet annually to review the organisation’s activities. In the first year of every Olympiad, the Assembly elects a new Executive Board, comprising the President, Vice President, Secretary General and 4 members. Also represented on the Executive Board are Members of the International Olympic Committee from Oceania. Members of ONOC Commissions (Medical, Athletes and Women in Sport) are also appointed at this electoral Assembly (Appendix 2).

Programs

The ONOC Secretariat is located at the Forum Secretariat Complex in Suva. Its work program is driven by its 2005 – 2008 Strategic Plan, which was adopted by the 2005 ONOC Annual Assembly. This document sets out a vision and mission statement for the organisation:

Vision

To be innovative, positive and proactive in our developments in sport so that in everyway, we will make a positive contribution to the development of our region's athletes and the Olympic Movement.

Mission

Establish and maintain a viable and sustainable sport development infrastructure in the Oceania region, fully involving National Olympic Committees and National and Oceania representatives of the International Sports Federations.

The Plan is based on the recognition of the following ten priority outcomes for the next four years:

1. Strengthen and enhance the capacity of the NOCs to effectively fulfil their obligations to the Olympic Movement.
2. Continue to place the establishment and conduct of National Games as our primary focus for development.
3. Encourage NOCs to identify potential elite athletes and team sports as an outcome of National Games.
4. Reinforce the importance of raising overall performance levels of our athletes at all levels of competition
5. Improve the level of competence of our coaching and administration through a systematic educational process in collaboration with our Regional Sports Federations.
6. Ensure that oceaniasport.com becomes the standard management tool for National Games and NOC Administration.
7. Encourage NOCs to work more closely with their respective Governments to promote sport.
8. Work closely with the South Pacific Games Council, recognizing it as the 'peak body' for multi sport events in the Region.
9. Target the Australian Youth Olympic Festival as a competition opportunity for our youth from the Region.
10. Implement an Awards scheme recognizing outstanding contributions and service to sport in the Region.

A major part of the ONOC Secretariat's work is in managing Olympic Solidarity sports development funding in Oceania. Olympic Solidarity is the body responsible for managing and administering the share of the television rights of the Olympic Games that is allocated to the National Olympic Committees.

It exercises this responsibility in accordance with the specific programs of technical and financial assistance approved by the International Olympic Committee's Olympic Solidarity Commission. It assists the NOCs and the Continental Associations with their efforts for the development of sport through programs carefully devised to match their specific needs and priorities.

Budget

For the current 2005 – 2008 Olympiad ONOC has an annual budgetary allocation from Olympic Solidarity of United States dollars (US$)2,869,000 to administer a range of activities, including its own administration. Programs typically relate to athlete and coach development, sport education programs, sports administration training, facilities development and support for national and regional multi-sport events, such as the South Pacific Games. Funds are made available in a number of ways:

- directly to NOCs as required to implement programs for their athletes, coaches, technical officials, sports administrators etc.; and
- on a regional basis in areas such as provision of sports information and sport education projects, management and I.T. consultancy projects in the region.

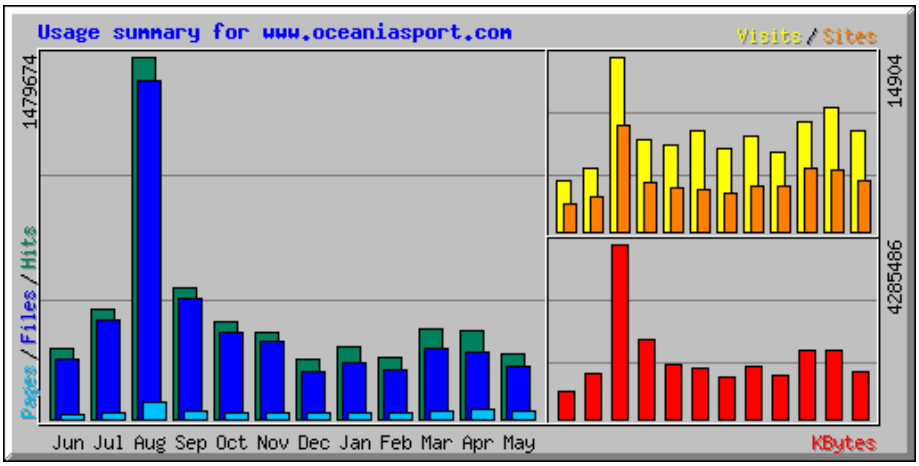
In addition, NOCs may apply directly to the International Olympic committee for funding under its World Programs.

The estimated economic value of the Olympic contribution to sport in the Pacific is approximately US$12 – 15 million over four years. By virtue of the ONOC Office being established in Fiji Islands, there is a substantial indirect economic benefit to Fiji Islands obtained through the operation of the office as well as the administration of the funds for development.

The economic benefit to the Region in terms of exposure as a result of attending the Olympic Games cannot be measured. Each Country will appear world wide on Television during the Opening Ceremony and will usually draw more than their share of media attention should an athlete be successful beyond expectations.

Figure 2:

The amount of Internet Traffic absorbed during the Olympic Games as world attention focused on our island nations.



Internet enquiries about the performances of Pacific Islands' athletes increased traffic on the Oceaniasport Web Site 5 fold during the course of the Athens Olympic Games. Games memorabilia such as Track Suits, Shirts and Olympic Pins were highly sought after as rarities and in themselves have contributed to the economic benefits to the Region.

A similar, if not greater economic impact can be felt by attending the Commonwealth Games. Pacific Island nations can appear in finals at these Games and do win medals. Consequently media attention is much more significant.

Unlike Australia, Pacific Islands Nations only have one peak body for sport and as such the National Olympic Committee performs the role of Commonwealth Games Association and South Pacific Games Association.

When Delhi won the right to host the 2010 Commonwealth Games, an immediate grant of US$100,000 was made available to each Commonwealth Games Association/NOC in the Pacific Region to assist in their preparations for these Games.

2. Olympic Sports Federations of Oceania (OSFO)

The inaugural meeting of the Olympic Sports Federations of Oceania (OSFO) was held in Brisbane prior to the 2005 ONOC Annual General Assembly.

The new organisation will be a sister organisation for the Oceania National Olympic Committees (ONOC), the regional representative of all the IOC recognised National Olympic Committees in the region. Between them the International Sports Federations and the National Olympic Committees are two elements in a three-way partnership responsible for the establishment of competitions and the development of all aspects of sport across the Oceania region. The other key partners are the Governments of the member countries.

The meeting of OSFO was a history making event in its own right but the significance of the move was made even more apparent to the attending Sports Federations when they were told that no such organisation exists in any other part of the world. Oceania Sports Administrators took that as further confirmation that they are world leaders in many aspects of sports development.

It is anticipated that in its first year of existence OSFO membership will rise to 30 Sports Federations.

In the initial stages of its existence, OSFO will be run by members of its constituent organisations with FIBA (Basketball) Oceania's Steve Smith elected as Chairperson of the organisation. Oceania Baseball's Chet Gray as its Secretary, Judo's Clare Hargraves, Weightlifting's Matthew Curtain and Tennis' Dan O'Connell round out the 5-person executive.

A levy on members will provide some working capital for administrative expenses and application will be made to international sporting bodies for some seed funding to allow the work of the organisation to progress.

The constitution of OSFO has established the objects of the organisation, which include: -

- Representing the interests of members to ONOC, the IOC and governments.
- Fostering participation in sport across the region.
- Facilitating the development of sporting excellence in the region.
- Encouraging and facilitating communication between the International Sports Federations that operate in the region and with other organisations having similar objects.
- Conducting its activities without political, religious, cultural or gender bias.
- Fostering the development of additional Oceania organisations as regional organisations of the sports being conducted within the region.

The new organisation has committed itself to an annual meeting at the time most convenient for allowing interaction between the Sports Federations and the National Olympic Committees and

will in addition, research the best way to facilitate greater face to face communication between the two important sports agencies.

As a communication vehicle, OSFO will enhance the dedicated website established for the organisation http://www.osfo.org. It is hoped at the same time to create a gateway for anyone wanting to know anything about the member sports and through specialist access, allow information sharing among the member federations.

The members of the OSFO are made up of the Regional representatives of International Sports Federations. Each of these Sports Federations, independently implement programs of development specific to their sport throughout the Pacific Region.

The economic value of the activities of International Sports Federations can at best be estimated at US$15 – 20 million per annum. This is based on direct grants to national sports federations, education programs and scholarship programs for coaches and athletes that are made available to the Pacific. The International Football Federation alone provides direct subsidies of US$250,000.00 per annum to each of its 8 affiliate members and in addition, sponsors a facilities program to the value of US$1.0 million in each of these Countries. This estimate also includes the economic benefit attributed to the hosting of activities and competitions throughout the Region.

3. The South Pacific Games Council

The South Pacific Games Council (SPGC) boasts a membership of all 22 Pacific Islands Nations and Territories. As such, the SPGC is recognized as the principle body responsible for the organization of Multi-Sport Events in the Pacific Region and is fully patronized by the International Olympic Committee.

The functions of the SPGC have essentially been limited to the awarding of the Games, following an appropriate bidding process and to ensure that the Games are conducted in accordance with the South Pacific Games Charter.

The SPGC as such have no programs of development associated with their activities. However, recognition of the need for this body to become more professional in its approach to the conduct and marketing of the South Pacific Games has become apparent.

The ONOC provides an annual grant of US$25,000.00 to the SPGC and in addition, assists Games Organising Committees with direct grants of US$25,000 per annum over the four years leading up to the Games themselves.

A brief history of the South Pacific Games is at Appendix 3.

There has been no attempt made to date, to conduct an Economic Impact Case Study on the hosting of the South Pacific Games. However for the 2003 South Pacific Games held in Fiji Islands, the following economic impact data can be provided:

1. Approximately Fiji dollars (F$)13.0 million was injected into the Fiji Islands economy, reflecting the operational costs of hosting the Games.
2. A legacy of approximately F$60 million in new facilities and improvements to existing facilities was achieved. (*This has made it possible for Fiji Islands to bid for other major international events*).

3. The Games were funded by Private and non Government or Foreign Government sources, meaning that the net cost to Fiji Islands was zero.

There is little doubt that a well conceived and planned bid to host a South Pacific Games will have a significant positive economic impact on the Host Nation.

4. Australia South Pacific Sports Program

The Australian Government through the Australian Sports Commission (ASC) has played an important role in sports development programs in the Pacific region for some years. The Oceania Olympic Training Centre program began in 1991 as a joint project involving ONOC, the IOC and the Australian Government and offered scholarships for athletes, coaches and sports medicine specialists. This program has gone through some changes over the years and is now part of the Australia South Pacific (ASP) Sports Program.

Substantial work was carried out in the years leading up to the Sydney 2000 Olympic Games under the ASP 2000 Sports Program, which was managed through the ASC with substantial input from ONOC. A range of activities both at national and regional level were implemented under this program with one aim being to improve the performances of Pacific Island athletes at the Olympic level. This program continued, albeit with some alterations in focus and programs, through to the Athens 2004 Olympic Games.

In 2004 the Australian Sports Commission released its *Pacific Sporting Needs Assessment*. The needs assessment was constructed to provide a record of the sporting needs of Pacific region countries and to enable those countries, in partnership with the Australia South Pacific Sports Program, to respond more effectively. Country-specific reports were also included in the needs assessment to more accurately reflect the requirements of each country. This document does not however take into account work that has already been undertaken, or attempt to evaluate previous programs of development for sport that have taken place in the Pacific Region.

The needs assessment led to a restructure of the ASP Sports Program. The ASP Sports Program now has three areas of focus: elite programs and sport education; community sport programs; and strategic direction and evaluation.

Programs stemming from the needs assessment include the announcement by the Australian Government to contribute $615,000 toward the establishment of the Oceania Sport Education Program (OSEP). Over the past year, a joint working group, comprising experts from the Australian Sports Commission (ASC), ONOC and the University of South Pacific have developed the OSEP concept. The Australian Government's funding commitment, plus that of Olympic Solidarity, has ensured that the concept progresses to implementation.

Another major initiative of the ASP Sports Program is the introduction of the Pacific Sport Ability program. The program promotes inclusive sport and physical activity between athletes with a disability and able-bodied athletes. The program was developed with the assistance of the Disability Sport Unit at the ASC. Following a successful pilot project in Papua New Guinea in February/April, the program has been rolled out in Tonga and Samoa.

The ASP Sports Program provides financial support for the OceaniaSport Web Portal http://www.oceaniasport.com and its Membership and Results Management database. ASP funds are used for software development as well as training of sports administrators and

volunteers throughout the Pacific in its use. Increasing numbers of sporting organisations are using the web portal and database, thus significantly reducing the administrative burden on sporting organisations.

The economic benefit to the Pacific Region of the ASP Sports Program amounts to around Australian dollars (A$)600,000 per annum, however the 'value added' benefit provided by the educational and vocational opportunities that arise from the activities of this program are at the very least, significantly greater than this. The Australian Youth Ambassadors for Development Program (AYAD) currently has nine placements throughout the Pacific, working specifically in Sport and Sports Development. This is further supplemented by volunteers from Japan and the USA.

B. Regional Sports Programs in Oceania

The need to prepare and train athletes to international standards has largely been driven in the Pacific Islands by participation in the South Pacific Games. This is the only regional multi-sport event held in the Pacific. For Australia and New Zealand, the stimulus of participation in the Olympic Games and Commonwealth Games has provided the need for establishing more systematic programs of development.

The major sponsor for the development of elite athletes in the Pacific has been the International Olympic Movement, through its Olympic Solidarity Program, which has provided funds for scholarships and education programs that enable athletes to attend recognized training centres in their sport anywhere in the world. In the lead up to the 2000 Sydney Olympic Games, the Australian Government, initially through the Australian Institute of Sport (AIS) in Canberra offered on average, 40 placements per year for athletes to train in Australia for up to 10 weeks at a time. These programs were established as a means of addressing the need to provide quality-training programs for Pacific island athletes, a fact recognized by the Australian Olympic Committee in their Bid presentations for the 2000 Olympic Games and at a meeting of Pacific Islands Sports Ministers, held in Canberra during March 1995.

1. Athlete Support Programs

Approximately A$2.5 million was spent from 1994 – 2000 specifically on the preparation of athletes from the Pacific for participation in the Olympic Games in Sydney. However in the evaluation of the ASP 2000 Sports Program, submitted in March 2001 it was illustrated that only a small percentage of these funds were spent in a way as to establish a viable infrastructure for athlete development in the Pacific. The major factor for this was considered to be the result of implementing specific Programs for sports development, in an environment that had little or no effective framework from which to support and sustain these initiatives. Consequently the priorities for development under the ASP Sports Program, remain quite similar to those pursued from 1994 – 2000, but with heavier emphasis on the use of Australian expertise to support locally driven sports development initiatives.

At a Regional Sports Development Officers' Workshop, held in Canberra from 29 November – 5 December 1998, and a Performance Enhancement Workshop also held in Canberra from 8 – 15 April 2002, the issue of Athlete support and access to facilities such as the AIS were discussed at length. It was unanimously agreed that what our athletes and coaches lacked the most, was access to regular and reliable athlete support services. This was caused by either or all of the following factors:

- Lack of facilities

- Lack of expertise
- Lack of equipment

While it has been accepted that the financial cost of establishing 'A.I.S.' like facilities around the Pacific would be prohibitive, it has been agreed that establishing basic Sports Development Units (SDUs), that can offer simple Field Testing Services and advice to coaches and athletes are feasible and made more so if elite athletes have access to "Gold Standard" testing and assessment facilities on a regular basis, from which the SDUs can then monitor effectively, progress between major assessments.

Fiji Islands, through the Fiji Sports Council established such a Unit in 1998 while PNG have a Sports Institute established at Goroka that has the capability of providing these services. Other countries in the Pacific Region have yet to establish such a facility.

Since 1991, the Australian Government in partnership with the Australian Olympic Committee and the Oceania National Olympic Committees has provided funding for athletes and coaches to spend extended periods of time at the AIS in Canberra. This program is currently under comprehensive review and the results of this study should be available by August 2005.

It has been clearly determined to date that what has been provided has been both insufficient and not targeted well enough.

2. Junior and Community Sport Initiatives

Largely through the initiatives of the Australian Government since 1994 and more recently with funding provided from the IOC under the World Programs to fund initiatives that sustain the Olympic Values, a range of programs have been implemented that support junior and community sport programs aimed specifically at improving the quality of life of Pacific Islands people through sport.

Funding is now available for programs that range for purposes that include:

1. Women in Sport.
2. Modified sport programs for children and education.
3. Sport for people with disabilities.
4. Training sports leaders and administrators.
5. Sports exchange programs.
6. Sport and the environment.
7. Establishment of sports legacy.
8. Information Technology.
9. Regional and National Games.
10. Drugs in Sport.

All of these Programs place a high emphasis on the training of local personnel to support the sustainable establishment of programs that meet the objectives of establishing sport as a viable tool for development, health promotion and the establishment of a better quality of life.

In addition to the millions of dollars that have already been invested into the Region from external sources to support Community Sport initiatives, there is an increasing economic investment from Countries and Institutions throughout the Region for this purpose. The economic benefits of this would require significant primary research to establish accurately, the

magnitude of the economic contribution that community based sport activities currently makes to the Pacific Region.

3. Oceania Sports Information Centre (OSIC)

OSIC is the regional information centre for sports and physical education hosted and implemented by the University of the South Pacific for and on behalf of the Oceania National Olympic Committee with the support of the Australian Sports Commission and seed funding from UNESCO. OSIC was launched in August 1997 and is located within the Library of the University of the South Pacific. The services, collection and databases are available to the people of the South Pacific region.

OSIC provides a service to all countries that are members of the Oceania National Olympic Committees and to the member countries of the University of the South Pacific. These include: American Samoa, Cook Islands, Fiji Islands, Guam, Kiribati, Marshall Islands, Nauru, New Zealand, Niue, Papua New Guinea, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu and Western Samoa.

OSIC is providing information services in sport to athletes, coaches, sports journalists, educators, researchers and other interested users.

ONOC currently commits US$50,000 per annum to the operational costs of OSIC.

The economic benefit of the OSIC can only be measured in the employment opportunity it provides and the costs saved by not having to source vital information outside of the Region.

4. Oceaniasport

Oceaniasport can be defined as a regional project that has as its key stakeholders, the 22 countries of Oceania, in excess of 35 Regional Sports Federations, 15 National Olympic Committees and over 720 National Sports Federations. Its primary role is to develop sport at all levels of participation.

Oceaniasport was born in December 2002 out of the priorities ONOC set for the 2001 - 2004 Olympiad. ONOC's mission was to "develop sport via competition" and to do that they knew they had to support regional sports federations to organize better quality competitions in a cost effective manner. So the solution required needed to be technical *and* educational as administrators required knowledge on how to run competitions and then how to run them efficiently using technology. The solution also had to have a low technical reliance, but also needed to be robust, despite the technical limitations

ONOC partnered with Melbourne-based IT company Sporting Pulse to create and deliver their solution. The project has exceeded all expectations and has been hailed a success from the world's leading administrators, claiming it as "best practice" and the model that other Olympic regions should follow. The quality tools, transfer of knowledge and overall performance of the solution are the driving force behind the success and motivation to develop the concept further. The barriers to communication due to remoteness are being overcome, and the sport specific development and implementation have been successful, ensuring oceaniasport's critical role in ongoing sports development

Through Oceaniasport, ONOC now has a Web presence established for every NOC and

member National Sports Federation in the region. In turn they all have access to "Games Management and Sports Database" software and an online "Games Entry and Registration System" that will be used exclusively for the 2005 Mini South Pacific Games in Palau.

This Web Portal links to every NOC/non NOC and their member sport Federations in the Oceania Region, and provides databases that upload details and results of competitions plus all details of registered members of the respective sport federations to Sport Federation Websites. The members themselves operate all aspects of the system at the grass roots of sport.

1. A web site for each NOC, which is self-editing, and accessed through the Oceania Portal for sport, www.oceaniasport.com. These Web Sites are called Smarter Web Sites and integrate with them an online database for members.
2. A Web Site for all National Sports Federations affiliated to their NOC. These are self-editing Web sites, simple and easy to use and meeting the general needs of any sports association. It is through these Web sites that the day-to-day operations of a sport can be shown, in particular competition information and results.
3. Competition Management Software (CMP) that enables sports associations to generate draws and fixtures as well as print off results and statistics, keep a record of members, handle finances and display all this in hard copy or on the World Wide Web.
4. A Member Database. In addition to the database available in the CMP, which can work offline, all NOCs and their members have access to an online Member Database which can be used both locally and regionally.
5. It was through this database that accreditation and entries were handled at the 2003 South Pacific Games. The strength of this database is that once the members are on the system, it can be used repeatedly for the administration of local or regional, single or multi-sport events handling accreditation, event entries and finances.

ONOC currently commits US$50,000 to the ongoing development of oceaniasport.

It is anticipated that once properly established, Oceaniasport will be a powerful marketing tool for sport in the Region, providing an excellent gateway for potential sponsors to reach the grass roots of sport in every Country throughout the Pacific. In particular it will provide a link to National and Regional Multi-sport Games from the Grass Roots Data Base of all people involved in sport, giving this product the potential to support significant sustainable development in sport throughout the Pacific Region.

An initial revenue target of US$1.0 million per annum has been established for Oceaniasport, which will directly benefit the athletes and coaches of the Pacific Region.

C. Sports-Specific Regional Centres of Excellence

Three International Sports Federations, in association with their Oceania continental counterparts, administer regional training institutes/centres. All of these receive support from the ONOC and from their respective International Federations.

1. Tennis

The International Tennis Federation's (ITF) Oceania Regional Training Centre (RTC) is based in Lautoka, Fiji Islands. This is part of the ITF's worldwide network of regional centres of excellence.

The RTC opened in the early 1990s and now has 14 full-time resident players and eight Fiji juniors based in Lautoka. The RTC boasts excellent facilities at the six-court, Dr. Robin Mitchell Tennis Centre, which was inaugurated in collaboration with the Fiji Sports Council in 1999. Players in the program are provided with scholarships, are provided with accommodation, attend school and participate in a full training program, incorporating daily on-court sessions and fitness training.

ITF Pacific Oceania Development Officer Dan O'Connell directs the RTC, with administrational support from the Oceania Tennis Federation.

To gain a scholarship to the Regional Training Centre, players should first become national junior champions and also represent their nation in the regional junior qualifying event, three of which are sponsored by the ITF each year (North, East and West Pacific).

The winners of the regional qualifying events then earn a place on their regional team that will compete in the ITF Pacific Oceania Junior Championships (POJC) held annually in August in Fiji Islands. Player performance in the ITF POJC is the main criteria to gain a scholarship to attend the ITF / OTF Pacific Oceania Regional Tennis Centre (RTC) the following year. Positive attitude, good work ethic and excellent behaviour are how players maintain their scholarship.

The RTC has been instrumental in obtaining more than 20 USA College Tennis Scholarships for Pacific Island players at the conclusion of their program in Lautoka.

The 2005 budget for the operations of the ITF RTC is US$89,000, covering salaries and wages for coaching staff and ITF house staff and administrative costs.

These costs are met through grants from the ITF, ONOC, National Olympic Committees and sponsorship.

The economic benefits of the Regional Tennis Program include:

1. The value of scholarships won at USA Colleges (US$50,000 each over 4 years)
2. The employment of coaches and administrators from the Region
3. Advertising as a result of success in Federation Cup and Davis Cup events
4. Commitment from business and private sponsors to support the Program.
5. Utilisation of facilities and services in Fiji Islands.
6. Conduct of regular events at locations all over the Pacific.
7. The savings gained by being established out of Australia/New Zealand.

2. Weightlifting

The International Weightlifting Federation's (IWF) Oceania Regional Training Institute based in Sigatoka, Fiji Islands. This is the only such IWF recognised regional centre of excellence.

The Institute was established in 2002 to:

- Assist athletes from the Pacific region to train in a professional environment
- Prepare athletes from the Pacific region for major international events
- Provide a platform for coaches and technical officials from the Pacific region to further their experience

Athletes qualify for selection for training at the Institute based on performances at national and regional competitions.

Since the Institute opened results have been outstanding. Lifters who have been training at the Institute have won medals at the 2002 Commonwealth Games in Manchester, the 2003 South Pacific Games in Fiji Islands, and three lifters who were based in Sigatoka in the lead up to the 2004 Olympic Games placed in the top 10 of their respective weight classes during the Games, the first such results for Pacific island athletes in Olympic Weightlifting history.

At the World Junior Championships, recently held in Korea, during May 2005, a Nauruan lifter became the first Oceania Lifter, outside of Australia to win a medal at this event.

At the 2004 Olympic Games, six of the Flag bearers from the Pacific Islands nations present, were weightlifters, all of whom had been part of the Regional Training Centre. Two of the Institute's residents won Olympic Diploma's for finishing in the top eight of their field, and the lifter from FSM finished in 10th position.

The costs of setting up and equipping the Institute were close to F$200,000. The annual operating costs of the Institute are US$40,000, which takes into account coaching fees, administration costs and local transport. ONOC contributes towards these costs. The costs of those athletes based at the Centre (accommodation, meals, air travel etc.) are met through a variety of sources – ONOC, NOCs, the Australia South Pacific Sports Program and corporate sponsorships.

With regard to these figures, it should be noted that the Oceania Weightlifting Institute does not provide sophisticated support services to athletes who are based there.

The economic benefits of establishing the Regional Weightlifting Centre (RWC) in Sigatoka include:

1. The capital investment of F$200,000.
2. Cost savings for Pacific Athletes travel and accommodation in Sigatoka as opposed to a metropolitan country.
3. New employment opportunities in Sigatoka.
4. Provision of sophisticated training equipment and expertise in strength training for the greater sports community.
5. The advertising and awareness world wide of the success of Pacific Islands lifters, already at the top echelons of the sport.
6. The use of the RWC by teams from Australia, New Zealand, Bulgaria, Russia, to name but a few.
7. The hosting of Oceania and Commonwealth Weightlifting events in the Pacific Region.
8. Continued support from International Federation, ONOC and Private enterprise for programs conducted by the RWC.

3. Athletics

The International Association of Athletics Associations (IAAF) operates the Oceania High Performance Training Centre in Auckland, New Zealand and the Regional Development Centre in Adelaide, South Australia.

These centres are part of the IAAF's worldwide network of regional centres aimed at providing services in coach & technical official education and high performance athlete development.

The IAAF High Performance Training Centre – Oceania, is the latest of the IAAF's network of High Performance Training Centres to be established.

The IAAF High Performance Training Centres (HPTC) provide centres for excellence for the training and development of international class athletes and coaches. The IAAF opened the first HPTC in 1997. Since then, the IAAF has opened HPTCs in Africa, Asia, North America, Central America and Caribbean, and now in Oceania.

Located at the new Millennium Institute of Sport & Health, on Auckland's North Shore, the High Performance Training Centre - Oceania is a partner of the Millennium Institute of Sport & Health. The Institute features state of the art sporting facilities with a focus on track & field, aquatics sports, strength and conditioning, comprehensive sport science services, sports medicine and rehabilitation facilities, and on-site accommodation.

The Strategic Plan for the HPTC – Oceania has been developed with a single outcome focus: "To provide high performance athletes with the environment so that they can achieve qualifying marks for World Series competitions, and to subsequently compete at these competitions with distinction". Six key strategies have been identified to achieve this:

- Progressing identified talented athletes through appropriate level of development
- Delivering best practice coaching to the programme
- Ensuring athletes and coaches receive optimum sports science and sports health support services
- Providing appropriate competition and training opportunities
- Developing and sustaining a high performance culture
- Facilitating support for athletes' current and future personal development.

The athletics coaches who are contracted to the HPTC are all fully accredited coaches, with years of national and international experience.

There are currently six scholarship athletes from Tonga, Cook Islands, Vanuatu, Solomon Islands and Fiji Islands based at the HPTC with their costs being met by the IAAF.

In its first year of operations the HPTC Oceania had an income of New Zealand dollars (NZ$)220,000 against an expenditure of NZ$217,000. One of the most troublesome items to face the HPTC – Oceania in this first year, was the decline in the value of the US Dollar (in which all payments to the HPTC are made), and the strength of the New Zealand economy and the New Zealand Dollar. In September 2002 the exchange rate (US$ to NZ$) between the two currencies was 0.463; in September 2003 it was 0.584, whilst at the end of September 2004 it was standing at 0.702. This severely impacted on the amount of money that was received on a quarterly basis in the way of scholarship funds. Currently the amount paid for Board and Lodgings alone for scholarship athletes far exceeds the amount received from the IAAF in the form of scholarship grants. If it had not been for the awarding of the Operating Grant for 2003, when the centre was being established, then the HPTC – Oceania would have been in severe financial difficulty and would not have been able to provide the services to the athletes that they require.

The IAAF Regional Development Centre (RDC) opened in 1990 in Adelaide and is involved in the conduct of a wide range of courses and other activities designed to promote the development of athletics within the region. Recent major activities focused on grass roots coaching training, technical official workshops, event organisation and management seminars.

The RDC is located in the offices of Athletics South Australia at Santos Stadium that has an eight lane synthetic track with full international competition facilities as well as multiple jumping and throwing facilities on an adjacent field together with an outdoor gymnasium.

A fully equipped international weight-training centre is available at the South Australian Sports Institute about 3km from the RDC.

The complex has one large room suitable for lecturing as well as an additional small seminar room. Full audio-visual facilities are available.

The economic impact of these two facilities in the Pacific Islands is limited due to their location in Australia and New Zealand. The costs of hosting athletes in New Zealand is substantially higher than for the Weightlifting Centre or the Tennis Centre and consequently less athletes are able to benefit.

It was the view of athletics officials that establishing the program in the Pacific would not be possible due to the lack of support services available within the Islands.

The contribution by the IAAF to the development of their sport in the Pacific is approximately A$750,000 per annum.

'Ana Pouhila (TGA) IAAF Regional Development Centre Athlete competes in the Shot Put at the 2004 Athens Olympic Games.

Fiji Islands's National Aquatic Centre, built for the 2003 South Pacific Games.

D. Sports Structures at the National Level

The following section attempts to summarise the current situation regarding existing sports structures, sports training facilities and centres located in Pacific Island Forum member countries. From this information, it is hoped that essential background can be obtained that will enable decision makers to determine the most appropriate strategy for establishing a Regional Sports Institute throughout the Pacific. The information gathered has largely come from first hand sources, by interview and questionnaires although some background and historical references are included.

1. National Centres of Excellence

Outside of Australia, which has a well-developed network of sports institutes and academies in all states, and New Zealand which has an extensive network of regional sports trusts and public and private institutes, there are only two facilities that could be considered to be a national centre of excellence in the Forum Island Countries, namely the National Sports Institute (NSI) in Goroka, Papua New Guinea, built by the government in 1979, and the Nauru Weightlifting Institute, established jointly by the Government and by the Nauru NOC during 1994.

National Sports Institute – Goroka

The National Sports Institute (NSI) at Goroka (Appendix 4) is under-used and poorly resourced at present, despite having the buildings, fields and basic infrastructure in place, making it difficult to attract national and international teams to the site. The site was originally built as a 'sport for all' resource, responsible for delivering and developing programs in physical education, sport education (coaching, administration and sport science/sport medicine) and national training camps. A lack of resources and subsequent low patronage mean the institute has been unable to fulfill its objectives.

The NSI's long-term aim is in delivering education programs. Both the PNG Sports Commission and the PNG Sports Federation would like to see it developed into a leading sport education facility (*National Sports Summit, 1999*).

In past years, particularly prior to the 1991 South Pacific Games, at which PNG topped the Medal Tally, a great deal of use was made of Goroka as a National Training Centre with 'live in' athletes. However as support funding ceased and the NSI was forced into a user pays situation, it was unable to sustain these full time training programs.

At the PNG National Sports Summit held at Goroka during 1999, it was strongly recommended by all key stake holders that the NSI be re-established with Satellite Centres in Port Moresby, Madang, Mount Hagen, Lae, Rabaul and eventually in all of the Provincial Centres, under the direction of the Goroka Headquarters. This recommendation was never enacted however as vital Australian Government funding that might have been utilized for this purpose was redirected to the PNG Sports Commission, which maintained other priorities. Furthermore recommendations to the Australian Government to conduct a feasibility study on the development of Goroka as an Altitude Training Centre have also gone unheeded.

The high cost of travel to Goroka is also partly responsible for low patronage at the NSI.

However, the fact that the facility exists and is operational is a huge advantage to sport in Papua New Guinea, and potentially the rest of the Region.

Nauru Weightlifting Institute

The Nauru Weightlifting Institute was established during 1994 with the recruitment of eminent weightlifting coach, Paul Coffa, who had recently coached Nauruan Champion Marcus Stephen to three Gold Medals at the 1994 Commonwealth Games held in Victoria Canada.

The Government of Nauru had noted the unprecedented attention that the achievement of Marcus had brought to the Country and in addition felt that weightlifting might well suit the average Nauruan stature and as such provide incentive for its youth to take up a disciplined sporting activity

Within two years, the number of regular participants in the Weightlifting Institute had moved from 2 athletes to over 300. Athletes were taking up the sport in unprecedented numbers that ultimately lead to the successful bidding for a World Weightlifting Championship and the establishment of the first fully digital TV station dedicated to sport, in the Southern Hemisphere. The Sports Pacific Network, broadcast live feed from the 1999 South Pacific Games in Guam for the first time ever.

Economic downturn and a hostile political climate has seen the significant reduction in the scale of these operations, with Paul Coffa now establishing the Regional Weightlifting Institute in Sigatoka, in Fiji Islands.

The national program still operates successfully under the eye of local coaches who have also established a successful program in neighbouring Kiribati. However few Regional athletes go to Nauru for training now as the Centre in Sigatoka concentrates on working with elite lifters, including those from Nauru.

Leading up to the 2000 Olympic Games, Nauru became an unofficial Olympic Training Centre for Countries seeking a hot climate and no distractions. This was a stark contrast to the trend of other sports to leave the Pacific and seek training opportunities in Australia, New Zealand and the United States of America.

A more detailed analysis of the Nauru Weightlifting Institute and the NSI in Goroka is warranted in order to establish the economic impact of having these facilities in place. Furthermore an evaluation of the constraints that ultimately rendered them unable to sustain what was established may well provide valuable insights into forming strategies for any construction of a Regional Sports Institute.

Sport Brings the Pacific Together like nothing else does. (SPG 2003)

E. Sports Structures in the Forum Island Countries

The following Section seeks to summarise the national sports infrastructures that currently exist around the Pacific Region.

It is a snapshot of the current status of sport in each Country, drawing on information obtained from the Australian Government's Pacific Sporting Needs Assessment, direct consultation with sports officials from these Countries and with Regional Sport Federation representatives who travel extensively and on a regular basis throughout the Region.

An attempt is also made here to highlight the current economic and social impact of sport in each Country, wherever possible with known financial statistics.

1. Cook Islands

There are two peak bodies responsible for sport in the Cook Islands: the Ministry of Youth, Sport and Recreation, and the Cook Islands Sports and National Olympic Committee (CISNOC).

CISNOC is responsible for the preparation of teams for international competitions such as the Olympic Games, Commonwealth Games, South Pacific Games and South Pacific Mini Games. CISNOC and the Cook Islands Government share a unique relationship. CISNOC is, effectively, the delivery arm for the programs of the government. This means that many of the government's community and grassroots sporting initiatives are delivered by CISNOC through its Sports Development Unit. Such an agreement reduces the risk of duplication and offers an effective program through reduced costs. It has been further proposed, that a National Sports Academy be established (CISNOC Annual Report 2004) to service the needs and aspirations of local athletes and coaches.

Sport and recreation are among 11 key strategic areas in the Cook Islands Government's National Youth Policy (2003–06) — recognising the importance of sport in the development of youth. The policy identifies a series of intervention strategies designed to increase the participation of young people in sport and recreational activities. These strategies are delivered primarily by CISNOC in conjunction with the national sport federations and the governments of the outer islands. There are ten island sport associations that work with both CISNOC and the Cook Islands Government to facilitate the delivery of sport programs in the outer islands.

Cook Islands hosted the second South Pacific Mini Games (1985) and it was for these, that the current National Sports Facilities located around Rarotonga were established. These facilities were established close to the main school on Rarotonga in order to encourage regular use by students. However, for a variety of reasons these facilities were allowed to run down over the years, while Village based facilities built up to cater for the sport and recreational needs of the Community.

Currently, sports training scholarships for selected athletes and coaches are offered through the CISNOC from a variety of funding sources, to send athletes and coaches overseas for extra training and competition. While this strategy has had its successes, the general feeling in Cook Islands is that there is now a need to improve the standards of training and competition within Cook Islands, in order for them to become competitive on the World Level.

As such, the establishment of a Regional Sports Institute would be seen by sports leaders in Cook Islands as a positive step, provided some of its resources were directed at the Cook Islands Sports Academy and some consideration was given to Cook Islands hosting a Regional Development Centre in one or two sports of their choice.

The Cook Islands Games were inaugurated during 1997 with a structure that sees the hosting of three Zone Games followed by a National Games held every 4 years. The Games are both participation oriented while aiming to provide a competition framework for sportsmen and women to use as a basis for moving on to the international level.

At the 2001 Cook Islands National Games there were approximately 2500 participants, involving directly, 18% of the population and indirectly involving well over half of the population. The economic impact of this would be most significant.

Cook Islands recognise the benefits of Sports tourism and have already hosted two Golden Oldies Netball Festivals in addition to regular Sports Tours targeting Australia and New Zealand. A regular international triathlon event has been established and moves are currently underway to establish an international Outrigger Canoe race carnival on an annual basis.

Cook Islands successfully bid to host the 2009 South Pacific Mini Games and will offer competition in 15 sports codes. The Master Plan for the Games has a stated objective to maximise the legacy of hosting the Games for the benefit of the general Community. As such the Organising Committee is seeking to run these Games at a cost of NZ$15.0 million for an expected positive economic impact of NZ$50.0 million.

2. Federated States of Micronesia

The Federated States of Micronesia (FSM) emerged as an independent nation during the early 1990's and became a member of the Olympic Movement during 1997. It has been from this time that the FSM has emerged as a regular participant in South Pacific Games and has been a significant contributor to Pacific success in international competitions such as the Olympic Games.

The Federated States of Micronesia has key government and non-government stakeholders in what is a complex sport system.

At the federal level, the Ministry of Health, Education and Social Affairs is responsible for implementing and funding development programs in sport. The Ministry works with the FSM National Olympic Committee (FSMNOC), and the Yap, Chuuk and Kosrae State Sports Councils and the Pohnpei State Sports Commission.

The Chuuk and Kosrae State Sports Councils and the Pohnpei State Sports Commission are sections of each State's Department of Youth and Social Services. They are responsible for providing, maintaining and managing sport facilities as well as some sport programs and activities. The Yap State Sports Council is responsible for the overall conduct of sport on Yap.

Numerous local and municipal governments have their own recreation associations that run sport programs for local and/or more isolated communities.

The Department of Education links directly with national sport federations to deliver school sport programs, the principal one being the Interscholastic Sports League.

The FSMNOC is regarded as the main organisation for sport and sport development at the non-government level. National sport federations are affiliated with FSMNOC. The National Olympic Committee is focused on sports development and also has a large administrative role relative to its level of resourcing.

The FSMNOC has indicated that with the National and State Governments, they will work to establish Sports Training Centres in each State and a National Training Centre to be located in Pohnpei with the NOC Office, which is set to be relocated to the College of Micronesia. This follows recognition by all stakeholders that for sport to develop properly, adequate programs and facilities must be established to enable coaches and athletes to develop consistent programs of development. (*National Sports Summit, 2004*).

As a collection of strong States, each with their own sports program, the FSM has not as yet developed a strong national identity in sport, other than from the work of the FSMNOC. The FSM has its own National Games and also competes in the Micronesian Games as separate States and so it is not surprising to see each State having established its own program of sports development.

To date, the FSM has concentrated on the sports of weightlifting, swimming and athletics in preparation for participation in the Olympic Games. For the 2000 Olympic Games the swimmers had to be relocated to Fiji Islands and Australia for 12 months in order to prepare as at that time there was no swimming pool in the FSM. Track and Field Athletes were sent to Adelaide and the weightlifters were relocated to Nauru for nearly two years.

Currently, the top swimmers can train in Pohnpei in a 25m pool but need to go to Guam or elsewhere for long course training. The top weightlifters, one of whom is ranked in the top ten in the world needs to go to the Regional Training Centre in Sigatoka, while the track athletes are located in Guam.

A Regional Institute of Sport appeals to the FSM as placements of athletes within the Pacific have shown some demonstrated benefits to FSM athletes placed at these locations. Ultimately however, the FSM sees it as a priority, to be able to offer a reasonable standard of elite sports development locally and therefore feel that one important role for the Regional Institute would be to improve the level of expertise of coaches, trainers and administrators at the National level. (*Appendix 6*)

The FSM has stated that they would be interested in hosting a Regional Training Centre in weightlifting, wrestling or softball.

The FSM Games have been held successfully throughout the Country and it is around these, that State Sports facilities have been built. Pohnpei has also hosted the Micronesian Games.

The economic impact of sport in FSM is therefore quite significant with large capital investments in sports facilities especially on Pohnpei and Yap. This has provided employment opportunities and a pathway for young Micronesians to bid for scholarships in the USA.

The FSMNOC has further demonstrated its commitment to promoting sport for sustainable development and improving livelihoods by embarking on a major campaign for promoting Olympic values and Physical Education in the schools, during 2005.

3. Fiji Islands

The key sports stakeholders in Fiji Islands are:

- The Fiji Association of Sports and National Olympic Committee (FASANOC)
- The Fiji Sports Council
- The Ministry of Youth, Employment Opportunities and Sport

The Ministry of Youth, Employment Opportunities and Sports advises the Minister responsible for sport on matters of policy and oversees the disbursement of government funds allocated specifically for the purposes of sport development.

The Fiji Sports Council is a statutory authority established by the Fiji Government and is responsible for the promotion and development of sport and for the maintenance and development of national sporting facilities nationwide.

FASANOC is the umbrella body for sport in Fiji Islands. All of the 39 national sport federations (both amateur and professional) are affiliated. FASANOC represents the interests of sport in Fiji Islands and is responsible for coordinating Fiji Islands teams to multi-sport games such as the Olympic Games, Commonwealth Games, South Pacific Games and South Pacific Mini Games.

Fiji Islands has arguably the best facilities for sport outside of the French Territories of New Caledonia and Tahiti, with a raft of new international standard structures built for the 2003 South Pacific Games.

Fiji Islands has a reputation for producing world class athletes, particularly in Rugby and more recently in Golf through the efforts of Vijay Singh. However this is largely done without any formal infrastructure for development and support of elite athletes. The majority of Fiji Islands elite performers are trained overseas and there are very few systematic elite sports development programs in Fiji Islands. The Vijay Singh story however, highlights the reality of life for aspiring sports people in the Pacific. (Rees, 2005).

"We may be a country of only 850,000 people, but in your many achievements and ultimate victory you have now attained, you have shown that with commitment, hard work and perseverance, there can be no limit on one's accomplishments and success." (*Qarase, 2004*)

Fiji Islands has a stated objective to establish a National Academy of Sport, which dates back to the first of a series of National Sports Summits held in 1993 and in 1997 took the first step to achieve this in establishing a Sports Development Unit at the Fiji Sports Council. This Unit, however, has received little support or funding to develop beyond what was originally established.

During 2004, the Fiji Institute of Technology established a regionally offered Physical Education and Sports Science Diploma program. However this course lacks both the facilities and the staff to adequately support a Regional or National Sports Institute.

With the Central Campus of the University of the South Pacific located in Suva, many suggest that Fiji Islands would be the ideal location to establish a Regional Sports Institute, or at least the central elements of it.

Fiji Islands already has two Regional Development Centres, in Weightlifting and Tennis, and could conceivably host a number of other sports, given that the facilities and the access to education and other support structure are already in place.

Fiji Islands has the only School of Medicine in the Pacific and as such could conceivably offer research and sports medical support services to a Regional Sports Institute.

Fiji Islands has demonstrated that it has the talent to become world class in a number of sporting disciplines and that success in sport, like the recent success at the Rugby Sevens World Cup as well as the achievements of Vijay Singh and Vilimaina Davu for the New Zealand Silver Ferns, brings joy to the people of the nation as well as unprecedented publicity. The sense of 'Unity' that prevailed in Fiji Islands after the winning of the 2005 Rugby Seven's World Cup, speaks for itself.

Currently however, much of Fiji Island's talent is being lost overseas, most noticeably in sports like Rugby, due to the lack of opportunity that exists for them at home. The establishment of a Regional Sports Institute may well provide for an avenue to keep more talent at home, however even if it merely provides opportunities for more Fijians to go abroad to make a living in sport, the net economic gain to Fiji Islands will be ensured.

Fiji Islands has a relatively well developed sports system compared to other Pacific Island Nations that features organized club competition, at least in the major sports. The links from Village, to District, to Province and the National level are not well established, although this is being addressed in plans to restructure the Fiji Games.

Junior Sport Programs are a function of the school system and it is from events such as the Coca Cola Games that Fiji Islands is able to unearth some of its immense natural athletic talent year after year.

There are a variety of other organisations and institutions that play an important role in the delivery of sport programs in Fiji Islands. These include:

- the Ministry of Education — responsible for the implementation of a viable sport and physical education curriculum throughout the Fiji Islands education system
- provincial and town councils — responsible for providing sport and recreational facilities and community sport programs
- church and ethnic group associations — often responsible for organising sport programs as part of their youth development strategies
- the corporate sector — a key player in sport development in Fiji Islands, sponsoring sport programs and events, and employing sportspeople.

Fiji Islands invests a substantial amount of money to the development of its elite athletes, from both government and non-government sources. Much of these funds are spent overseas. Hence there is a clear economic argument for Fiji Islands to establish facilities in the Country to service the needs of elite athletes and coaches.

The Fiji Rugby Union currently has a proposal under consideration for the construction of a High Performance Training Centre at Denarau in Nadi. The cost of this proposal is estimated at $40 million and is considered by its proponents, to be a sound economic investment, as an essential step towards bring Fiji Islands Rugby to 'Tier One' status as a Rugby Nation.

The Fiji Football Association has established a High Performance Centre in Ba with the assistance of the International Football Federation (FIFA).

The University of the South Pacific Campus in Suva has recently upgraded its sports facilities and under the direction of new Vice Chancellor Anthony Tarr, intends to offer up to 200 scholarships to promising sports people as a means of allowing them to pursue the sporting and vocational ambitions without having to go abroad.

Following the completion of new facilities for the 2003 South Pacific Games, Fiji Islands, through a variety of agencies is aggressively pursuing the right to host world class event and has been successful in attracting the 2007 World Netball Championships to Fiji Islands.

The Fiji Sports Council now employs an estimated 300 people in various capacities and this figure can only grow as the services offered improve and increase. In itself, this has a significant positive impact on the economy of Fiji Islands.

A detailed analysis of the income earned by Fiji Island's overseas based Rugby players alone will reveal figures in the tens of millions of dollars, not to mention what Vijay Singh has earned and continues to earn.

Fiji Islands is a natural hub for the Countries of the Southern Pacific Region and as such is ideally placed and resourced to be a major contributor in the hosting of a Regional Sports Institute.

4. Kiribati

Kiribati has two peak bodies responsible for sport: the Ministry of Education, Youth and Sport, and the Kiribati National Olympic Committee (KNOC).

Sport is being seen more and more by the people of Kiribati as a means of providing opportunities for education and development of the youth, in addition to providing social outlets and health benefits.

The Kiribati Sports Authority is the Ministry's delivery arm. Since the enactment of the Kiribati Sports Authority Act in November 1999, the authority has been the official government body for overseeing sport affairs. To date, the authority's main function has been to supervise the National Games, although these will now become the responsibility of KNOC. The authority is also the body responsible for developing and maintaining sport facilities, including the new multi-purpose facility in Betio (Tarawa).

The KNOC was formed in November 2002. In July 2003, it was formally recognised by the International Olympic Committee and Kiribati participated in its first Olympic Games in Athens during 2004.

The KNOC is primarily responsible for preparing teams for major international multi-sport events such as the Olympic Games, Commonwealth Games, South Pacific Games and South Pacific Mini Games. KNOC has eight affiliated sports, as well as traditional sports that are not affiliated but participate in its programs.

Kiribati sports authorities have great difficulty in establishing regular and frequent competitions in sport, for a variety of reasons, not the least being economic. Space on the main atoll Tarawa,

is at a premium and it is extremely costly to travel between the various atolls that are spread across the width of the Pacific Ocean.

The Government of the Peoples Republic of China commenced the construction of a major new national sports facility during 2002, however with Kiribati's subsequent recognition of Taipei, China, this program was ceased and is now under the aid program being delivered by Taipei, China. With the completion of these facilities due to occur by the end of 2005, Kiribati will have a need for expertise in facilities management and programming to support their operation. Nevertheless there is an immediate economic benefit for Kiribati thanks to involvement in sport. The establishment of sports facilities and the need to employ people to mange and operate them is a major impact.

Kiribati already makes use of the Regional Sports Training Centres established for athletics, weightlifting and tennis as well as opportunities for overseas training offered by Table Tennis. These programs are seen as the only way that i-Kiribati athletes can be prepared to take part in Commonwealth and Olympic Games.

Sport is being seen more and more by the people of Kiribati as a means of providing opportunities for education and development of the youth, in addition to providing social outlets and health benefits.

Kiribati also received worldwide attention when they attended their first Commonwealth Games in Manchester, 2002 and their first Olympic Games in Athens, 2004. The publicity alone has resulted in significant economic benefit to the Country.

5. Marshall Islands

The Marshall Islands has government and non-government elements to its sport structure.

At the national Government level, the Ministry of Internal Affairs is responsible for sport through its Department of Sport and Recreation. The department has a staff of seven based at the national gymnasium, which it owns and manages.

Local governments and in particular, Church organizations, carry out sport activities in Delap and Laura, the two main villages on Majuro. There are also local government sport officers on some of the other larger islands. These officers run sport programs, basically providing the only pathway available for sport.

The Marshall Islands National Olympic Committee (MINOC) was formed in 2000, but is not formally recognised by the International Olympic Committee.

MINOC has 12 affiliated sports, seven of which have international affiliation. MINOC has been working towards its bid for Olympic recognition since 1991 and is engaged with the Oceania National Olympic Committees to gain this recognition. The main factor holding back its acceptance into the Olympic Movement has been the distinct lack of sporting infrastructures outside of its Government driven programs.

Other non-government organisations such as the Ajeltake Sports Organisation, Mission Pacific and Laura Sports Club provide basketball and volleyball leagues targeting 'youth at risk'. The statistics in delinquency where these sport programs exist show notable evidence of the success of this idea. The 'Yokwe Sport' Program offered up through the Majuro High School

during the late 1990's also had great success in teaching social responsibility to High School students through the experience of conducting regular sports programs in the Primary Schools throughout Majuro.

Marshall Islands has not had any significant international activity in sport beyond Micronesian Games and participation in Micronesian Basketball and Softball Programs. There are good facilities for indoor sport on Majuro and excellent facilities for sport at the US Base on Kwajelein.

The main benefits for Marshall Islands perceived from the establishment of a Regional Sports Institute, would be in the attainment of critically needed expertise and training for athletes, coaches and officials, in order to compliment their entry into the Olympic Movement.

Currently, Marshall Islands relies almost completely on its expatriate population living on the mainland of the USA for its performance at the international level.

A Regional Sports Institute would make a significant contribution to the establishment of a viable sports infrastructure in Marshall Islands.

6. Nauru

Nauru's Department of Sport is within the Ministry of Health. The Department has a modest budget for sport, which has been reduced in recent years.

The Nauru NOC is responsible for developing elite sport and preparing teams for participation in elite international competitions such as the Olympic Games, Commonwealth Games, South Pacific Games and South Pacific Mini Games. The NOC has 17 affiliated sports including Olympic and non-Olympic sports.

In the sport of Weightlifting, Nauru has competed with great success internationally, winning medals in World Championships and Commonwealth Games and finishing close to medals in Olympic Competition. Nauru has provided the rest of the Region with an excellent example of what can be achieved, once facilities, expertise, and will power come together in an organized well-planned format.

Nauru recognised that its population size prohibited it from competing internationally with success in a broad range of sports. Following the 1994 Commonwealth Games, the nation's leaders agreed to establish the Nauru Weightlifting Institute (described above) and to offer up weightlifting as the sport in which the Country would seek international success. Other sports are still encouraged at the domestic/recreational level.

Nauru's success in weightlifting has seen this sport grow around the Pacific with neighbouring Kiribati and FSM already producing internationally recognized lifters.

The economic impact is impossible to determine.

Nauru would support the existence of a Regional Sports Training Centre, particularly one which provided the necessary expertise in sports science and a logical pathway for their elite athletes to move from national to regional to international level.

7. Niue

As a Self Governing Territory in free association with New Zealand, Niue is not eligible for membership to the International Olympic Movement. Nevertheless, Niue participates freely in regional competitions in a variety of sports and is also a member of the Commonwealth Games Federation. Niuean athletes delighted crowds at the 2002 Manchester Commonwealth Games with surprise performances such as a first up win by knockout over Australia in the Super Heavyweight boxing category and with giant killing efforts in Seven's Rugby which also saw their stars compete on the track as well.

Despite having a very small population, around 1800 inhabitants, Niue places a lot of emphasis on sport for its youth.

Niue has no systematic elite athlete training program on the island, but would avail itself of any opportunities that might enable young athletes from Niue to pursue their sport and in the process obtain educational or vocational training.

Their free association with New Zealand means that the people of Niue have ready access to the New Zealand sport and education system.

Niuean athletes have excelled and represented New Zealand in a variety of sports including boxing, rugby league, rugby union and netball.

The economic impact of their involvement in sport is difficult to determine.

8. Palau

Key stakeholders in Palau's sport system enjoy a good working relationship and include:

- the Palau National Olympic Committee (PNOC), which received IOC recognition in 1999, enabling Palau to participate in its first Olympic Games in Sydney in 2000. Thirteen national sport federations are affiliated with PNOC. It has a small number of full-time sport development officers who maintain an active role in sport development at all levels. PNOC is also responsible for preparing teams for Palau's participation in major sporting events such as the Micronesian, South Pacific and Olympic Games.
- the Ministry of Community and Cultural Affairs, which is responsible for the funding and overall direction of Palau sport at the national level. The ministry works with the PNOC, various national sport federations and school sport
- the parks and facilities section of the ministry is responsible for providing and maintaining sport facilities various state governments responsible for running sport programs, which are funded through government initiatives in health, youth and the general community each of Koror's 12 hamlets operates sport programs and are part of an inter-hamlet sports league
- the Ministry of Education is involved with sport programs, the principal one being the Inter-scholastic Sports League.

Palau's need for elite athlete development has been driven by its participation in the Olympic Games, but rather than invest in the infrastructure it needs locally to prepare athletes to a high level, Palau has chosen to send it athletes offshore.

For this reason, Palau would support the establishment of a Regional Sports Institute and would even offer its own facilities to establish a satellite program that would take advantage of its

existing infrastructure for sport and the educational opportunities that it can offer through the Palau Community College.

Palau has a stated interest in establishing Regional Training Centres in selected sports and is able to provide educational opportunities for athletes through the Palau Community College on Koror.

During 2001, the Palau Wrestling Federation hosted two wrestlers from Solomon Islands to help prepare them for the 2002 Commonwealth Games. While in Palau these two young Solomon Islanders attended the Palau Community College and finished their High School Diplomas, something they would not have been able to do in Solomon Islands.

The impact of Olympic recognition on sport in Palau has been highly significant with community based programs strengthening and recognition by its Government of the value of sport to the overall development of Palau. Sports facilities are accessible to the community at low or no cost, a feature being the maintenance of lighting for the sports grounds by Government until well into the night hours.

Palau has an interest in producing high level athletes but sees its priorities as largely community based. Through the PNOC, elite development programs are provided that have seen athletes and coaches in Athletics, Baseball, Swimming, Softball, Weightlifting, Wrestling, Table Tennis and Basketball, take part in overseas based training Programs.

The direct economic benefit of sport in Palau is estimated at approximately US$1.0 million per annum and as host of the 2005 South Pacific Mini Games, this is expected to improve significantly. The sports tourism market has been recognised but not as yet developed.

Advertising of Palau internationally has increased as a result in participation in two Olympic Games and the direct employment of sports related professionals has increased dramatically since the establishment of the Palau National Olympic Committee. The economic value to Palau of this aspect of involvement in sport is difficult to determine.

9. Papua New Guinea

Two peak bodies are responsible for sport in Papua New Guinea: the Papua New Guinea Sports Commission, and the Papua New Guinea Sports Federation and National Olympic Committee.

The PNG Sports Commission, the statutory authority responsible for policy and sport development, reports directly to the Minister for Community Development. The Commission is currently tasked to deliver programs in each of the country's 20 provinces, including the Pikinini Sport Program, disability sport, youth leadership programs and a physical education program through the National Sports Institute (NSI) in Goroka (Appendix 4).

The PNG Sports Federation and National Olympic Committee is responsible for preparing teams for international competitions such as the Olympic Games, Commonwealth Games, South Pacific Games and South Pacific Mini Games. The Federation also takes responsibility for developing elite athletes and coordinating relevant corporate sponsorship and fundraising programs.

During late 2004, with the assistance of the Australia South Pacific Sports Program, the NOC has recently set up a small Sports Development Unit (SDU). The Unit has been donated a range of equipment including a lap-top computer, speed light timing system, vertical jump kit, heart-rate monitors, sit and reach box, skin-fold callipers and various text books. This follows similar assistance provided to the NSI during 1997, as a request from the PNG Sports Commission.

The SDU conducts regular fitness testing for most sports to better prepare for international competitions. However this level of support is quite rudimentary and rarely penetrates past the national squads to the rest of the sport community. Interest remains high to re-establish a working Sports Institute that would provide services from each of the main urban centres in PNG.

National Sports Federations in PNG are active in establishing regular and graded competition throughout the Country, however, like Fiji Islands, the pathways from villages to the National level are not well established.

The University of PNG has also completed good work in the area of Sports Psychology as it relates to the local population. These insights would be worth examining further in the event of a Regional Sports Institute being established.

Economic benefits to PNG that can be directly attributed to sport include a A$3.0 million grant for sports development made by the Australian Government during 2001 as well as its involvement in the Olympic Movement. Corporate support is significant, varying around kina (K)10 million per annum.

Successful athletes from PNG have made significant sums of money in kickboxing, rugby league and martial arts, however, the athletic potential of PNG has barely been revealed.

Organised sport has not progressed very far from Port Moresby however, and consequently the social and economic benefits that it might bring to PNG have been limited.

PNG would support the establishment of the Regional Training Institute and would be happy to offer its facilities to be part of a Regional Network of Training Centres. Currently however PNG still feels the need to send it best athletes off shore for coaching and to get the necessary competition to succeed at the international level.

PNG would also have a lot to contribute towards the establishment of a Regional Sports Institute, in both resources and expertise. This in time might further stimulate the viability of the Country's own National Sports Institute.

10. Samoa

At the Government level, sport comes under the Ministry of Education, Sport and Culture.

The Samoa Association of Sports and National Olympic Committee (SASNOC) was recognised by the International Olympic Committee in 1983. It is responsible for preparing teams for international competitions such as the Olympic Games, Commonwealth Games, South Pacific Games and South Pacific Mini Games. SASNOC also runs a Junior Sports Program, although the effectiveness of this program has been lessened in recent years due to budget and resource constraints.

The SASNOC Sports Development Unit was established during 2001, however this has not continued to be viable largely due to a lack of commitment from key stakeholders with respect to funding. Consequently there is nothing significant available for supporting the development of athletes in Samoa and as a result the majority of aspiring athletes are sent off to school in either New Zealand, Australia or the USA where they might be able to further their sporting career.

"Inevitably Polynesians dominate in New Zealand sport but less noticed is their growing presence in the academic and business fields" (Field, 2005).

Samoans have represented and won Olympic and World Championship medals for New Zealand, Australia and the United States of America, in sports such as track and field, diving, volleyball, boxing, basketball and beach volleyball but have yet to do so for their native Samoa. Why this occurs is simply a case of opportunity. Samoans like many Pacific Islanders see that opportunity lies overseas and the most common export commodity in Samoa is the people.

The fact that from such a small population base of around 300,000 worldwide, Samoans have excelled in Professional sports such as American Football, Boxing, Basketball, Volleyball, Rugby League and Union as well as in the amateur codes as well speaks volumes for the talent of Polynesian people and their aptitude for careers in sport. A lack of expertise in sports science and medicine is seen as a major limiting factor for the growth of elite sport in Samoa.

Samoa will host the 2007 South Pacific Games after successfully hosting the 1983 version in Apia. The most significant outcome of the 2007 Games will of course be the legacy of facilities for sport, particularly a major aquatics complex and a series of Halls for indoor sports, which are very popular in Samoa.

Thanks to the generous support of the world governing body for Football, FIFA, Samoa have established their credentials in the unlikely sports of Football and Futsal, demonstrating once again, that with some investment in facilities and expertise, achievement in sport is possible from the Pacific Islands.

The economic impact of hosting the 2007 South Pacific Games is expected to be over $WST100 million in capital and financial gains. Capitalising on these will be the major challenge facing Samoa after the Games of 2007.

Samoa would consider itself a worthy candidate to host significant elements of any proposed Regional Sports Institute.

11. Solomon Islands

Two peak bodies are responsible for sport: the Department of Home Affairs and the National Olympic Committee of the Solomon Islands (NOCSI).

The Department of Home Affairs is a national government body. It houses the Department of Sport, which oversees the National Sports Council. The council is the statutory authority responsible for sport and employs four people. The council has a comprehensive development plan but due to lack of funds, it is unable to deliver most of its programs.

NOCSI was formed in 1983 and competed at its first Olympic Games in 1984. It is responsible for preparing teams for international competitions such as the Olympic Games, Commonwealth Games, South Pacific Games and South Pacific Mini Games. As is the case with many smaller

countries, NOCSI also has a role in running community and junior sport programs. This is done in collaboration with the National Sports Council, with which it has a good working relationship.

The people of the Solomon Islands are acutely aware of the value of sport to the community having just come through a period of instability and ethnic tension. Throughout this period however, sport continued to thrive while all other sectors of the Country floundered. Sport competitions even took place between warring parties, at the height of the tension, and since the tension, sport has continued to play a lead role in the rehabilitation and reconciliation process.

In recognition of its achievements in sport and the good that it has done for the country in recent years, the NOCSI was given a 50 year lease over the National Sports Facilities and surrounding grounds at the Lawson Tama Area, while the Solomon Islands Football Federation (SIFF) have been given similar license over the football field.

Football is the major sport in Solomon Islands and the Country virtually came to a standstill during the 2004 Oceania Championships when they held the might of Australia to a 2 – 2 draw in Adelaide and replaced New Zealand in the World Cup Qualifying tournaments for 2005.

SIFF is now establishing a football academy and is already showing great success in international competition. The NOCSI through its facilities can now offer a greater range of services to its member federations as well as better access to facilities, which was difficult when they were under Government Management.

There is a strong interest from all stakeholders to host more international events and to establish a National Academy of Sport in order to provide opportunities for young Solomon Islanders to pursue their education while attempting to excel in sport.

At various times over the years, Solomon Islands have dominated the Pacific in sports like boxing, tennis and middle distance running. Generally this period of domination has coincided with the establishment of a volunteer based program that has proven to be unsustainable due to the poor state of the economy, amongst other reasons.

The establishment of a Regional Sports Institute with direct links to important developments in Solomon Islands and an expected bid to host the 2011 South Pacific Games, is supported.

The economic impact of sport in recent times has been significant, with full time employment in sport now possible. Since 2000, an estimated US$7.5 million has come into the country to support sport and sport related programs, mainly through the FIFA and the success of the Solomon Islands in Football, but also from the Olympic Movement and the British Government.

12. Tonga

The Tonga Amateur Sports Association and National Olympic Committee (TASANOC) was created in 1961 to prepare a national team for the first South Pacific Games held in Fiji Islands in 1963. Tonga participated in its first Olympic Games in Los Angeles in 1984.

TASANOC develops community and elite sport in Tonga. Twenty-six organisations are affiliated with TASANOC, 24 of which are national sport federations. TASANOC also works with community organisations to address issues affecting youth.

The Ministry of Education, Youth, Culture and Sport has a mandate to improve the development and delivery of physical education and sport in schools. Attempts are being made at better coordination through regular consultation with TASANOC. Improved coordination between TASANOC and the Ministry would help avoid duplication of tasks and maximise the use of resources. The Ministry is in the process of establishing a National Institute of sport at the only indoor stadium at 'Atele in Tonga.

Like Samoa, the majority of Tonga's great athletes end up representing other countries, like Australia, New Zealand, the USA, Japan, Philippines, England, Wales, in sports from rugby, to athletics, boxing, basketball, volleyball, kick boxing, body building, powerlifting, netball, and a host of other sports.

Tonga lays claim to being the only Pacific Island nation to have won an Olympic Medal, Silver at the Atlanta Games in 1996 in the sport of boxing. Like Samoa, Tongans, despite their small population base have excelled in sport all over the world, at one stage boasting the two top ranked Sumo wrestlers in the world, prompting Japan to set up a Sumo School in Tonga during 1995.

When Tonga's Paea Wolfgramm, defeated the undefeated Cuban Super heavyweight Champion in the quarterfinals of the 1996 Olympic Games Boxing tournament, there were headlines referring to Tonga on major daily newspapers worldwide. "Where the Hell is Tonga" (Washington Daily Post), became a catch cry for a few days when the tiny Kingdom of Tonga could put its hand up and say "Over Here".

It was publicity that couldn't be bought and yet Tonga's investment in Paea's medal was a matter of a few thousand dollars. Paea's personal investment was greater, but it lead him to a moderately successful professional career that enabled him to set himself up and return to school to continue his Law Degree. The man who defeated him, Vitaly Klitschko of course went onto a Professional heavyweight title and a lot of money. The Pacific's only Olympic medallist, Paea is estimated to have earned US$16.0 million since winning that medal and has now returned to his career in Law. Paea Wolfgramm T-Shirts remain on sale to this day.

More recently, at the Athens Olympic Games, 'Ana Pouhila qualified and represented Tonga in the Shot Put event, held at Olympia, the site of the Ancient Olympic Games. Once again through sporting achievement, Tonga was able to capitalize on world wide publicity.

Tonga would like assistance in the area of human resource capacity building to develop the expertise locally to support their athletes' development programs. It would be through sport that young Tongans could be given opportunities to seek a successful vocational or educational career.

The economic benefit of sport to Tonga was recognized in a paper published by the Ministry of Finance in Tonga during 1998, that estimated the earnings from Tonga's overseas based Rugby players to be greater than Tonga's Agricultural sector. With well in excess of 200 full time professional Rugby Players alone, these figures are in fact quite believable. This can be supported by the proliferation of large houses in Tonga that belong to families of Professional Rugby players.

13. Tuvalu

While mainly village and community based, Tuvalu has Government and non-government

elements to its sport structure.

At the national level, the Ministry of Education, Sports and Culture is responsible for sport through its Department of Sports. The department has one sport officer located on Funafuti who is responsible for all sport operations in the country.

There is no National Olympic Committee. However, Tuvalu has set its sights firmly on entry into the Olympic movement and is working closely with ONOC to realize this goal.

Tuvalu recognizes that it is too small to sustain a National Sports Institute, however its sports leaders are already examining the possibility of establishing closer ties with Fiji Islands to provide training and competition for their better athletes and will make extensive use of other Regional facilities that are or might be established to assist their sports development.

14. Vanuatu

At the national level, the Ministry of Education, Youth and Sport, through its Department of Youth and Sport, is responsible for sport as well as education throughout the country. The Department of Youth and Sport, which is responsible for physical education and sport in schools, receives an annual budget to conduct programs in sport, sport development, sport training and to assist sport with venue access and the provision of prizes.

Vanuatu's National Sports Council was created by the Government to manage the national sport facilities built for the 1993 South Pacific Mini Games, and comes under the Department of Youth and Sport. The Council has no operating budget and some of its responsibilities appear to duplicate other Vanuatu sport organisations. There is currently a move to revive the National Sports Council with a significant budget to renovate the failing facilities built for the Mini Games. Part of the brief of the National Sports Council is to establish a national sports institute.

The Vanuatu Association of Sports and National Olympic Committee (VASANOC) was formed in 1987 and is recognised by the International Olympic Committee. VASANOC has 18 affiliated sports and is the organisation responsible for ensuring Vanuatu is represented at the Olympic Games, Commonwealth Games, South Pacific Games and the South Pacific Mini Games. Individual national sport federations make up the bulk of the non-government sport structure.

Since independence was achieved in 1980, the well established sport infrastructure that was in place has deteriorated significantly. Consequently, the attention of Vanuatu in sport has become more internal.

A Regional Sports Institute would be supported by Vanuatu as they have no elite development infrastructure of their own as yet. Vanuatu has made good use of the Athletics and Tennis Centres already established.

During 2004, a National Olympic Development Squad Program was established in Athletics, Boxing and Table Tennis. It is hoped that this program will continue to provide opportunities for local athletes to use sport as a vehicle for furthering their development.

Around 80% of the population of Vanuatu is rural based and thus has little access to sports facilities and programs. Furthermore given that the majority of these people live in subsistence cultures, the amount of leisure time available for sport is considered limited.

VASANOC has listed in its plan for 2005 – 2008, the establishment of a Sports Development Unit, further highlighting the perceived need for the services provided by a Sports Institute.

15. The French Territories in the Pacific

New Caledonia is the powerhouse of sport in the Pacific, having topped the medal tally in all except two of the twelve South Pacific Games held to date. However, as a Territory of France, it is not able to form a recognized National Olympic Committee and hence its athletes may only go to the Olympic Games as representatives of mainland France. Athletes from the French Territories, including Wallis and Futuna and Tahiti, have represented France in Swimming, Athletics, Volleyball, Football and Judo.

The sports system in New Caledonia is well funded by the Government of France and includes the establishment of well-organised school and community based programs, from which identified talent can be further nurtured in special training squads either within New Caledonia or in mainland France itself.

Tahiti is a consistent top three finisher on the South Pacific Games Medal Tally, by virtue of their excellent Community Sport Program. They have established 10 strong community sport centres around which viable clubs have formed to create regular local competition programs. Having access to the 'sport finishing Schools' of mainland France, has resulted in many Tahitian athletes achieving international recognition and dominance over the Pacific in their chosen sport.

New Caledonia has expertise and the facilities to establish their own National Training Centres as well as offer places and assistance to a Regional Training Institute. Brief discussions held with sports and Government officials from New Caledonia, indicated that there is interest in establishing a good working relationship with sports institutions around the Pacific. New Caledonia then might well be a major contributor to the overall establishment of a Regional Sports Institute.

In establishing a Regional Sports Institute, there would be a lot to be gained from an extensive analysis of the sports development systems established throughout the French Territories of the Pacific. They have also indicated a willingness to participate actively in a Regional Sports Institute and should such an entity be established, it is recommended that the input and contribution of New Caledonia in particular be considered.

IV. BENEFITS OF POOLING RESOURCES AT THE REGIONAL LEVEL

The geographic and demographic nature of the Pacific Region is quite unique, and has resulted in making it very difficult for the Countries within it to develop the "critical mass" required to establish viable and sustainable infrastructures in sport. The Sport Industry has recognised this fact and since the mid 1990's, implemented strategies on a Regional level in order to avoid unnecessary duplication and ensure that limited financial resources are spread as far as possible.

There are common key constraints to sports development in the region that are essentially experienced at the national level within the Pacific Forum Island Countries, some of which could be addressed through the establishment of a Regional Sports Institute. Immediate benefits attached to the establishment of a Regional Sports Institute include:

- Improved national sports infrastructure (coaching, administration, athlete support services)
- Better access to sport education programs for administrators, coaches, event managers, team managers and other sports related work areas
- A more professional and systematic approach to talent identification
- Better maintenance and management of sports facilities
- Firm Government support for Sports development
- Improved leadership and governance of national sports governing bodies
- Improved delivery of effective physical education programs in schools
- Increased opportunities for private sector investment in sport
- Encouragement of the formulation of national sports policies
- Human resource development across the wider sporting agenda, including disabled sport
- More outreach programs to rural and outer island communities

As noted earlier in this paper, current regional approaches aimed at challenging these constraints include:

- the operation of the Oceania Sports Information Centre at the University of the South Pacific
- the oceaniasport.com web portal
- the operations of 3 regional sports – specific centres of excellence (Athletics, Tennis & Weightlifting), and
- the Australia South Pacific Sports Program

The major ongoing development at the regional level aimed at addressing shortcomings in the area of sport education is the Oceania Sport Education Program (OSEP). The key philosophy of the establishment of this Program hinges on the expense to each Country of establishing their own Sport Education Program independently. By following a strategy of pooling resources, the concept of OSEP was born.

A. Oceania Sport Education Program

Access to sport education has emerged as an important component of sport development in the Pacific region. The cost of establishing a sport education program is beyond the capacity of most countries within the region. Consequently, sport education, in particular coach education and accreditation, is limited to those who attend courses run by international federations, or to those coaches who participate in training programs overseas.

The establishment of a regional sport education program offers a cost-effective solution that would facilitate the consistent training of more coaches, administrators and sport science/sport medicine practitioners.

With funding support from Olympic Solidarity through ONOC and the Australia South Pacific Sports Program, the Oceania Sport Education Program (OSEP) will commence delivery of modular courses to interested sportspeople in the region through the USP's distance and flexible learning network.

The OSEP Advisory Council, comprising representatives of the Australian Sports Commission, ONOC and the USP met recently in Suva. Curriculum design has commenced and the program should be operational in early 2006.

A similar approach to establishing a Regional Sports Facility is recommended and once established, a direct involvement in the promulgation of the Oceania Sport Education Program will be expected.

B. Coaching Development

The level of coaching provided to athletes is considered the most crucial element of obtaining success in sport. A Regional Sports Institute could no doubt provide a training ground for high-level coaches from the Pacific to emerge.

Coaches will need to be:

- qualified and experienced in all aspects of developing athletes in their chosen sport and recognized by their International Federation;
- innovative and willing to experiment with new techniques and strategies;
- capable of understanding the role and place of the support services being offered;
- able to communicate effectively with athletes, support staff, administrators, media and sponsors;
- accessible to regular conference and coaching materials;
- able to implement coaching development programs as well as athlete development.

The establishment of a Regional Sports Institute that does not ultimately provide professional learning and employment opportunities for Pacific Islanders will have limited value to the overall development of the Pacific and its people.

V. A REGIONAL SPORTS INSTITUTE

A. The Quantitative and Qualitative Costs of Establishing a Regional Sports Facility

Based on significant primary research, covering the interests of government, the National Olympic Committees of each Country and the Regional Sports Federations, a Regional Sports Institute, in one form or another, is seen to be desirable by the majority of the sports stakeholders in the Pacific region. However, a Regional Sports Institute could take many forms and provide many services. The following section examines the current structure and services provided by Sports Institutes around the world to provide a platform for debate on how a Regional Sports Institute might be established.

The original concept of a Sports Institute as described by Bloomfield, 1974 was based on the East European model, which was credited with so much success in world sport at the time. It was from this model that the current modelling of what is required to make up a Sports Institute is based. This in turn is based in what is perceived to be required for athletes to succeed at the highest level of sport.

There is a strong counter to the concept that Sports Institutes alone will bring sporting success. Lundy 1998, speaking on behalf of the Confederation of Australian Sport noted that real success in sport comes from the establishment of a large base of participation which in turn leads to economic and social benefits to the community that make investment in sport truly worthwhile. This was certainly true of the East German Sport System which emphasized participation at all levels of the community and then chose from the best to put into Institutionalised programs or ‘Finishing Schools’ for sport.

B. Facilities Issues: Which Activities are to be Supported?

Before decisions can be made on what facilities are required, we would need to take stock of what facilities are already in place and where and in addition, what facilities are needed to provide the services that are currently not available anywhere in the Pacific. Basically there are three categories of sport:

- Indoor, for sports played indoors in Gymnasiums or indoor arenas
- Outdoors, for sport requiring larger outdoors expanses.
- Specialist facilities include those requiring special surfaces such as all Weather tracks and playing areas, sport science and medicine, educational, accommodation and the many specialised buildings that generally are associated with a Sports Institute.

1. Existing Sports Facilities

The location of sports specific training centres may well be determined by the availability of existing sports facilities that could sustain both training and international standard competition. A brief summary of what is available by Country is at Appendix 5.

2. Sport Priorities

The next consideration is the popularity of the sport within the Region. The most popular sports in the Pacific as judged by participation at the South Pacific Games are:

Category 1: (More than 50% of Countries in the Pacific enter)

Athletics,	Golf,
Tennis,	Weightlifting,
Volleyball,	Outrigger Canoe
Football.	

Category 2: (35 – 50% of the Countries in the Pacific enter)

Rugby Sevens,	Beach Volleyball,
Boxing,	Table Tennis,
Basketball,	Swimming,
Triathlon,	Taekwondo,
Bodybuilding,	Sailing,
Lawn Bowls,	Judo,
Powerlifting.	

Category 3: (<35% of the Countries participate)

Baseball/Softball,	Touch,
Shooting,	Cricket,
Karate,	Squash,

Badminton,	Hockey,
Archery	Cycling.

It is interesting to note here, that the top three sports at the 2003 South Pacific Games in terms of Countries taking part are also the only three sports to have established Regional Development Centres.

3. Compulsory Sports

At the South Pacific Games there are five compulsory sports according to the current Charter. These are:

Athletics,	Swimming,
Men's Football,	Basketball
Tennis.	

4. Funding and Program Support

In terms of funding availability and activity provided directly by the International Sports Federations, the most active sports in the Pacific are:

Football	Rugby
Cricket	Basketball
Athletics	Tennis
Table Tennis	Badminton
Archery	Baseball
Softball	Weightlifting

Sports that already have provided professional or educational scholarship opportunities for Pacific Islanders include:

Rugby Union and Rugby League,	Basketball,
Golf,	Sailing,
Tennis,	Volleyball,
Track and Field,	Weightlifting,
Sumo Wrestling	Baseball
American Football.	

The choice of sports to be included in a Regional Sports Institute will need to take into account their popularity around the Region and their viability with respect to sustainability within the Region as well as the opportunities that they can provide for young Pacific Islanders.

5. What Support Facilities can be Provided?

The facilities required will obviously reflect the sports being offered and the support services being provided. These might include:

Accommodation	Counselling
Education	Library and Internet
Meals	Communications
Recreational	Training and competition
Sports Medicine support	Sports Physiology, assessment and programming
Talent ID Programs	Biomechanical assessment
Tactical support	Psychological services and Biofeedback Analysis.

In general, it has been a proven strategy to base Sports Institutes in close proximity to existing sports facilities and educational institutions, in order to reduce set up costs and maximize the utilization of available resources. The main issue then will be one of access.

VI. THE COST?

The costs associated with establishing a Sports Institute can be broken down as follows:

- Capital and Material
- Human Resources
- Operational

The Resources required to run a Sports Institute of course largely depend upon which sports are to be supported and what services are to be provided for.

A. Capital and Material Resources

Buildings and facilities for competition, training, support services and administration;

- Sports Equipment needed to sustain the activities of the Sports Institute. This equipment would typically include:
    1. Sports specific training aids and competition gear.
    2. Training and competition uniforms.
- Laboratory and testing equipment;
    1. Complete biomechanical support facilities including force plates and digital video analysis
    2. Timing gates, force platforms, overload equipment (sleds & chutes), plyometric aids
    3. Functional physiology and biomedical assessment equipment.
    4. Psychological profiling and biofeedback training laboratory.
- Communications and computing;
- Performance analysis equipment, including;
    1. Video analysis equipment,
    2. Statistical packages
    3. Force measurement and assessment
    4. Psychological assessment and biofeedback laboratory
    5. Physiological assessment
    6. Biochemical laboratory
    7. Basic field assessment equipment
    8. Computers
    9. Expertise.
- Performance enhancement facilities and equipment, e.g. weight training area, aerobics area, stretching and recovery area, including;

1. Weightlifting platforms and equipment
2. Highly functional resistance training and sports specific strength equipment.
3. Cardio equipment in air conditioned space
4. A therapeutic pool for post-exercise recovery and regeneration and programmed injury recovery.

- Provision for travel to competition and specialised training.

As a guideline the establishment costs of the Millennium Institute of Sport and Health in Auckland, New Zealand were NZ$25 million. This includes a multi-purpose sports hall, an aquatic centre, administration and accommodation facilities. Not included are the costs of the synthetic track. The Institute is a privately funded, owned and operated facility.

In comparison, the Australian Institute of Sport in Canberra is currently undergoing a major expansion at a total cost of A$65 million over the next 5 years. Australian Federal Government funding is meeting these costs.

Also, the Queensland Academy of Sport, based at the QE II Stadium in Brisbane, has recently undergone a major redevelopment valued at A$10 million, with funding from the Queensland State Government.

B. Human Resources

The cost of employment and training of the specialists required to operate and maintain the structures and programs of the Sports Institute.

The Human Resources required include:

- Coaches
- Trainers
- Doctors, nurses, physiotherapists, rehabilitation therapists.
- Sports Scientists – Physiology, Biomechanics, Psychology, Motor Learning, Biochemistry.
- Lab Technicians
- Administrators/Managers/Accountants
- Computer technicians
- Counsellors
- Chefs
- Cleaners
- Librarians
- Care taker/groundsmen

In addition to the employment of the abovementioned personnel, a significant investment would be required in training and development of people from within the Region to work in these specialist areas. In itself, this would be one of the greatest outcomes of establishing a Regional Sports Institute as currently, Pacific Islanders who go abroad to study advanced sports vocations have nowhere to return home for employment beyond the poorly developed school system.

An investment in Pacific Islanders must be an integral part of the strategy for establishing a Regional Sports Facility in order to ensure that economic and social sustainability remains within the Region.

C. Operational Resources

The resources required would include:

- Operations and utilities budget;
- Repairs and Maintenance budget;
- Staffing and salaries;
- Travel and accommodation;
- Purchase of resources and consumables;
- Depreciation; and
- Financial support for scholarship athletes. Typically in the Pacific, based on information provided by existing sports-specific centres of excellence, this comes to around US$25,000 per annum. This figure does not include costs of these athletes' participation in regional and international events.

With regard to competition costs, a budget specifically earmarked for competition in an institute program is essential. Athletes must compete internationally to gain experience in competing against the best in the world. In Weightlifting, in the 1990s Nauru's budget for international weightlifting competitions was A$450,000. At one stage over 50 lifters were competing internationally. That is why the results were so impressive and that is why it is essential that a budget be earmarked for competition.

As a rule, it is expected that sports facilities will operate at a cost of between 15 – 20% of capital cost. This can vary substantially, but for planning purposes, this would be a reasonable figure to work from to determine the scale for which a facility would be established.

It is difficult to provide an accurate estimate of how much it would cost to establish a Regional Sports Institute until a decision is made as to the fundamental infrastructure required. The final budget would depend entirely on the strategy chosen to implement the concept of a Regional Sports Institute. However it is not unreasonable to be working with figures of between US$30 – 50 million, spread over 5 – 10 years.

By far the cheapest solution will be to make use of the existing resources for sports training and competition already in place around the Pacific and then enhance their effectiveness as sports training centres.

VII. THE BENEFITS

A. What Opportunities will be Provided as a Result of Establishing a Regional Sports Institute?

The usual outcomes as seen from already established programs around the world include the following:

- Increased employment;
- Stimulation of local economies;
- Increase in level and frequency of competitions and events;
- Enhancement of the tourist industry (the Australian Institute of Sport in Canberra receives an estimated 1.5 million visitors per annum);
- Improved pathways to the lucrative sports industry for athletes, coaches and officials.
- Better access to training and competition facilities for the Region's best athletes; and

- Grouping the best athletes of the Region together in a compatible and familiar environment to their own home. This also helps to create the 'critical mass' required for improvements as training in isolation has rarely proved an effective way to reach the top in sport.

The extent and nature of benefits to the Region and its individual member nations will depend entirely upon the strategy employed in establishing the Regional Sports Institute.

A centralised model, based in Fiji Islands for example will largely benefit Fiji Islands economically and socially as it has access to the facilities on a full time basis. Nevertheless there are strong arguments for centralising at least certain service elements, especially those requiring academic support such as Sports Science and Medicine as well as Research and Advanced Performance Analysis.

The sports themselves however require access to good training and competition in order to develop to the highest levels.

1. Economic

There is little statistical evidence on the economic benefits of sports development programs, including the establishment of regional sports facilities, in developing countries. However, research carried out in the USA in 1999 estimated that US$1.00 spent on physical activity results in a US$3.20 saving in medical costs. In Canada, similar research carried out in the late 1990s estimated that physical activity increases productivity by the equivalent of Canadian dollars (Can)$513.00 per worker per year, resulting from reduced absenteeism, turnover and injury as well as an increase in productivity (*USA Government 2005*).

In 2004, the Government of Western Australia reported that every dollar invested by the State in its Community Sporting & Recreation Fund generated A$2.36 in direct economic activity and A$6.51 in total economic activity.(*September 2004*).

Sport is recognised as a catalyst for economic development in its own right. Globally the sports sector is valued at US$36 billion and is expected to expand by 3-5% per annum. (*2003 Report of the United Nations Inter-Agency Task Force on Sport for Development and Peace*)

Included in the sports sector are the manufacture of sporting goods, sport-related services, infrastructure development and sports events, including supplementary effects from spectators, sponsors, vendors and the media. These elements of the sports economy are interconnected, both contributing to and benefiting from the development of sport.

A Regional Sports Institute can only be economically beneficial if such a facility is spread throughout the countries that have the facilities and expertise already in place to support a regional program. In that way specialist sports science and medical support services might only need to be added to make an existing facility viable as a Regional Training Centre.

It would therefore be important to group sports with similar needs, together or in reasonable proximity to each other.

For example, weightlifting requires extensive use of a force platform to assess the technique of lifters. Since there is a priority need, other sports needing more occasional use of such a facility would only need to come there as required.

In this way, countries specializing in certain services and sports would also have something to market to the international community. We have already seen that top international weightlifters are already training either in Nauru or Sigatoka because of the expertise available and because the climate is good for lifting.

Another economic benefit arising out of establishing a regional sports institute would arise from savings in foreign exchange spent on basing Pacific Islands athletes overseas. For example, basing athletes at the Australian Institute of Sport costs on average A$40,000 per annum. Basing an athlete at the Regional Tennis Centre in Lautoka Fiji Islands costs just over F$4,000 per year, but there are none of the specialised services in Lautoka that are available at the AIS.

To further support this argument, during the 2 years leading up to the Athens Olympic Games in 2004, ONOC spent US$220,000 on a scholarship program for targeted elite athletes with the potential for qualifying and placing well at the Games. The majority of these funds were spent on overseas – based programs, as the specialist services were (and continue to be) unavailable in the Pacific Islands region.

2. Health

In the Pacific Island Forum countries, non-communicable diseases are causing a great deal of morbidity and replacing communicable diseases as the main causes of death. Tobacco, unhealthy foods, and sedentary lifestyles have been identified as three important risks of non-communicable diseases.

Globally, physical inactivity is estimated to cause approximately 22 per cent of ischaemic heart disease and 10 to 16 per cent of cases of breast, colon and rectal cancers and diabetes mellitus. It would not be incorrect to assume that similar statistics could be drawn from studies in our region.

Engaging in sport has multiple health benefits. Physical activity can reduce the risk both of dying prematurely from non-communicable diseases and of developing illnesses ranging from cardiovascular diseases, cancer and diabetes to stress, anxiety and depression. It also helps prevent and reduce hypertension, control body weight, prevent and control osteoporosis and manage chronic pain.

Improving public health through increasing opportunities to participate in sport offers large economic benefits—particularly in the Forum Island Countries where health resources are already stretched, making prevention especially essential.

Concise statistics on deaths that can be attributed to the effects of non-communicable diseases (defined in this study as ischaemic heart disease, acute myocardial infarction, hypertension and diabetes) are at best limited. However, based on the current WHO Western Pacific Regional Office databank, at least 1,200 number people die annually in the region as a result of non-communicable diseases.

Taking into account the GDP per capita of the countries covered by the WHO Western Pacific Regional Office databank and assuming that improving public health through increasing opportunities to participate in sport can lead to an increase in life span of 5 years, then the health related economic benefits become obvious. A rough calculation based on this assumption leads to an economic benefit to the region well in excess of US$10 million.

3. Operations

The ownership and operation of facilities endorsed by a Regional Sports Institute will be a major issue to be faced. Every country has its own unique ownership and management structure and currently in the Pacific, not all of them are friendly towards sport, especially if it requires working outside of working hours.

The more expensive a facility is to build the more will be its operational and maintenance costs. This is an issue that has seen the majority of sports facilities built in the Pacific deteriorate rapidly as owners baulk at the cost of employing people to operate and maintain them effectively.

A key part of the establishment of a Regional Sports Institute will be the recognition of the benefits associated with employing people and having those people contribute to the economy through their taxes and through their added buying power.

4. Opportunities

The establishment of a Regional Sports Institute would rightly provide the following specific benefits to athletes striving to succeed at the international level:

- Access to competitions that lead into the mainstream of that sport.
- Access to regular and frequent competition at an appropriate level. This would by necessity need to occur on a weekly basis for many sports.
- Regular and high quality training. This varies substantially from sport to sport, however in general, daily training is essential and in extreme cases this might involve three sessions per day, covering physical development, tactical and strategic development, injury prevention, recovery and theory.
- Education or Vocational Training for the idle times, that will provide athletes with either a 'fall back' position, should they fail in their careers as athletes, or provide them with the necessary skills to understand the 'Business of Sport'.
- Assessment and Counselling covering a variety of sports science related areas from regular physiological assessment, to biomechanical analysis and psychological processes.
- Access to the latest information, videotapes, journals and magazines about their sport to keep athletes up to date with what is happening in their world.
- Access to competent and innovative coaching and training that considers development over period of years.
- Access to good training facilities and equipment covering the range of activities that are required for that sport.

Since this will vary substantially from sport to sport, there will need to be a great deal of care taken to selecting the location of new facilities and programs as part of a Regional Sports Institute. The preference for sports and the services they require will largely determine what opportunities are needed. For example, team sports in particular will require regular opportunity to play and therefore being linked to an existing strong domestic program might be an advantage.

From Here

To Here

"We have forty million reasons for failure, but not a single excuse".
(Rudyard Kipling)

VIII. CONCLUSION

In this 'Pre-Feasibility Study' on the establishment of a Regional Sports Facility, a concerted effort has been made to gather information and material pertaining the current needs and opportunities that face sport and sports development in the Pacific Region.

In particular, emphasis has been placed on the linking of Sport and its related activities to its role in the overall development of the economic and social health of the Communities of the Pacific, identifying economic costs and benefits of programs being conducted both Regionally and Nationally.

It is clear from this review that sport is an important entity for the people of the Pacific. Sport has a demonstrated potential to advance two key outcomes sought by the Pacific Plan for Strengthening Regional Cooperation and Integration. These are:

1. Sustainable economic growth and employment, and
2. Sustainable development for improving livelihoods.

The establishment of the Regional Sports Facility would be a logical 'next step' to regionally oriented initiatives that have already taken place in a bid to properly establish a viable infrastructure for sport to survive in a viable and sustainable way. For this to occur however, the following points need to be considered:

- To successfully establish a centralised or de-centralised regional sports institute substantial funding would be required for incremental and or additional capital works for venues, accommodation and transport, and a foreseeable generous budget for operational purposes for the first five years of business. In this respect, a need for between US$30 – 50 million will need to be committed. This is on a par with the current economic benefits flowing into the Region on an annual basis directly as a result of involvement in sport.
- The project should be based on a strategy with a horizon of at least ten years from "start up" as to where the Institute wants to be and what it wants to deliver. Presuming it is

planned to be a centre of excellence or elite performance, this could possibly be driven by a targeted number of gold, silver, bronze medals at Commonwealth, World or Olympic level and equally by the numbers of qualified and competent Pacific Island people employed and involved actively in the Programs offered by the Institute.

- The initial focus should be on a limited number of sports which have the most popular appeal to young people, current athletes, spectators, sponsors and broadcasters. They should have strong entertainment component.
- The logical strategy to follow will be to commence with a centralised program whilst at almost the same time identifying a small number of sport or sport discipline locations elsewhere in the Pacific Region where good facilities already exist: e.g. an upgraded Goroka in Papua New Guinea, the Regional Weightlifting Institute or where high level sports facilities have already been established. In this model Suva, Fiji Islands would be the obvious starting point for a centralised programme and the involvement of the University of South Pacific has merit, although there are some obvious differences between the product of education and the product of sport.
- In the long term the Sports Institute could gradually become more regionalised, depending on how the advancement of certain sports are more clearly linked to certain Island countries, e.g. wrestling/baseball in the North, rugby/boxing in the South.
- The positioning of full-time competent administrators, coaches and technicians will be critical to success.
- The willingness of athletes and the understanding of their families, that athletes move away from home for long periods of time is essential.
- National and political commitment to the project at the highest level would be extremely important and the level of co-operation and communication we have received within the existing Regional Infrastructures such as the ONOC, and the University of South Pacific, suggests that the sort of project being considered could succeed despite the extraordinary distance factory inherent in Oceania.
- For the project to be successful, it will need an <u>individual champion</u> to get it off the ground, to gain budget approval and get the Institute off the ground quickly with capital works. It is suggested that the Project come under the responsibility of a Forum Minister's Sub-Committee, administered from the Forum Secretariat or through the ONOC Office that has already been established at the Forum Secretariat Buildings in Suva.
- There could be some merit in asking the Australian Institute of Sport, given its record and its prior assistance to and knowledge and understanding of sport and recreation in Oceania, to <u>mentor</u> a fledgling institute in the Pacific in its early years, under the terms of a sensible agreement either by way of a Government grant or through a commercial undertaking.

This paper provides a platform from which the required specific and detailed research will be required to determine the level of commitment required by Pacific Islands Governments to properly establish the sports industry in the Pacific, with a view to achieving true international recognition in sport.

By achieving this, sport may then address more domestic issues facing the Region, in particular, social and physical health benefits that have known links to regular and frequent involvement in physical activity programs.

The Sports Community of the Pacific Region urges the Leaders of the Pacific Islands Forum to view sport as a viable tool for development and recognise its potential for not only reducing health and social costs but actually contribute positively to the overall establishment of more conventional social and health services.

APPENDIX 1: FORUM STATEMENTS PERTAINING TO SPORT

28TH South Pacific Forum
Rarotonga, Cook Islands
17 - 19 September 1997

Forum Statement and Resolution on Sport and Development

We, the Leaders who have participated in the Twenty-Eighth Meeting of the South Pacific Forum, held in Rarotonga, Cook Islands, in 1997, recognise the importance of sport the overall development of our nations. We value the benefits that lifelong sporting participation can bring, particularly to health, community cohesion and social interaction. We equally value the benefits of competitive sport, especially its role in developing national pride and providing role models for the young.

Recalling our Vision Statement issued at the Twenty-Sixth Meeting of the South Pacific Forum held in Madang, Papua New Guinea, in 1995, for enhancing regional cooperation for the next twenty-five years in which indigenous and other values, traditions customs of the region are respected and promoted through sporting exchanges, we see as one of the unifying forces for Forum countries and our region, encouraging friendly competition through the South Pacific Games and, for those States which are eligible, the Oceania Games, the Commonwealth Games and the Olympic and Paralympic Games.

We recognise the enormous regional opportunity presented by the Sydney 2000 Olympics and Paralympics to showcase the region through our athletes. We appreciate the generous assistance being provided by the Australian Government under the Australia South Pacific 2000 program to maximise regional participation in the Sydney Olympics & Paralympics, including through the regional Olympic Torch relay and to develop the physical education and sports administration of the region so that the Games are a springboard to the future development of sport in the region. In this context, we recognise the importance of a successful regional bid for the 2006 Commonwealth Games, which would give those eligible Forum members a further opportunity for their athletes to compete and strive for sporting international success within their own regional environment.

Accordingly, we as Forum leaders resolve to support the development of sport in the region, within our available resources, by:

1. developing a strong, vibrant commitment to physical and sports education with our school systems
2. working closely with our National Olympic Committees and other relevant bodies, both governmental and non-governmental, to encourage broad participation in sports
3. the development of skills in sports administration, coaching and officiating; and the promotion of arrangements for recreational and competitive sport at all levels and for all ages
4. encouraging regional sporting competitions and the sharing of information and expertise
5. supporting the Olympic Torch Relay through every National Olympic Committee (NOC) within Oceania and to work with each NOC, the Oceania National Olympic Committee and the Sydney Organising Committee for the Olympic Games in making this a truly unique reality for our region;

6. and advocating and promoting a greater global emphasis on sport in the region through the 2000 Olympics and Paralympics, the 2006 Commonwealth Games and various sports competitions, and by urging appropriate international forums, including the Commonwealth, to give greater attention to the global benefits of sport in the context of development.

Extract from 2001 Pacific Islands Forum Communiqué, 32nd Pacific Islands Forum Meeting, Nauru, 16 – 18 August 2001

The Leaders agreed that sports provide a viable and significant opportunity for the Pacific Island Nations to improve the quality of life for its people through better health, education and in particular in stimulating the local economy to create new and varied job opportunities. In addition, sports create pathways for young people of the region to achieve better standards of education and job opportunities abroad, a trend, which will be essential to the future survival of our Island Nations. Sports must therefore continue to retain a significant place in the overall development strategies adopted by the Governments of the Pacific Region.

Extract from 2004 Pacific Islands Forum Communiqué, 35th Pacific Islands Forum Meeting, Apia, Samoa, 5 – 7 August 2004

Leaders recognised the significance of sports to national development and agreed that sports remain on the agenda of the Forum. They noted that Fiji Islands will be hosting the 2007 World Netball Championships and that Palau will host the South Pacific Mini Games in 2005.

APPENDIX 2: OFFICE BEARERS AND MEMBERSHIP DETAILS OF THE OCEANIA NATIONAL OLYMPIC COMMITTEES

President	R. Kevan Gosper (Australia)
Vice President	Ricardo Blas (Guam)
Secretary General	Dr. Robin Mitchell (Fiji Islands)
Members	Barry Maister (New Zealand)
	Joe Carlo (Vanuatu)
	Baklai Temengil (Palau)
	Tevita Tupou (Tonga)
IOC Members	Tay Wilson (New Zealand)
	Phil Coles (Australia)
	John Coates (Australia)

Member Nations:

Australia	American Samoa
Cook Islands	Federated States of Micronesia
Fiji Islands	Guam
Kiribati	Nauru
New Zealand	Palau
Papua New Guinea	Samoa
Solomon Islands	Tonga
Vanuatu	

Marshall Islands and Tuvalu have applications pending to join the Olympic Movement.

Through our patronage of the South Pacific Games Council, Niue, Norfolk Island, Tokelau, New Caledonia, Wallis and Futuna and French Polynesia are included in some of ONOC's development Programs.

APPENDIX 3: THE SOUTH PACIFIC GAMES

During 1962, the South Pacific Commission founded the South Pacific Games, and over the ensuing 40 years Games have been held in 12 countries and territories within the region. The South Pacific Games of Suva in July 2003 were the 11th South Pacific Games and the 40th anniversary Games.

The South Pacific Games was established with the view to creating bonds of kindred friendship and brotherhood amongst people of the countries of the Pacific region through sporting exchange without any distinctions as to race, religion or politics. The South Pacific Games was to ensure the efficient promotion and development of sport amongst the South Pacific Nations and their peoples. In particular, it was intended that these Games would provide opportunities for host nations to properly establish their sporting infrastructure by stimulating the need for the construction of adequate sports facilities.

By 1979, it was realised that the South Pacific games were too large to be hosted by the smaller, emerging nations of the Pacific Region. In order to provide this opportunity, the South Pacific Mini Games were established with the inaugural event in Honiara during 1981.

With expansion and economic growth in the Pacific and Oceania countries of the Pacific Islands the South Pacific Commission in 1998 changed its name to the Pacific Community. Now, sport has been recognised officially as being an important contributor to the overall development of the Region and in 2004 was officially incorporated into the "Pacific Plan". This followed a series of Resolutions from a succession of Forum Meetings recognising sport dating back to 1997, held on Rarotonga.

Now, every two years the Pacific comes together in friendship to celebrate the South Pacific Games, or South Pacific Mini Games a multi-sport event that is, by its very design, of and for the Pacific. The Games are a celebration of sport and culture in common bonds acquired through a shared physical geography and community.

The "Pacific Games" as they are now to be styled go forward as the physical representation of the Pacific Communities as they move on from the first South Pacific Games in Fiji Islands in 1963.

The South Pacific Games maintain a high standing within the Regional sporting calendar and a growing reputation for sporting excellence.

The Games product is a varied and extensive sports program developed over forty years. The 11th South Pacific Games held in Suva, Fiji Islands saw for the first time the introduction of a full program of 32 sports. That program included sports that are synonymous with the Pacific, thus widely supported within the region as well as sports that have a limited participation and generally not well established.

The Following Countries and Territories have held either the South Pacific Games or South Pacific Mini Games:

South Pacific Games

2007 - Samoa

2003 - Fiji Islands
1999 - Guam
1995 - Tahiti
1991 - Papua New Guinea
1987 - New Caledonia
1983 - Western Samoa
1979 - Fiji Islands
1975 - Guam
1971 - Tahiti
1969 - Papua New Guinea
1966 - New Caledonia
1963 - Fiji Islands

South Pacific Mini Games

2005 - Republic of Palau

2001 - Norfolk Island
1997 - American Samoa
1993 - Vanuatu
1989 - Tonga
1985 - Cook Islands
1981 - Solomon Islands








APPENDIX 4: A BRIEF OVERVIEW OF THE NATIONAL SPORTS INSTITUTE GOROKA, PNG.

In 1979, the Government of PNG established a National Institute of Sport, the following details of which were extracted from (http://www.pngbd.com/forum/showthread.php?t=10482)

Sporting activities have recently taken on a more serious form in Papua New Guinea than before. Though PNG possessed many potential athletes in all areas of sports there were limited facilities and resources available to develop them into professional sport personalities.

In addition the Government needed to seriously manage its monetary resources to cater for and expand on such activities. The government has begun to recognize the importance of sports thus funding was made available for various sport activities.

However, whether there are funds available or not is totally a different matter since the main focus here was on sports education. And so this brings us to talk about the National Sport Institute (NSI) of Papua New Guinea which is based in Goroka.

Since its inception in 1979, its main objective was to enrich the lives of all people through sports education.

The NSI grounds in Goroka

The main function of NSI is to train and educate people in sports. Located next to the University of Goroka, the NSI has taken responsibility for the teaching of the PE related components of the University's PE Programs. This program was started during 1981.

Since then NSI has been training teachers from secondary and primary in diploma programs.

The institution in partnership with the University of Goroka is offering training in degree and diploma programs for Physical Education. At the same time the NSI is dealing with diploma in tertiary, primary and secondary levels.

Goroka is approximately 6,500 feet above sea level and has a pleasant climate ranging from 25 Degree Celsius throughout the year. It provides a pleasant and healthy atmosphere for conferences, workshops and seminars. It is also an ideal location for altitude training camps as compared to others around the world it is quite warm and pleasant to live there. As part of a Regional Sports Institute, Goroka has a great deal to offer. Some of the facilities include:

Conference Room

The conference room is also available to hold up to 20 people. In addition to these facilities,

comes the technical backup which is absolutely free of charge. These include video machines, screens, over head projectors and various audiovisual aids.

Lecture Theatre (Auditorium)

Meetings for large audience can be held in the Auditorium which has a capacity of 120 seats, while the adjacent classrooms accommodate close to 25 people.

Sport Facilities

The sport facilities are common features of the Institute and these are available to its guests. These include athletic tracks and integrated areas for soccer, rugby, netball, volleyball and basketball. The Town of Goroka also has a 25m Swimming pool and of course access to running tracks that range up to 11,000 feet. There is a small Hall used for circuit training and weight training but this is very much out of date.

The costs of staying at Goroka are much cheaper than in Australia or New Zealand. This is a positive factor for being able to offer such services for Pacific Islanders as the cost of sustaining an individual scholarship holder is significantly less than in either Australia or New Zealand.

For Goroka the advertised hire rates are:

Sporting, Church & Volunteer Organizations

Single Room (bed & breakfast -	K40.00 per person
Bed Only -	K30.00 per person
Double room (bed & breakfast) -	K70.00 per person
Bed only -	K60.00 per person

Non-Sporting Groups

Single Rooms (bed & breakfast) –	K46.00 per person
Bed Only -	K36.00
Double room (bed & breakfast) -	K90.00 per person
Bed Only -	K80.00

Meals

Breakfast –	K10.00
Lunch –	K16.00
Dinner –	K25.00
Tea –	K 8.00

Facilities

Lecture Theatre –	K150.00 per day
Conference Room –	K100.00 per day
Classroom –	K80.00 per day
Cafeteria –	K300.00 per day

In past years, particularly prior to the 1991 South Pacific Games, at which PNG topped the Medal Tally, a great deal of use was made of Goroka as a National Training Centre with 'live in' athletes. However as support funding ceased and the NSI was forced into a user pays situation, it was unable to sustain these full time training programs.

At the National Sports Summit held at Goroka during 1999, it was strongly recommended by all key stake holders that the NSI be re-established with Satellite Centres in Port Moresby, Madang, Mount Hagen, Lae, Rabaul and eventually in all of the Provincial Centres, under the direction of the Goroka Headquarters. This recommendation was never enacted however as vital Australian Government funding that might have been utilized for this purpose was redirected to the PNG Sports Commission instead.

Furthermore recommendations to the Australian Government to conduct a feasibility study on the development of Goroka as an Altitude Training Centre have also gone unheeded.

PNG provides a number of valuable lessons to be learned when it comes to the realities of establishing a Regional or for that matter any kind of National Sports Training Institute.

The cost associated with getting to and from Goroka has severely limited its use as a National Training Centre, as well as the lack of interest of people to move there to train full time.

Nevertheless, the University of Goroka continues to attract P.E. students from all over the Pacific, although the numbers have declined since the viability of the Training Centre decreased.

At a subsequent National Sports Policy and Strategic Planning Workshop held in Port Moresby during 2001, it was recommended that any future expansion of the NSI include the concept of establishing satellite training centres where-ever suitable facilities were either currently located or were to be built. Furthermore it was considered that the lack of a viable athlete support program, sport science and medicine and career counselling all contributed to the ultimate failure of the NSI to achieve it objectives.

APPENDIX 5: A SUMMARY OF SPORTS FACILITIES

Indoor Facilities

For indoor sports, such as Basketball, Badminton, Handball, Volleyball, Netball, Table Tennis, good training facilities exist in Fiji Islands, Samoa, Solomon Islands, Pohnpei, Guam, Palau, PNG, Marshall Islands and Tonga. Kiribati currently has a major indoor venue under construction, while Cook Islands are anticipating the construction of suitable facilities to host the 2009 Mini Games. The only international standard indoor sport arena is located in Suva, Fiji Islands.

For combat sports, there are very few specialty facilities available and most make do with sharing existing multi-purpose halls or a part of a private organisation.

Boxing is most popular in the South Pacific Countries with the lighter weights featuring in PNG, Solomon Islands, Vanuatu and Fiji Islands, while the heavier weights are excelling out of Tonga, Samoa, Cook Islands, Niue and Tahiti. Facilities for Boxing are however quite limited throughout the Pacific. Vanuatu, currently has the only National Boxing Training facility available in the Pacific.

Judo is popular in New Caledonia, Fiji Islands, Samoa, Tahiti, Guam and Tonga with each Country having a dojo specifically for that purpose.

Tae Kwon Do is popular in Guam, Tahiti and Fiji Islands while Karate has developed well in New Caledonia, Fiji Islands and Vanuatu.

Wrestling programs exist in the FSM, Marshall Islands, Guam, Palau and Samoa but have limited facilities and no permanent headquarters.

Table Tennis is well established in Palau and in Vanuatu. Tables are available throughout the Pacific.

Outdoor Facilities

For outdoor sports, most Countries have some kind of fields to work with. The best fields however have been constructed in Solomon Islands, Fiji Islands, Tonga, Samoa and Cook Islands as part of the FIFA Operation Goal Project. The ground maintenance expertise that has been established in association with the construct of these facilities would be invaluable to the construction and upgrading of existing fields in these Countries aimed at accommodating other field sports.

For athletics, synthetic tracks are available in:

1. Lae – PNG
2. Port Moresby – PNG
3. Port Vila – Vanuatu
4. Noumea
5. Suva – Fiji Islands
6. Nuku'alofa – Tonga
7. Apia – Samoa
8. Koror – Palau
9. Guam

10. Yap State – FSM
11. Pohnpei State – FSM
12. Papeete – Tahiti.

Baseball fields are available throughout Micronesia, suitable for Baseball and Softball:

1. Guam has three at Leo Palace Resort
2. Yap State
3. Pohnpei State
4. Kosrae State
5. Marshall Islands
6. Palau.

Cricket Grounds are found in the Southern Group of Countries with PNG, Fiji Islands, Vanuatu, Tonga and Cook Islands being the leading Countries in this sport.

Rugby Union is played mainly in Fiji Islands, Samoa, Tonga and Cook Islands, while PNG favours Rugby League, However there are no 'purpose built' stadia anywhere in the Pacific for these sports..

Association football is the major football code for Vanuatu, Solomon Islands, New Caledonia, Tahiti and is a major sport in PNG and Fiji Islands. International standard grounds have been established in Solomon Islands, Cook Islands and Samoa, while Football Academies have been established in Tonga, Vanuatu, Cook Islands, Samoa, Fiji Islands, PNG and Solomon Islands. These generally include playing fields, accommodation areas, administration areas and some support services.

Specialty Facilities

The following summarises what specialty facilities are available for which sports in each Country:

Swimming Pools 50m

1. Guam – 2 at Leo Place and one in Hagatna
2. Lae and Port Moresby in PNG
3. Fiji Islands x 2 in Suva
4. New Caledonia
5. Tahiti
6. Samoa (under construction)

Swimming Pools 25m

1. Goroka, PNG
2. Koror – Palau
3. Pohnpei State
4. Suva, Nadi, Labasa, Lautoka - Fiji Islands

Weightlifting Facilities

1. Nauru
2. Sigatoka – Fiji Islands

3. Suva – Fiji Islands
4. Apia – Samoa
5. Nuku'alofa – Tonga

Golf (18 Hole)

1. Fiji Islands – numerous
2. Guam – numerous
3. Samoa
4. American Samoa
5. PNG – numerous
6. Vanuatu

Altitude Training:

Goroka in PNG is a medium to high altitude location with access to running trails at 15,000 feet. Fiji Islands has reasonable altitude locations but have as yet to develop any sports training facilities at these locations.

Synthetic Surfaces:

Suva has the only synthetic hockey pitch in the Region. Samoa expects to build one prior to the 2007 South Pacific Games.

Sports Science Support Laboratories:

Not available outside of Australia or New Zealand.

Fitness Training Centres Specifically for Sport:

Only on Guam at the Leo Palace resort.

University of the South Pacific

Has limited facilities to support elite sport programs and currently has no support services available due to the fact that it has no Physical Education or Sports Science Program. This is currently under review.

The Leo Palace Resort

Located on the Island of Guam it is the only international standard, purpose built sports training facility in the Pacific outside of Australia of New Zealand. This $US2 billion project has an impressive array of facilities covering most sports although it lacks sports science and medicine at this stage. Nevertheless it will be a suitable location for athlete training camps in the lead up to the 2008 Olympic Games in Beijing.

APPENDIX 6: RESULTS OF SURVEY OF NATIONAL OLYMPIC COMMITTEES

Would you support the formation of a Regional Sports Institute? **Yes = 9, No = 2**

Should it be: (please Circle) ***Most popular response in Red***

1. **In One Location**
2. **Spread Around the Region**
3. **Sport Specific**
4. **Sport General**
5. **Academic emphasis**
6. **Practical live in Squad emphasis**
7. **A National Team Training Centre to be used as needed.**
8. **A full live in Institute like AIS in Canberra.**

What services should it provide?

1. **Full time training for Athletes**
2. Full Time Coaching Staff
3. Multi National Teams
4. Education for Athletes
5. Training Programs for coaches
6. Sports Science and Medicine Support
7. Sports Research.
8. **Other (Training for Administrators)**

How would you support the setting up of a Sports institute or Annex in your Country?

1. **With NOC Resources.**
2. **With Government Cooperation**
3. **Private Funding Sources.**
4. **International Federation Support**

There was a strong sense that this should be a cooperative project involving a number of key stake holders.

There was substantial diversity of opinion as to what physical form a Regional Institute should take but most agreed that existing infrastructures should be included.

Which Sports would you see as the most important to support through a Regional Sports Institute?

1.	**Archery**	**3**
2.	**Athletics**	**8**
3.	**Swimming**	**4**
4.	**Weightlifting**	**5**
5.	**Wrestling**	**2**
6.	**Baseball**	**2**
7.	**Fast-Pitch Softball**	**1**

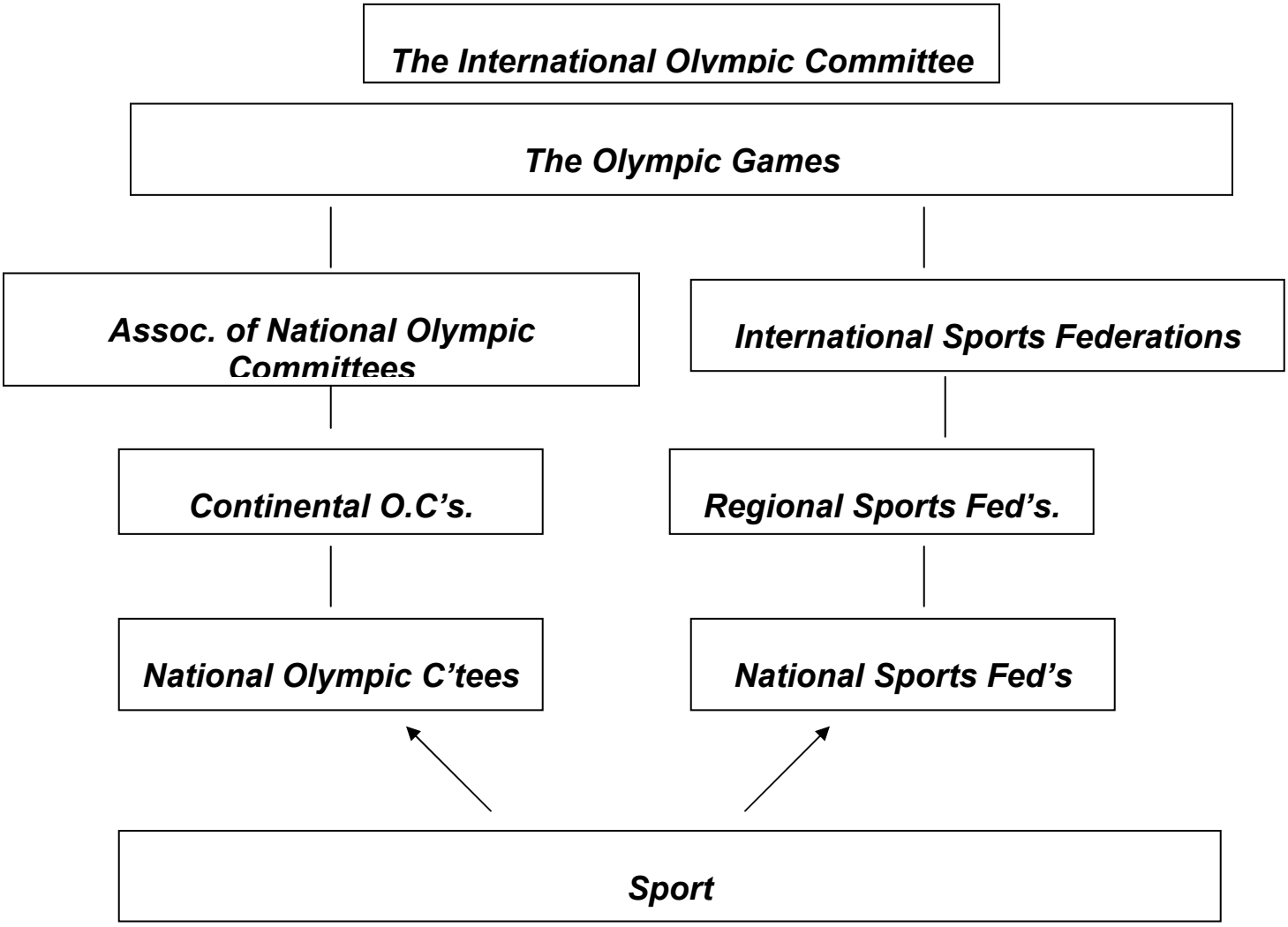
8.	**Judo**	**1**
9.	**Boxing**	**6**
10.	**Volleyball**	**5**
11.	**Rugby**	**2**
12.	**Tennis**	**4**
13.	**Table Tennis**	**5**

Further analysis will need to be carried out on the sports that are actually registered with NOC's as well as a survey of the attitude of the OSFO members to get a better picture of which sports would be deemed most viable to take part in an Institute Program.

APPENDIX 7: THE OPINION OF REGIONAL SPORTS FEDERATIONS

Introduction

Within the overall structure of Sport in the Pacific, National Sports Federations, who are wholly responsible for the conduct of activities in their sport and for the promotion and development of that sport in their respective Countries, are affiliated to the National Olympic Committee of their Country and to their respective International Federation.



In the majority of active sports, a Regional Sports Federation exists that coordinates development activities for their sport throughout the Pacific Region

At the inaugural meeting of the Olympic Sports Federations of Oceania (OSFO), held in Brisbane on the 31 March 2005, a questionnaire was handed out to representatives of Regional Sports Federations to evaluate their level of development and to seek their views on the establishment of the Regional Sports Institute. The following summarises the findings of this questionnaire:

1. Would you support the formation of a Regional Sports Institute?

YES = 6 NO = 2

The concept of a Regional Sports Institute appeared to be a difficult one to comprehend for the majority of Sport Representatives. The Region is scattered across vast areas of ocean and with a relatively sparse population base.

Currently there are three Regional Sports Federations that have established a Regional Training Centre. These are Athletics, Tennis and Weightlifting. Athletics is based in Auckland, while Tennis and Weightlifting are based in Fiji Islands, both away from the Capital centre in Suva.

There was a consensus view that while the efficiencies of having sports housed in a single sports institute for the Regional the realities are that it would be unacceptable for all sports under a Regional Institute to be located in one place. The Majority of sports felt that they could better cater for their members in their own facility but acknowledged the efficiencies of being associated together for purposes of sports science and medicines as well as general athlete support services.

2. What should be the basic nature of the Institute if Established?

Comment:

If established, a Regional Sports Institute should provide opportunities for the athletes of the Pacific Islands to pursue a career in the sport of their choice as part of an overall development strategy that offers general and vocational education and training as well as the essential expertise and facilities required to move athletes up to international standards of excellence and competitiveness.

The Consensus view would appear to be that while a good idea in principle, the Regional Sports Institute would not be at a single location but would be located around the Region probably around a single or grouping of sports.

The benefits of working together were recognized however the specific needs of each sport would indeed be quite unique with respect to the facilities and expertise required.

A centralized support base might be appropriate for specialist services. There are options to have this provided by existing Institutions in Australia and New Zealand. The benefits of Training within the Islands were recognized as it is cheaper than basing in either Australia and New Zealand and culturally more familiar for the athletes.

What services should it provide?

1. Full time training for Athletes
2. Full Time Coaching Staff
3. Multi National Teams
4. Education for Athletes
5. Training Programs for coaches
6. Sports Science and Medicine Support
7. Sports Research.
8. Other

Comment:

The majority of Sports that returned questionnaires supported all of the above options and saw a Regional Sports Institute as an opportunity to provide a focus for sport in the Pacific, enabling Pacific Islanders to benefit from the obvious aptitude for sporting excellence that is present throughout the Islands.

It was felt that there are a number of existing infrastructures in place such as the USP and specific centres such as the PNG Sports Institute at Goroka which would be an ideal location for a High Altitude training Centre.

How would you support the setting up of a Sports Institute or Annex specifically for your Sport?

1. **With NOC Resources. 6**
2. **With Government Cooperation 8**
3. **Private Funding Sources. 8**
4. **International Federation Support 8**

There appears to have been a strong consensus view that such a project should be a cooperative effort between all of the abovementioned stakeholders. Examples were provided of problems that have arisen when key stakeholders are not included in the planning and implementation of projects such as this.

The relationship between Government and non government agencies in contributing to the success of a Regional Sports Institute would need to be clearly defined.

Do you think that the establishment of a Regional Sport Institute would contribute to the economic and social development of the Region? If so briefly outline.

The answer to this question was a clear yes. The sports industry has demonstrated a viability world wide now and there is evidence to suggest that the Pacific is already benefiting financially in the following ways:

- Financial contributions for the development of sport from the International Olympic Committee.
- Financial contributions for the development of sport from International Sports Federations.
- The creation of full time employment in sport around the region.
- Remittances of funds earned by professional sports men and women (mainly Rugby players).
- The value of scholarships earned by young island athletes who win scholarships to study in Australia, New Zealand and the USA.
- Contributions from foreign Governments towards sports development and the establishment of facilities for sport.
- Examples of nation building following significant sporting achievements (Fiji Islands Sevens team, Solomon Islands Football Team, Palau, Kiribati and FSM participating in their first Olympic Games).

Do you see value in sports grouping together to form Training Centres or should everyone just do their own thing?

There was no clear answer to this question, other than the abovementioned view that decentralization was the only practical solution taking into account existing infrastructure, expertise and commitment and the ability of a location to provide the necessary education and general athlete support services.

What would be a realistic Budget for establishing a viable Regional Sports Institute? (feel free to itemize on separate sheet).

No opinions offered as it would depend upon what was agreed with respect to infrastructure provided.

Three bodies have determined to submit proposals however.

APPENDIX 8: A BRIEF OVERVIEW OF THE PROGRESSION OF AUSTRALIAN AND NEW ZEALAND SPORT INITIATIVES

Australia

'Following the dismal showing of the Australian team at the 1976 Olympic Games in Montreal, Canada, where Australia failed to win a single gold medal', (The Science of Winning), decisions were made by the Federal Government to proceed with the establishment of a National Sports Institute. The concept had already been studied for its feasibility by the Whitlam Government and the 'Coles Report' as it became known, provided the basis on which the project was to proceed.

The notion of Sports Training Institutes had come from the unprecedented successes of East German athletes at a succession of Olympic Games (Bloomfield, 1974), who were products of the only systematic program of athlete preparation in the world at that time.

After a great deal of consideration, the Federal Government of the time agreed on the Coles Report as the appropriate model for the establishment of the Australian Institute of Sport, taking into account the 'Tyranny of Distance' in Australia and the parochial nature of the people.

The Australian Institute of Sport was opened in Canberra during 1981 and quickly spread throughout Australia over the next 10 years. Now, not only is the AIS located in most States of Australia, but each State has committed funds and resources to establishing their own Training Institutes in order to effectively compete with other States to maximize their representation in National Teams.

The subsequent Industry of sport that has emerged in Australia, where over 200,000 people are said to be employed, speaks for itself, it terms of the economic value that sport has had on the Australian Economy. This was further backed up in a series of studies conducted by the Australian Bureau of Statistics from the 1980's to the present day.

"The Australian Institute of Sport prides itself on preparing athletes for life away from the sporting arena" (Eggins, 1998) and consequently has established a sophisticated network of services and support programs for athletes both in the pursuit of excellence and beyond into mainstream life.

Australia now is considered a world power in sport and a leader in the field of Sports Science. Much of this achievement is credited to the establishment of the AIS and its network of State Training institutes and Research Centres.

The AIS has grown since 1981 from servicing 150 athletes, in 8 sports in the single location of Canberra, to the current day were assistance is provided to over 750 athletes in 35 sporting disciplines through a network of campuses right around Australia. There are currently plans in place to establish permanent sports training bases outside of Australia as well.

Scholarships provide access to a range of services, including:

- Coaching
- Equipment

- Sports Science and Medicine
- Accommodation
- Meals
- Travel
- Career Planning
- Education

As members of AIS Programs, young talented athletes can now gain experience in international sport from a much younger age and accumulate the essential hours of training and competition more rapidly than their pre-Institute counterparts. There are many examples of the effectiveness of AIS Programs in producing top level athletes.

1. Luc Longley – Basketball, successful career for Australia and in the NBA with the Chicago Bulls.

2. Australian Cricket Team – currently number 1 in both forms of the Games and all members graduates of the Australian Cricket Academy.

3. Australian athletes won more medals from more sporting disciplines in Sydney and in Athens than ever before.

4. The Australian Men's Volleyball team qualified on merit for the first time, to compete in Athens. The women did not and they are not included in the AIS Program at this time.

The cost effectiveness of the AIS has been assessed constantly since it was opened, and while it is impossible to provide concise data to confirm or deny its economic viability, there is no doubt that its presence has boosted the number of international events now held in the Country and significantly stimulated the growth of the sports industry, now employing over 200,000 people in Australia. The Australian Bureau of Statistics has identified that Australian Households spend over $4.0 billion annually on sport and recreation. (Lundy, 1998) The net benefit to the Federal Government from an investment in sport is clearly in their favour.

While Australia may have no need for or interest in a Regional Sports Institute, the existing facilities in Australia would have a place in the overall Pacific Strategy. Furthermore, existing programs of assistance provided by the Australian Government through its Australia South Pacific Sports Program may well find themselves directing support through the infrastructure that would follow the establishment of a Regional Sports Institute.

New Zealand

New Zealand has a proud sporting heritage dating back to the very beginnings of the modern Olympic Games and participation in every Empire and Commonwealth Games since their inception.

At the last Olympic Games held in Athens, New Zealand placed 24th out of the 202 Countries that took part based on the medal tally, an outstanding effort for a Country smaller in population than Papua New Guinea.

New Zealand sport is jointly developed through the New Zealand Olympic Committee and the Government through its Sport and Recreation Council (SPARC).

After investing $19.0 million in the 24 months leading up to the Athens Games, the New Zealand Government is looking closely at maximizing its returns from this kind of investment.

New Zealand has not as yet invested in a National Sports Institute, but rather sponsors a network of performance centres based at various facilities throughout the Country.

New Zealand is fortunate to have well established education centres that are capable of providing sports science and medical research programs specific to New Zealand and already they have the only detailed research done on the performance parameters of Pacific Islanders.

Due to the lack of Government support for a single sports institute, private investors got together to build the Millennium Institute, just to the North of Auckland, right next to the prestigious Rangitoto College. This is a private operation that supports elite athlete programs in a range of sports, although its facilities largely favour athletics and swimming.

The Millennium Institute has entrenched itself in the High Performance infrastructure now support by Government through the New Zealand Academy of Sport.

The model forwarded by New Zealand is one of utilization and facilitation of existing programs and infrastructures rather than investment in centralized Institutions. It is felt by the New Zealand Government that this better serves its needs with respect to encouraging success in international sport while supporting the existing infrastructure for sport and the established economic benefits associated with having a viable sports industry in place.

New Zealand would expect to participate in a Regional Sports Institute both in sending athletes to areas where a sport has a stronger program than offered in New Zealand, as well as in hosting Centres, as is the Case with the IAAF Regional Development Centre hosted in Auckland at the Millennium Institute.

After a series of interviews with sports leaders in New Zealand, caution was expressed in establishing programs and facilities without the full consensus of all stakeholders.

Both Australia and New Zealand have expressed repeatedly at both Government and no-government levels their willingness to make available resources for sports development to the Pacific Region. The establishment of a Regional Sports Institute may well test this willingness.

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- Steve Hollings, Director, IAAF High Performance Training Centre Oceania, Auckland, New Zealand.
- Mike Stanley, Chief Executive, Millennium Institute of Sport and Health, Auckland.

- Dan O'Connell, International Tennis Federation (ITF) Oceania Development Officer, ITF Regional Tennis Centre, Lautoka, Fiji Islands.

- Steve Smith, Secretary General, FIBA (International Basketball Federation) Oceania / Chairman, Olympic Sports Federations of Oceania.

- Chet Gray, Secretary General, Baseball Confederation of Oceania / Secretary General, Olympic Sports Federations of Oceania.

- Phil Coles, Chairman, New South Wales Institute of Sport, Sydney, IOC Member in Australia.

- Secretaries General, Member National Olympic Committees, ONOC.

- Member federations, Olympic Sports Federations of Oceania.

- Chris Edwards, C.E.O. Queensland Volleyball (specifically on his bid to host the Australian Beach Volleyball Program in Brisbane.

Pacific Studies Series

Toward a New Pacific Regionalism

An Asian Development Bank—Commonwealth Secretariat
Joint Report to the Pacific Islands Forum Secretariat

VOLUME 3: WORKING PAPERS
Working Paper No. 12

Pacific Islands Police Peacekeeping Operations: a Cost-Benefit Analysis

Secretariat of the Pacific Islands Chiefs of Police
Suva, Fiji Islands

Preface

This report was prepared for the Pacific Islands Forum Secretariat (PFIS) in Suva, Fiji Islands. The report is one output of an Asian Development Bank (ADB) technical assistance project (TA 6226 REG): "Developing and Implementing the Pacific Plan for Strengthening Regional Cooperation and Integration." The Commonwealth Secretariat provided funding to the project.

The lead author of the report was Dr. Roman Grynberg, Deputy Director of Trade and Regional Cooperation at the Commonwealth Secretariat. He was assisted by Michael Hyndman, a cost-benefit analyst contracted by ADB, and Sacha Silva, an economist contracted by the Commonwealth Secretariat. Consultants from PIFS and the Pacific region provided valuable inputs for the report. Bill Costello was the ADB task manager.

The report is published in three volumes. Volume 1 is the Executive Summary. Volume 2 is the main report. Volume 3 contains the working papers commissioned for the report–a series of independent studies assessing potential benefits and costs of implementing a variety of possible regional initiatives. Volume 3 has been printed in hard copy in only limited numbers. However, it is available on the websites of ADB (www.adb.org) and at www.pacificplan.org.

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EXECUTIVE SUMMARY

Pacific Islands policing services have been involved in offshore peacekeeping missions since 1987 when the Fiji Police Force seconded officers to the Fiji Military Forces in the Sinai and Lebanon. Since then, Pacific policing services have served in many theatres including Europe, Africa and Asia. More recently, deployments have been close to or within the region, including to East Timor and the Solomon Islands. Most of the deployments have been under the auspices of the United Nations while in recent times deployments have also occurred within the Biketawa Declaration. Pacific Islands policing services have represented their countries and the region with distinction.

There are now more global crises in the last ten years requiring intervention than in the last thirty years combined.

Apart from Fiji Islands, the level of representation in offshore missions from other Pacific police services has been low. While this reflects lower police numbers in these countries, it also reflects a generally lower level of capacity across the region. Increasingly, there is a growing demand for civilian police to be involved in peacekeeping operations with up to 7,000 officers currently deployed worldwide. These operations require police officers to be equipped with contemporary and specialist knowledge and skills to effectively perform their role in peacekeeping. The United Nations (UN) requires a high level of literacy and skills competency for peacekeepers within their deployments and in some cases these levels have precluded involvement of police officers from some Pacific countries.

In the Pacific region, measures are being undertaken to raise the level of police skills with key interventions from the Australian Federal Police in relation to transnational crime and from Australian and New Zealand funded community policing initiatives and institutional strengthening programs, including the Pacific Regional Policing Initiative (PRPI). However these are medium-to-long term programs that will not deliver higher-level capacity in the immediate future.

Pacific leaders also have recognised the need for countries to increase their appreciation of regionalism and have agreed to create a "Pacific Plan for Strengthening Regional Cooperation and Integration". This aims to deepen and broaden regional cooperation by pooling regional resources. The Plan inter alia, seeks to increase participation, ownership and regional collective action and to facilitate the inclusion of regional initiatives in Pacific Islands countries national development strategies. The Pacific Police Peacekeeping Proposal is one such initiative.

The Terms of Reference requires a detailed examination of the costs and benefits of establishing a regional policing force for export. While the raising of such a force provides many opportunities and benefits, it is not a panacea to solving problems of insufficient police capacity in the region. Such a force also brings with it many risks, none more evident than HIV/Aids. Other risk factors such as sustainability and loss of police officers to other employment pathways are major areas for concern. Further, the exposure to overseas instances of policing "best practice" need to be reflected in the pacific police forces so that the experience and insight in to policing gained overseas is returned to the Pacific.

There are three fundamental outcomes for establishing a Pacific Policing Peacekeeping Force (PPKF):

1. provision of civilian police for UN (and other) peacekeeping Missions overseas;
2. income generation within the region; and
3. increased capacity for Pacific police services.

It is considered the most effective means of achieving the above outcomes is to establish a regional PPKF Training Centre in a Pacific Island Country. It is assessed that this centre would be located in Fiji Islands because of its size, stability and infrastructure, including communications, support services and international air transport hub.

However, for the PPKF to be viable, effective and sustainable, there must be funding provided to support backfilling of officers deployed overseas and to recruit new officers into the police services to cover shortfalls and to maintain the integrity of national policing operations. Pacific Island countries are not in a position to support this type and level of funding.

Pacific policing services must also develop strategies to retain the skilled resources produced by the PPKF. Careful management of personnel, including career pathways will be essential. Some form of "return of obligation agreement" or contract may need to be introduced to guarantee service post-deployment. There are media reports that the earnings of 250 ex-Fiji military personnel serving as security guards in Iraq totalled nearly United States dollars (US$)3 million in a six-month period. While the PPKF, largely through its Training Centre, will deliver increased income into the Fiji Islands economy, all participating Pacific Island countries will benefit from remittance moneys.

The PPKF will deliver greater interoperability through standardised, competency based training, common equipment and standard operating procedures. This key mix of knowledge, skills and attitudes will develop and enhance the overall capacity of Pacific police services providing a significant return on investment. One of the major contributing factors in enhancing interoperability is the level of English language capacity and consequently, over time, English language capacity of Pacific police services would increase.

The development of a “police-keeping” capacity, both in terms of a dedicated regional police training centre, and the increase in police skills offered to each police members, offers a tangible increase in local police capacity, rather than a “drain” on existing police resources.

There are many challenges confronting Pacific policing services including issues of integrity, credibility, funding levels, conditions of service and the capacity to effectively address changing national and transnational criminal environments. A significant addition to this list is establishing, maintaining and sustaining a PPKF.

While there is cause for optimism, this must be balanced by well-informed decision making and careful judgment from all key stakeholders.

I. INTRODUCTION

The Pacific Islands Forum Secretariat (PIFS) requested support from the Asian Development Bank (ADB) to assist in the development and implementation of the Pacific Plan. The Asian Development Bank (ADB), in conjunction with the Commonwealth Secretariat (COMMSEC) is providing technical assistance to the PIFS.

The joint ADB/COMMSEC Technical Assistance Team will focus inter alia, on providing a rigorous analytical framework for understanding regionalism in the Pacific. This analysis will be detailed through a series of studies measuring the qualitative and quantitative costs and benefits of specific regional interventions proposed by the Pacific Plan Task Force.

Subsequently, the Pacific Islands Chiefs of Police (PICP —then known as the South Pacific Chiefs of Police) Secretariat was approached by officers from COMMSEC in March 2005 in relation to the establishment of a regional Pacific Policing Peacekeeping Force (PPKF) for export. The PPKF initiative is viewed by COMMSEC as a "big regional win". Following discussions with Mr. Sacha Silva, Consultant, Economic Affairs Division COMMSEC, the PICP Secretariat undertook to provide a paper by 10 May 2005 on the costs and benefits of establishing a regional PPKF for export.

The Pacific Islands Chiefs of Police considered the concept of a PPKF at their annual meetings in 2003 and 2004. At the 2004 meeting, Mr. Amod Gurung, Chief of Policy and Planning, Civilian Police Division, United Nations, New York, provided a presentation on civilian police peacekeeping operations. The meeting was also informed by presentations on the Regional Assistance Mission to the Solomon Islands and the Australian Federal Police's International Deployment Group.

The Chiefs at their 2004 Retreat Business Session agreed there is an opportunity as a collective to provide police to support peacekeeping efforts. Their strong view was not to follow a military model of a "standing force" rather, a pool of trained officers would be provided as required. The Fiji Police Commissioner was requested to approach the Secretary-General of the PIFS to seek advice on ways in which to advance the proposal of a regional peacekeeping force. It is understood this has been a step in the link into the Pacific Plan.

The PICP Secretariat Report has been diminished by time constraints, despite being provided with a short extension. This has seriously hampered research efforts and coupled with poor communications and lack of responses from some police services, the final product is not as informed as would have been anticipated. In particular, cost data are estimates and at worst, speculative. Despite the constraints, the PICP Secretariat is grateful for the opportunity to act as a consultant in relation to this matter.

The PICP Secretariat is strongly supportive of the proposal that, if adopted, would provide opportunities for Pacific Islands Police Services and their members, both professionally and personally; exposure to overseas "best practice" in policing; and an avenue for a strengthened local and regional economy. The current initiatives to support policing at a community level within the Pacific will be further strengthened, and not weakened, by the creation of, and active participation in, a PPKF.

II. CONSTRAINTS AND ASSUMPTIONS

A. Constraints

- The proposal has been developed within a tight time frame, which has limited the amount of data collection and input by PICP members and from other sources such as the UNDPKO.
- The proposal has relied on responses to requests for data and where data has not been readily forthcoming this has not been further pursued due to the time constraints.
- Facts provided in the data collection have not been rigorously tested or independently verified, but where discrepancies have been noted these have been corrected wherever possible.

B. Assumptions

- The proposal is based on participation in a Regional Pacific Policing response, and not on the formation of a Regional Pacific Standing Police Force or Response Capability.
- The proposal is "speculative" and has adopted both a "green fields" and a "blue skies" approach.
- No commitment to the ongoing advancement of the proposal has been given or been presumed by any party.
- The proposal covers all of the PICP members, other than Australia and New Zealand, and is not limited to only the PIF member countries.
- A regional training centre would be established in a Pacific Island Country.
- For the sake of analysis, this country has been assumed to be Fiji Islands.
- Those nominated for regional training will possess and demonstrate sufficient skills prior to being accepted for training at a level to meet the UN requirements for deployment, in both language and basic police skills.
- The proposal is based on the establishment of a Regional Response Capability of 250 civilian police members available for deployment at any one time.
- Deployments will be for a period of 12 months.
- Up to 50 police members will be trained at a time.
- Training time is four weeks at the regional training centre.

III. PAST AND PRESENT LEVELS OF SUPPLY OF PACIFIC POLICING FORCES IN THE WORLD

A. Key Findings

Pacific Island countries have had a wide range of experience in civilian peacekeeping operations. Some countries have also contributed to Military Missions, as police officers, and have then moved to a civilian police role as the missions' role has changed.

New Zealand and Australia, while perhaps not being "Pacific countries" in a sense, are members of the PICP. Each has extensive background in civilian police peacekeeping operations and have had, or continue to have, people deployed in international roles in Cyprus, Namibia, East Timor, Solomon Islands, Jordan, Afghanistan and Bougainville.

B. Past United Nations Operations

Countries have participated in Missions in Lebanon, Sinai, Namibia, Iraq, Cambodia, Angola, Croatia, Bosnia, East Timor, Solomon Islands, Kosovo, and Liberia.
The highest level of ongoing commitment has been from Fiji Islands, which has contributed members in 14 missions through 39 deployments. A total of 829 Fiji Islands Police Officers have served in overseas missions. Overseas commitments have been made from PNG, Samoa, Tonga, Cook Islands, Tuvalu, Kiribati, Niue and Nauru.

C. Current UN Operations

Civilian Police officers from Fiji Islands and Samoa are currently working with UN missions in East Timor, Liberia and Kosovo.

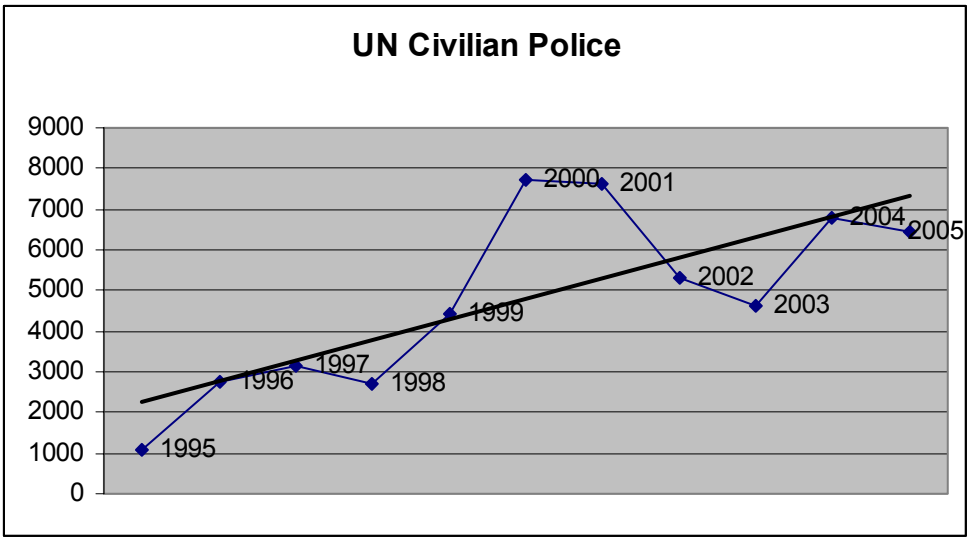
A number of countries including Fiji Islands, Samoa and Tonga have indicated their commitment to the mission planned for the Sudan due to commence on 1 July 2005.

The UNPKO reports that 7,542 civilian police officers are currently employed in operations. (It is noted that this is the total number of police deployed on missions, and not the level of deployment from just the Pacific). The details are:

Location	Established in	Civilian Police Deployed
Cyprus	1964	43
Western Sahara	1991	6
Georgia	1999	11
Kosovo	1999	3391
Sierra Leone	1999	79
Congo	1999	175
East Timor	2002	138
Liberia	2003	1074
Cote d'Ivoire	2004	218
Haiti	2004	1622
Burundi	2004	85
Sudan [1]	2005	700
Total		**7542**

The number of civilian police peacekeepers deployed since 1995 to the present day has steadily increased.

[1] To be implemented from 1 July 2005.



1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
1088	2739	3132	2718	4435	7725	7642	5333	4635	6765	6466

Source UNDPKO

D. Current Non-UN Operations

Solomon Islands Regional Assistance Mission (RAMSI) - up to 250 Police staff from up to 11 countries within the region, including Australia, New Zealand, Fiji Islands, Tonga, Samoa, Papua New Guinea, Niue, Nauru, Cook Islands, Kiribati and Tuvalu.

Papua New Guinea Enhanced Cooperation Programme (PNG ECP) - up to 250 Police staff from Australian jurisdictions.

Bougainville - up to 6 New Zealand Police staff to support the development of community policing.

Afghanistan - two New Zealand Police officers.

Jordan - two AFP officers.

IV. CURRENT AND POTENTIAL DEMAND FOR POLICING IN THE INTERNATIONAL ARENA

A. Key Findings

The following are the indications of the demand for police peacekeeping operations.

> "There have been more global crises in the last ten years, requiring intervention, than in the last 30 years combined. This will continue to occur."
> *Hon Bruce Billson, Parliamentary Secretary to the Australian Minister of Foreign Affairs - April 2005*

The past and current levels of demand give confidence in an expectation that the level of civilian police peacekeeping operations will continue at the current level and in fact will increase over the next ten years. It is reasonable to anticipate that up to 10,000 civilian police peacekeepers will be required to support missions over the next ten years.

B. Regional Interventions

In the last three years, interventions in the Pacific Region in support of the members of the Pacific Island Forum, under the auspices of the Biketawa Declaration on Regional Cooperation, or through bi-lateral arrangements between Governments have significantly increased. These include:

- Solomon Islands Regional Assistance Mission (RAMSI) - up to 250 Police staff from up to 11 countries within the region, including Australia, New Zealand, Fiji Islands, Tonga, Samoa, Papua New Guinea, Niue, Nauru, Cook Islands, Kiribati and Tuvalu.
- Papua New Guinea Enhanced Cooperation Programme (PNG ECP) - up to 250 Police staff from Australian jurisdictions.
- Bougainville - up to 6 New Zealand Police staff to support the development of community policing.

It is reasonably expected that similar interventions will continue to occur within the Pacific region at either the "Intervention" level of RAMSI and the PNG ECP, or at an assistance level such as in Bougainville.

C. External Contributions to UN Missions [2]

Beginning with the United Nations mission in Namibia in 1988, UN Civilian Police have become an increasingly important element of UN peacekeeping in helping war-torn societies restore conditions conducive to social, economic and political stability.

United Nations Civilian Police play a crucial role in UN peacekeeping operations and other UN field missions. They currently participate in 13 different missions around the globe. Every day, more than 7,000 police officers from 80 countries go on patrol, provide training, advise local police services, help ensure compliance with human rights standards and assist in a wide range of other fields.

The benefits of this work are clear: UN Civilian Police help to create a safer environment where communities will be better protected and criminal activities will be prevented, disrupted and deterred. The diverse national experiences of United Nations Civilian Police officers and their commitment to peace and security are their best tools to promote the rule of law.

The mandate of United Nations Civilian Police is different in each mission. In some missions, the mandate has been limited to monitoring the local police services. In more complex missions, the mandate includes advising, training, helping establish local police services and enhancing their work, and, in some cases, law enforcement. This complexity is compounded by the need to integrate all components of the criminal justice system to ensure comprehensive and sustainable rule of law.

United Nations peacekeepers include civilian police. In the 1960s, civilian police were deployed

[2] From UN DPKO sources.

in the UN Operation in the Congo, and for more than 25 years, they have been part of the UN Force in Cyprus. Beginning with the UN mission in Namibia in 1988, "CivPol" elements have become an increasingly important part of UN peacekeeping. By mid-2000, some 7,000 civilian police from more than 70 countries are participating in 10 UN missions. Some recently missions have been predominantly staffed by civilian police.

In Haiti, CivPol helped to build a new Haitian National Police. In Croatia a UN Civilian Police Support Group was established to monitor the actions of Croatian police in Eastern Slovenia, and to encourage respect for the rights of residents and returnees alike. In Bosnia and Herzegovina more than 1,600 police officers from 42 countries serve with the United Nations International Police Task Force, which forms part of the United Nations Mission (UNMIBH) in that country. Their tasks include monitoring the performance of local police, conducting investigations, and providing guidance aimed at building a multi-ethnic police service respectful of the rights of all the country's people, regardless of ethnicity. In Kosovo, as many as 4,700 UN civilian police have been charged with maintaining civil law and order as well as developing a future police for the Territory.[3]

The surge in UN peacekeeping signals that some of the world's intractable conflicts are coming to an end. But the increased demand has place huge additional strains on UN resources and personnel, and on Member States ability to provide funds, troops and equipment.

D. Prediction of Future Demand for Civilian Peacekeeping Operations

The demand for peacekeepers, both military and civilian police, has been constant over the last 15 years.

The original operations in Cyprus and the Congo, which are still ongoing, have continued alongside a significant deployment to Namibia, which commenced in 1988. The trend in the last 8 years has been for a significant increase in the demand for UN civilian police peacekeeping operations. In 1999 four operations commenced, and in 2004 a further three were established. In the intervening years individual operations have been established.

The UN reports that as long term regional conflicts are resolved and move to a "peacekeeping stage" civilian police will be required. Regions such as Afghanistan, Iraq and Kashmir are all potentially new requirements for civilian police keeping operations. Both Afghanistan and Iraq have civilian police working alongside military forces in a training assistance role, but these are not defined as "peacekeeping operations." While there is currently no “police peacekeeping” response to the Israeli-Palestinian conflict (beyond civilian observers in Hebron) the issue is periodically mooted. If this became a mission in due course, it would create a significant demand for civilian “police-keepers” over a long period.

The numbers of civilian police peacekeepers required in each operation has shown an upward trend. However each operation is assessed on the specific demands and it is therefore difficult to quantify the actual requirements. The current number of civilian police peacekeepers deployed in UN missions worldwide is over 7,500.

The past and current levels of demand give confidence to an expectation that the level of civilian police peacekeeping operations will continue at least at the current level and in fact will increase

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[3] From UN DPKO sources.

over the next ten years. It is reasonable to anticipate that up to 10,000 civilian police peacekeepers will be required to support missions over the next ten years.

Some recent academic papers and analysis by Government Agencies offer a useful insight:

> The contemporary era of peace operations, dealing principally with intra-state conflicts, engendered anew the requirement to help rebuild or reform indigenous criminal justice systems. From January 1989–August 2000, the UN launched peacekeeping operations in 21 different locations, of which 14 have involved police in some capacity. These missions (listed in chronological order) took place in Namibia, Angola, El Salvador, Western Sahara, Cambodia, former Yugoslavia, Somalia, Mozambique, Haiti, Rwanda, Guatemala, Central African Republic, East Timor, and Sierra Leone. From 1992–97, the average number of UN personnel deployed monthly was 2,345. The advent, in 1999, of the UN administrations in Kosovo and East Timor increased dramatically the requirements for police participation.

There are now four broad tasks related to the indigenous criminal justice system, which must be accomplished by a mixture of military and civilian peacekeepers and local actors:

- provision of basic law enforcement and public order for an interim period;
- reconstitution of indigenous police forces;
- monitoring and mentoring of local police units; and
- re-establishing and reforming the judicial and penal systems, as well as the legal code."[4]

> *Major police missions à la Kosovo, East Timor, or even Bosnia may not be the exception to the rule, but rather indicative of the range of post-conflict situations that will continue to test international capacities to deliver post-conflict public security. It is reasonably anticipated that these current operations may move into this sphere and therefore require a UN style of response for ongoing civilian peacekeeping.* [5]
>
> *In recognition of such realities, the European Union has moved to create a standby force of 5,000 police officers available on short notice to respond to crisis situations."* [6]
>
> *We live in an age of 'heavy peace.'…There will be other Kosovos; and whether for strategic or humanitarian reasons— or just muddled impulses—we will not be able to resist them all…We cannot enter upon such commitments under the assumption that they will be temporary and brief…We must stop pretending those challenges will disappear—that 'something will turn up'—and prepare to meet them"* [7]
>
> *The main problem following a US-led international intervention in Iraq will be re-establishing widespread and sustainable governance. It is probable that with the removal of repressive political authority, state control will falter and crime rates boom. This can be countered through an international civil administration with law and order as a guiding mandating principle. Order could be ensured by 'police-keeping', via a large 'blue force' of primarily Muslim gendarmerie from surrounding nations. Reliance on military peacekeeping is precarious because of the political sensitivities in the case of Iraq. The blue force would form the foundation of the new internal security architecture in Iraq, and*

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[4] Evolution of police monitoring in peace operations, J. Matthew Vaccaro.
[5] Canadian Defence Force Review of the Canadian Pearson Peacekeeping Centre, 2003.
[6] Canadian Defence Force Review of the Canadian Pearson Peacekeeping Centre, 2003.
[7] Ralph Peters, 2003.

would act to prevent fragmentation and civil war. The role of police-keeping is to pre-empt and combat ethnic, religious, and political violence, economic crime and the establishment of shadow networks, as well as policing regular crime including those of property and public order. A further vital task would be the development of domestic judicial and policing capacity, which provide an exit strategy for the international mission and the beginnings of a representative and regionally devolved governance structure.

These tasks could be financed through a modification of the current oil for food programme, finally transferring this wealth back into Iraqi society.[8] [9]

The focal point of this argument is the need to develop the capacity to quickly deploy civilian capabilities, such as police, to conflict hot spots. Military success for crisis management missions depends critically on civilian success--and civilian success depends on effective law enforcement.[10]

V. CURRENT REGIONAL AND NATIONAL MECHANISMS TO SUPPLY POLICING SERVICES

A. Regional

Research indicates that only Australia, New Zealand and Fiji Islands possess capacity and mechanisms to raise, train and deploy police officers to overseas peacekeeping missions. In particular, the Australian Federal Police (AFP) has established an International Deployment Group (IDG) that specifically addresses all aspects of deploying police officers overseas. IDG has established purpose designed training facilities in Canberra including the construction of a generic "village" where police officers undertake training in a realistic situation based on actual scenarios from overseas experiences.

The training village was constructed in partnership with local technical colleges who provided free apprentice labour while the AFP funded project management and building material costs.

The cost of training at the AFP International Deployment Group Training Centre is approximately **United States dollars (US$)13,000 per person (US$3.25 million per annum for 250 persons)**. This includes return airfares, accommodation, meals, incidental allowance, uniform and equipment, transport, medical and training costs but does not include salary of the deployed officer.

Operating costs for the AFP IDG Training Centre were unavailable prior to the release of this report.

The cost to deploy 35 New Zealand Police Officers to the Regional Assistance Mission - Solomon Islands (RAMSI) is **approximately US$4.65 million per annum. (US$133,000 per person, includes salary).**

Fiji Islands Police research indicated that a Fiji Islands Police contingent of 100 officers return up to **Fiji dollars (F$)6 million per annum** to the local Fiji Islands economy. It also indicated

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[8] Review of US Defence participation in Iraq, United Nations DPKO, 2004.
[9] See also discussion on “who pays” at page 20.
[10] NATO--Upholding Ethics in International Security Policy.

that for a 50 member contingent cost of allowances, uniforms, training and replacement officers (backfilling) would be approximately **F$300 - 400,000.**

B. Key Constraints and Level of Efficiency

The capacity to train a 250-member regional PKF is beyond the Pacific countries, including New Zealand and Fiji Islands. The AFP IDG would struggle to cope with the additional demand without expanding its capacity.

This paper has been developed around the premise that Pacific island Countries could "currently" contribute 250 members to a regional peacekeeping proposal. This could be done from their existing capacity, but on the understanding that the positions would be backfilled.

If a proposal to develop a capability of 250 people is taken up, it is reasonably anticipated that the success of this model could be expanded to grow the size and scope of the regional civilian police peacekeeping capability. While an increase in capacity could not be met immediately, principally due to the potential inability to recruit suitable people and to provide basic police training skills to these replacements, the anticipated increase could be achieved through the provision of a regional police training facility, alongside the specific peacekeeping training centre and as an integral part of that facility. The provision of a purpose built regional police training facility offers a direct benefit to the peacekeeping proposal, and equally offers a high quality and multi jurisdictional police training facility for the Pacfic.

C. Ability to Meet Potential Demand in the International Market

There are two options to meet the potential demand of the international market.

Option 1 is to expand the facilities of the AFP IDG Training Centre.

Option 2 is to establish a purpose designed training centre in Fiji Islands. Fiji Islands is the only pragmatic location for this facility due to its central location, air transport hub, infrastructure and security situation.

Option 1, while delivering short-term outcomes, does not provide the regional identity or ownership desired by Pacific Island countries. It also does not return the higher level of income to the Pacific economy.

VI. Benefits of Pooling Resources

A. Key Areas

There is no current existing infrastructure or facilities within the region to support policing in a general sense, or to provide support to training or regional missions such as peacekeeping. While some assistance has been provided through the Fiji Police Academy, and through both New Zealand and Australian Police training facilities, this is ad hoc and generally limited to specific events or requirements. This generally occurs at the expense of other activities that are either deferred or cancelled to accommodate the specific and higher priority needs.

The following are the key areas where pooling resources at the regional level would bring increased benefits:

B. Participation

The pooling of resources, especially human resources, allows the smaller Pacific policing services to participate in the peacekeeping force (as is the case in RAMSI) with a consequent increase in their capacity.

C. Establishment of a Regional Law Enforcement Training/Support Facility in the Pacific

The establishment of a civilian police peacekeeping training or support facility in the Pacific opens the opportunity for this investment to be capitalised on for police training in a general, and a specialist investigation, sense. While this is outside the scope of the current "peacekeeping proposal" the potential benefits are readily visible and achievable, if the proposal is adopted.

The current initiatives of the Pacific Regional Police Initiative (PRPI), which is a minimum five-year commitment by the Australian, Fiji Islands and New Zealand Governments to improve police capability in the PIF member countries police forces, could readily be linked to the peacekeeping proposal. The PRPI offers specific training development and capability development in each of the member countries through increased skills in a "train the trainer" model, as well as specific interventions in senior police management and practice. Support is also offered in areas such as forensic services.

While much of the PRPI delivery occurs within the member countries, and this is a crucial element in ensuring that local capacity is developed, there is considerable scope for the pooling of specialist training at a regional centre.

There is currently no facility to support the training of serious crime investigators (detectives or similar) in most Pacific island Countries. In some countries this training is either non existent or based on outdated "rote teaching" based on the manuals and procedures of neighbouring pacific regional countries such as New Zealand or Australia. The potential to offer specialist training to meet specific pacific law enforcement needs such as detective training, could be facilitated through a regional centre.

The Pacific Island Forum law Enforcement Unit, along with the agencies supporting the development of the Transnational Crime Units (TCU's) and their parent Pacific Transnational Crime Coordination Centre (PTCCC), are currently offering specialist investigation and intelligence training and development. The provision of a specialist police training facility would offer the opportunity for greater skills training to be provided in region, rather than having people from the pacific attend specialist training in Australia, New Zealand and others "Pacific neighbours."

Financial Intelligence Units (FIU) have been established within the central banks or justice ministries in a number of pacific island countries. There are currently at least three separate initiatives to support the further development of the FIU network. While these facilities are not within the Police environment, much of their work is directly related to transnational crime and serious crime within the countries that is a police responsibility. The existence of a specialist law enforcement training centre offers the potential for the multiple streams of work to support the FIU's to be concentrated at the one point, to the mutual benefit of the FIU's and the police.

The enforcement arms of Customs, Immigration, Fisheries and other agencies could be joined to a regional facility where common investigative skills and competencies could be delivered to a universal standard.

The practical benefits of common training are further enhanced through delivery to multiple agencies, and multiple disciplines, in a multi agency environment, such as a regional law enforcement training centre.

The expertise developed in such a centre can then be provided through topic experts, or mentors and technical assistance experts, to support specific in country investigations.

The PIF Forum Regional Security Committee (FRSC) will consider a proposal for a technical assistance investigation support mechanism for law enforcement at the June 2005 meeting in Auckland. If this proposal is adopted, it offers a tangible link to this concept of a regional law enforcement support centre.

D. Cost Savings

Facilities. The establishment of a regionally designed and constructed Peacekeeping Training Facility provides significant savings for contributing countries, particularly for the smaller nations. Accommodation, messing, classroom and field training facilities are major areas of financial investment.

Administration. Having one administrative support service, even if it comprises members from different Pacific countries, is a major cost saving.

Equipment and Uniforms. The bulk purchasing of items such as police equipment (batons, handcuffs, whistles, torches etc) and uniforms, including boots provides significant scales of economy. In particular, communications equipment and computers are able to be more widely used.

Training Staff. Training staff can be attached to a regional training centre obviating the need to provide trainers in individual countries training facilities.

E. Relationship Building

The establishment of a regional police peacekeeping force provides the opportunity to build and enhance both personal and institutional relationships. A key mix of culture and skills enriches the force and inculcates a regional identity through Pacific police ownership.

F. Operational Issues

A regionally established peacekeeping force will deliver greater interoperability through common training, equipment and standardised operating procedures. This key mix of knowledge, skills and attitudes develops and enhances the overall capacity of the force resulting in more effective outcomes. This in turn underpins the reputation and credibility of the force.

G. Training Issues

A standardised, competency based training curriculum would not only enhance interoperability but also deliver greater capacity to the force. This training investment would return significant dividends to individual policing services over time.

H. Language Skills

One of the major contributing factors in enhancing interoperability is the level of English language capacity. English Language Training (ELT) at IELTS Level 5 would be a prerequisite for entry to the force.

VII. THE QUANTITATIVE AND QUALITATIVE COSTS OF ESTABLISHING A REGIONAL POLICING FORCE FOR EXPORT TO MEET INTERNATIONAL DEMAND

The following data is based on the establishment of a regional police peacekeeping training centre in Fiji Islands to support a deployable force of 250 personnel.

Table 1: The Cost of Establishing and Maintaining a Regional Police Peacekeeping Force.

Activity	Initial Cost[a] (US$ millions)	Ongoing Costs[b] (US$ millions)
Construct Self-contained training facility	10.00	1.5
Salary/backfill costs (@ US$6,000 per person per year)	1.50	1.5
Airfares - return economy @ US$1,500 per person	0.225	0.225
Meals/Incidental costs @ US$30 per person per day	2.80	2.80
Uniform and equipment @ US$500 per person	0.125	0.125
Training costs (incl training staff) @ US$500 per day x 200 days	1.00	1.00
Training Centre personnel costs (not including training staff) x 10 persons @ US$35,000 pa	0.350	0.350
Vehicle leasing costs	0.150	0.150
Computer leasing costs	0.125	0.125
Pre-deployment costs - Selection Criteria (6 x PIC @ US$5000	0.030	0.030
Deployment costs - airfares return economy @ US$2,000 per person	0.50	0.50
Total Costs	**16.805**	**8.305**

[a] The initial costs are "best estimates," and include: Project management costs, salaries - builders etc, accommodation block for male/female, mess facility, administration block, classroom facilities, theatrette, field training facilities (village), range, armoury and magazine facilities, vehicle compound, perimeter fence, furniture and fittings, roads, bridges as required, and connections to all utilities.

[b] Ongoing costs include: utilities (power, water, light, phone), cleaning contract, ground maintenance contract, vehicle leasing, computer leasing, accommodation contract, depreciation, insurance, and stationery.

A. Existing Capacity for Training

While some of the larger Pacific Islands countries such as Papua New Guinea and Fiji Islands arguably have the capacity to train their own peacekeeping contingents, a regional PKF of 250 personnel requires training that is predicated on common standards, competency based and

consistency. Currently, this is beyond the capacity of any Pacific Island country. Consequently, a regional PKF training facility needs to be established.

B. Staffing and Infrastructure Needs at Regional and Country Level

1. Regional Level

Staffing and infrastructure needs are identified in Table 1. A key infrastructure requirement within the PKF training facility is the construction of a "generic town/village" that training scenarios can be developed around to provide realistic training. This model has been developed by the Australian Federal Police at its International Deployment Group in Canberra.

Experienced training staff will be required in the short-medium term to provide effective training in the period before experienced training capacity is developed within Pacific Island countries. These staff may initially be attached from Australia and New Zealand. But Fiji Islands also has developed experienced training staff due to its extensive overseas UN deployments.

2. Country Level

The major issues at the country level are recruitment and initial training to backfill deployed personnel. It should be noted that both these issues are currently being addressed by the PICP.

It has been identified by a PICP Integrity Working Group that robust selection criteria and policy needs to be developed to reduce the risk of selecting inappropriate personnel to Pacific police services. It has also been acknowledged that for this to be effective, there is a cost involved in establishing dedicated "vetting teams" to service this requirement. In smaller countries, this added cost may be able to be subsumed within the current operating budget. However, in the larger countries, new teams will have to be formed and could typically comprise up to 3-5 personnel in two-three office areas. This may cost, including wages, vehicles, computers and forms, approximately US$125,000 per annum.

Initial training for Constable is being addressed by the Pacific Regional Policing Initiative (PRPI) following input from PICP. A regional, competency based, common standard initial training program is being developed and will be introduced in Tonga, Vanuatu and Kiribati as pilot programs in 2005-2006. Over time, as other countries adopt and adapt the training, this will provide a solid cadre of trained personnel with well developed fundamental community-based police skills.

C. Who will Benefit? Who will Pay?

The benefits of a police-keeping mission are two fold, at least. The primary beneficiaries are the people living in the country where the deployment occurs. Both the country itself, and the population, benefit by a return to the rule of law and the increase in public safety and confidence that this brings. Through the re-establishment of a safe environment investment and confidence in the economy of the country can commence. These are core tenets of the intervention by the UN or other regional intervention. The UN meets the deployment and operation costs of an intervention or mission. These funds are in turn provided from the general subscriptions of the UN member countries.

The Pacific island countries that are direct members of the UN are therefore contributors to the overall funding of the UN and therefore contribute to the peace keeping or police-keeping

missions. While not all Pacific countries, or more correctly territories, are direct members of the UN, they are represented through their governing powers such as France and the United States.

Each country which currently contributes to a peacekeeping mission is required to train and equip the contingent to the required UN level. In some cases this is minor, while in others it requires a considerable direct contribution through the provision of specific “kit”. The experience of New Zealand Police is that the cost to fully prepare a police member for an overseas deployment in a tropical environment, is US$1,400 per person. These costs are not recoverable at the conclusion of the deployment as the “kit” is generally due for replacement.

The analysis undertaken in the development of this paper concludes that the proposal for a regional police training centre to train and support civilian police members from the Pacific to participate in overseas deployment missions will not make the process financially self sufficient or allow for setup costs to be recovered.

The income generated through deployment in overseas civilian police peacekeeping missions will not be sufficient to create a "cost recovery" formula.

The funds generated in payments to officers on peacekeeping missions are paid to the officer, not to the country who provides that officer. If a percentage of the payment is taken to offset the development and operating costs this is unlikely to be at a sufficient level to achieve cost recovery within a reasonable or realistic time frame.

Funding will be required from a donor to establish the regional training centre. Further or ongoing funding will be required to support the ongoing costs of operating the regional training centre.

There is little likelihood that any individual Pacific country could consider long term and ongoing commitment to the financial support of the project.

Once the centre is operating it is proposed that the UN assume responsibility to fund the ongoing running costs of the centre and the delivery of ongoing training and skills enhancement is achieved as part of the overall delivery through UNDPKO. It must be noted that this proposition has not been explored with the UNDPKO.

If the role is not achieved through the UN, then alternative avenues of financial support will require to be identified.

Should this process be followed and on ongoing sponsor engaged, the potential benefits to the contributing countries will be achieved at an early point and the flow on benefits to the individual countries and to the region collectively realised.

Without this supporting process, and ongoing direct financial support, the project is not considered to be financially sustainable.

VIII. The Qualitative and Quantitative Benefits of Establishing a Regional Policing Force for Export

While arguably, larger Pacific Island countries would benefit most from contributing police officers to a regional PKF, in a relative sense, smaller countries also benefit. Fiji Islands in particular would derive most benefit from the establishment of a regional PKF Training Centre.

A. Employment

A regional PKF of up to 250 officers provides increased employment opportunities for persons seeking policing as a vocation. Major "pull" factors are the chance to serve overseas and receive additional income.

Fiji Islands in particular will benefit from increased employment of persons associated either directly or indirectly with the regional PKF Training Centre. While numbers are difficult to estimate, possibly up to 100 people may be employed.

B. Benefits to Contributing Police Services

Personal benefits to police officers deployed to UN missions include:

- enhanced financial security;
- increase in self-confidence and self-esteem;
- increased experience;
- opportunities for advancement and promotion;
- improved lifestyle, including for families;
- opportunities to network with other police officers; and
- opportunities to establish personal and institutional relationships.

The overall increase in police numbers and the accompanying higher skills both at a community policing level and at an investigative and management level would flow through as a direct benefit to the local police services and to their communities. The collective benefits to the Police and to their communities include:

- increase in resources available to support local initiatives or campaigns, subject to their availability;
- increase in visibility of the police service which raises the collective standing of the police service;
- increase in public safety and confidence through an increased visible police presence;
- potential reduction in the levels of crime through an enhanced and more capable police service;
- potential increase in the “clear up rate” of reported crime through increased skills and capabilities;
- uptake of overseas best practice in policing;
- potential reduction in the levels of corrupt practices through exposure to international standards and best practice while in overseas deployments.

While these benefits are very difficult to quantity, they potentially offer a safer community and a reduction in the levels of crime and victimisation. The outcome, as opposed to an output, is a safer community and a reduction in crime and criminality.

However, there are inherent risks to police officers serving in UN Missions. These include:

- possible exposure to and risk of infection from HIV/Aids;
- sexual contact may lead to breakdown in personal/family relationships;
- officers may choose not to return to country or their family; and
- officers used to working at a higher level with better facilities overseas, may lead to frustration on return to lower capacity, lower pay and poor conditions, resulting in officers choosing to leave their police service.

C. Longer-Term Benefits of Income

A Pacific PKF of 250 officers has the potential to provide **approximately US$3 million per annum** additional funding from remittances (25%) and unused salary. This additional funding would leak into regional economies and provide wider economic benefits to local communities.

While in the short-term, this allows for increased financial security and improved lifestyle for families, it is nevertheless, of significant benefit to the region. Police officers may choose to serve overseas on more than one occasion.

By establishing a regional PKF Training Centre in Fiji Islands, the most economic benefits would flow into Fiji Islands from income generated by the goods and services provided by local contractors including vehicles, fuel, computers, office equipment, ground and building maintenance, food and beverages, accommodation, hospitality etc. Government taxes on salaries and charges on goods and services also provide additional income.

D. National Capacities

Individually, Pacific police services would benefit from the additional knowledge, skills and attitudes gained from deployment to UN Missions. This is already evident for those Pacific countries contributing to UN Missions and to RAMSI. Over time, if this skill base is retained, the capacity of national police services will increase, realising a return on investment. Consequently, the flow-on effect is that local communities are better served by higher quality police officers.

However, there is a risk that police officers, once provided with additional skills, will choose other career paths, either within or external to their country of origin.

E. Security

It could be argued in the short-term, that deploying a regional PKF comprising experienced police officers outside the Pacific region could lead to a diminution of capacity in national police services, particularly in the larger forces. But over time, as capacity is balanced due to back-filling and increase in experienced police officers returning from overseas duty and up-skilling "on-the-job", police services will be in a better position to provide enhanced services to the community.

IX. SWOT (STRENGTHS-WEAKNESSES-OPPORTUNITIES-THREATS) ANALYSIS

Table 2: SWOT Analysis

Strengths	Weaknesses
• High level of current participation and exposure to Peacekeeping Operations • Experience through involvement in RAMSI • Concerted will of PICP Members for a regional police peacekeeping project • Strong regional voice in policing through PICP • Strong interest of UN DPKO, visible through 33rd SPCPC meeting	• Current involvement is generally at bi-lateral level only • Low capacity to provide skilled staff, both in numbers and quality • Not all PICP countries are UN members
Opportunities	**Threats**
• Regional participation through all PICP members • Supported by Pacific Plan • Immediate benefits to members and to countries • Short term benefits to members and to countries • Strengthened regional identity and ownership of own policing destiny • Off shore income generated for participating countries • Overseas police experience • Experience in multi national operations • Enhanced regional policing capacity • Development of UN "Formed Police Unit"	• High risk to personal safety and possibility of compensation claims for death or injury of a member • Personal health, and environmental health risk, through HIV/AIDS • People may not return home though taking up other opportunities available to them while off-shore • Requirements for contracts or "bonding" of members following deployments • Reduced expertise in home forces through experienced staff being deployed overseas, and replaced by junior staff within the home forces. • Lack of support from Foreign Affairs Agencies of NZ and Aust perhaps through FRSC forum • Creation of an uncontrollable export of skills from the Pacific • Low levels of payment and compensation will reduce the likely cost benefit • Abuse of generated income through corrupt practices in Governments • Disaffection from members who are part of a FPU if they are not adequately compensated • Cost Benefit Analysis may defeat the proposal • The proposal may not be sustainable in the long term through loss of trained staff to take up opportunities • Staff who return from deployments may be disillusioned in the conditions in their home forces • The high cost of establishing the process may not be cost recoverable within a reasonable time frame • Increased overseas deployments may in time lead to a move to arming Pacific Police Forces • There may be insufficient suitable applicants to backfill positions in countries • UN participation may be restricted to only UN member countries

A. Explanation of Weaknesses and Threats through the SWOT Analysis and Mitigation Strategies:

1. Weaknesses

Not all PICP countries are UN members
The primary market for civilian police peacekeeping operations is through the United Nations. While the majority of the PICP/SPCPC members are members of the United Nations, some are not. American Samoa, French Polynesia, Guam, New Caledonia, and the Commonwealth of the Northern Marianas are not members of the Pacific Island Forum but are members of the PICP/SPCPC. In addition two nations, the Federated States of Micronesia and Niue, are a member of the Pacific Islands Forum but not a member of the UN.
Mitigation strategy - The current proposal is for all PICP members to be able to participate in any regional initiative. The UNDPKO has indicated that this is acceptable to them.

Current involvement is generally at bi-lateral level only
Where member countries are already participating in peacekeeping missions, this is undertaken on a bi lateral basis between the country and the UN. Countries may wish to continue to be involved in individual missions on this basis. This has the potential to weaken their ability to participate in a regional mission.
Mitigation strategy - The benefits of regional cooperation will potentially cause the bilateral process to reduce as the regional benefits are seen and taken up.

Low capacity to provide skilled staff, both in numbers and quality
Many of the PICP police forces are either small or operate at a level suitable to their own country needs. In many cases English (which is the required language by the UN) may not be widely taken up. In other cases the police members may have only received minimal training sufficient for their own requirements but which may not be suitable on an international deployment. In order that potential participants may join a mission they are required to reach the required skill level set by the UN.
Mitigation strategy - Participation in regional initiatives will raise the skills levels of countries. However, the basic level of skills will have to be met before selection and training can be facilitated within the proposed framework. The PRPI initiative will help to overcome this deficiency in the 5 to 10 year plan.

2. Threats

High risk to personal safety and possibility of compensation claims for death or injury of a member
Participation in peacekeeping missions is a high risk activity, which may be well beyond the risks currently faced in local policing in the contributors own country. A significant number of peacekeepers die or are seriously injured in these missions. The increased risk to personal safety and the negative impact on a home community through death or injury, especially if it were to occur on a large scale (such as an IED) could significantly reduce the support the project. This may result in the sudden withdrawal of participants, as has occurred in the UN missions in Iraq. The Governments of the contributing countries may become liable for the loss incurred by their police members or the families.
Mitigation strategy - High levels of personal skills through competent and comprehensive selection, training and supervision will help to ameliorate the risk. Governments will need to develop strategies to support the deployments when the "going gets tough."

Personal health, and environmental health risk, through HIV/AIDS
HIV/AIDS is serious risk to peacekeepers and in due course to their communities. In many of the countries where deployments occur HIV/AIDS is over 40% in the sexually active sector.
Mitigation strategy - The PIOCP and the UN HIV/AIDS task force have developed a project to increase awareness and to protect all police members within the PICP catchment. A primary focus of this project is to ensure that all staff working on overseas missions receive appropriate awareness training and protective measures. This project will commence in 2005/2006.

People may not return home though taking up other opportunities available to them while off-shore
Police officers who are deployed overseas will be exposed to opportunities for employment outside of the Police. This may result in them seeking to leave the Police service and to work in private industry. Media reports indicate the Fijian people employed in the security industry in Iraq are earning up to US$3,000 per month, while the majority earn in the region of US$2,000 per month.
Mitigation strategy - The risks of people leaving for "greener pastures" is a real one which cannot readily be mitigated. However, the risks of death or injury are high and many of the employees are exposed in the highest risk areas without the support offered in peacekeeping missions. The benefits of personal safety and support can be capitalised on to lessen the

Requirements for contracts or "bonding" of members following deployments
To ensure that skills learnt in overseas deployments are brought back to the home forces, there may be a requirement that members enter into a contract or boned period following their deployment. The enforceability of such a contract may be difficult in some countries during to lack of process and/or corrupt practices. Without a pay back period the potential benefits are significantly reduced.
Mitigation strategy - Develop standards contracts of service with a bonded period following deployment.

Reduced expertise in home forces through experienced staff being deployed overseas, and replaced by junior staff within the home forces.
The most suitable people for an overseas deployment, and those will meet the UN requirements, are likely to be the most successful in their home forces. Removing the best from the forces will potentially create a gap in experience. The best performers are also likely to be the most motivated who will actively seek the opportunities for advancements and skills enhancement, this increasing the risk.
Mitigation strategy - While experienced staff will be required initially, and especially until replacements are recruited and trained, and gain experience, the overall increase in skills and experience will gradually flow through to the home forces. The initial "pain" will be overcome by the "long term gain."

Lack of support from Foreign Affairs Agencies of NZ and Aust perhaps through FRSC forum
The Foreign Affairs Ministries of New Zealand and Australia have indicated their opposition to peacekeeping as a proposal in the Pacific because of the risk of it reducing the capability of the local forces. The inputs through ODA are focussed on improving the conditions within countries and the deployment of staff overseas has the potential to adversely impact on the desired outcomes of ODA. The forthcoming FRSC round will have the opportunity to be briefed on Peacekeeping and an adverse finding in that Forum may adversely impact on any later proposal as part of the Pacific Plan.

Mitigation strategy - The Fiji Police Commissioner seeks to raise this matter at the FRSC and to address it in a positive light with anticipated support from the Pacific nations at the FRSC.

Creation of an uncontrollable export of skills from the Pacific
The increase in skills gained through peacekeeping will potentially cause a trade in people changing to other opportunities and trades, or to them leaving the region in search of other opportunities.
Mitigation strategy – To a lesser or greater degree this trade already exists. The opportunity to gain experience in a career they have chosen and to be compensated for this career, may be sufficient in itself to retain the skilled people.

Low levels of payment and compensation will reduce the likely cost benefit
The levels of compensation for working in a UN mission are based on the socio economic analysis of the destination country. In countries where the cost of living is low, the rate of allowances is equally low. For instance, the projected rate in the Sudan is US$47 per day. There is a possibility that countries will choose to only provide staff to the areas where the cost benefits are perceived as higher, and this will cause new nations or regions to be forced to take apparently less desirable opportunities. The rate of apparent return to the member's home country will appear to be lower and therefore less desirable. In turn the cost benefit, or repayment of investment, will take longer to achieve. This may place the whole concept at risk.
Mitigation strategy – While the rate may be lower, the cost of providing accommodation and food is also lower. It is therefore still possible to generate income which will return to the members host country but the return on investment may be greater.

Abuse of generated income through corrupt practices in Governments
There are documented instances of officials taking the "cream" off peacekeeping operations through outright fraud or through the creation of excessively high overheads. This causes mistrust in the process. In turn the return on investment and on work is significantly reduced.
Mitigation strategy – The creation of transparent practices to ensure that the transfer of funds, and the management of overheads and income, is legitimately managed. In a joint and multi country operation it is probable that instances of corruption at a local level will be readily identified and the risk is therefore reduced.

Disaffection from members who are part of a FPU if they are not adequately compensated
Two systems are available for UN deployments. The first is by membership of a peacekeeping operation, and the second through the delivery of a Force Protection Unit of FPU. An FPU is a fully funded operation where all of the resources of the force are provided by the home country. The level of compensation is higher, in the range of US$1,000 per person per month, but the set-up and maintenance costs are also much higher. Not all deployments require a FPU. Because the funds are managed by the providing members Government the opportunity to increase overheads, and therefore reduce the amount of money received by each member, is higher. In turn, members will become disaffected through this process.
Mitigation strategy – It is initially unlikely that the region could effectively provide a FPU because most are fully armed units and this required expertise is generally lacking in the region. If a FPU was established then the multi country membership would help to ensure that the costs are carefully itemised and the benefits realised.

Cost Benefit Analysis may defeat the proposal
The cost of a project such as this, and the length of time it may take to recover any investment, may be such that the proposal fails. While the CBA and the proposal are speculative, the expectation of a successful proposal is raised. Failure of the proposal could be an impediment to acceptance and support of the overall pacific Plan.
Mitigation strategy – Clear statements that the process is speculative from the PIF and also the parties involved. The message that the process is speculative should be conveyed at all possible times so that expectations are not unfairly raised, and later dashed.

The proposal may not be sustainable in the long term through loss of trained staff to take up opportunities
While members have indicated support to the concept, their ability to provide people of suitable skills is currently limited. In the long term this pool may be even further reduced as people tire of the adverse impact an overseas deployment has on family life. This may in turn cause "fatigue" in the providing countries. Examples of this are already apparent in the RAMSI and in East Timor deployments.
Mitigation strategy – Careful management of people before, during and especially after deployments to ensure that they re-integrate effectively in their own communities.

Staff who return from deployments may be disillusioned in the conditions in their home forces
Staff employed on overseas missions work in an artificial environment of community policing, because they are the focus of attention and the resources are generally readily available to support them. On return to their home countries these facilities are unlikely to be available. People have the skills, but not the resources, to continue to provide the services they have while overseas. Examples of this are apparent in some Pacific countries that have significant experience in overseas deployments.
Mitigation strategy – The continual upgrade of local resources through initiatives such as the PRPI. The management of expectations that are created overseas to ensure that they are realistic upon the members return to their homes.

Increased overseas deployments may in time lead to a move to arming Pacific Police Forces
Members of UN peacekeeping forces are required to be competent in the use of firearms for self protection and force protection. While the deployments may not be armed, the training is still required. The general aim in policing in the Pacific region is to disarm police forces where this is possible. This reduces the trade in illegal or stolen weapons from police armouries. Members who have experience in working in a higher risk environment where firearms may be available, may in turn create that expectation of carriage of police firearms in their home countries.
Mitigation strategy – Realistic management of the training and carriage of firearms as part of a deployment. Pro-active debriefing and follow up at the conclusion of a deployment.

There may be insufficient suitable applicants to backfill positions in countries
Some countries are already finding difficulty in identifying and recruiting suitable applicants. The increase in recruitment to backfill positions given to peacekeeping may in fact make the problem even greater. In turn this may lead to a reduction in standards for recruitment which in turn will increase the risks to the police service
Mitigation strategy – Careful management of the number of positions made available to peacekeeping operations. Implementation of integrity standards and robust HR processes.

X. FINDINGS

The following are the key findings of the report:

- The establishment of a Pacific Police Peacekeeping Service supports the aims of the PIFS Pacific Plan through the implementation of specific regional initiatives;
- Pacific police services have varying degrees of experience in UN and other offshore missions and to date have served with distinction.
- There are fundamental benefits to the Pacific region in establishing a PPKF for export including:
- regional identity and ownership leading to enhanced credibility and reputation of Pacific policing services;
- increased employment and income generation within the region; and
- increased capacity for Pacific policing services.
- The PPKF should not be a "Standing Force". Rather it will be a pool of officers who can be deployed at short notice.
- The concept of a “force” is misleading, because what is proposed is not a standing force but a standby system.
- A Regional Training Centre (RTC) needs to be established, most probably in Fiji Islands, to support the extensive training requirements of the PPKF. A comparative scoping study should be undertaken to determine the most suitable location for the RTC.
- The RTC would become a "Centre of Excellence" for peacekeeping in the Pacific region and include issues such as UN Human Rights investigations and HIV/Aids into its curriculum.
- Enhanced police capacity will deliver more effective police services to the community and over time provide greater regional stability.
- The development of a “police-keeping” capacity, both in terms of a dedicated regional police training centre, and the increase in police skills offered to each police members, offers a tangible increase in local police capacity, rather than a “drain” on existing police resources.
- A PPKF will enhance interoperability across police jurisdictions in the Pacific.
- The establishment of a PPKF is not a panacea for increased police capacity. Programs such as the Pacific Regional Policing Initiative, Institutional Strengthening Programs and specific bilateral interventions will need to continue.
- There is concern at the number of suitable personnel available to recruit as police officers, particularly in relation to higher education levels and increasing demands from private companies for workers overseas.
- The sustainability of the PPKF over the longer-term will provide significant challenges for donor organisations, particularly in relation to the RTC.
- On completion of a tour of duty with the PPKF, police officers may choose other career pathways, particularly if there are a lack of resources and infrastructure in their home police services (the frustration of returning to operate in a low capacity police service).
- Income may not flow back into Pacific countries at the (higher) levels anticipated.
- Police officers may suffer from adverse effects of serving in traumatic areas leading to discharge and costly counselling. This could have significant effect on families and relatives.
- Police officers serving offshore may become involved in corrupt practices or inappropriate behaviour.

APPENDIX: TERMS OF REFERENCE

Consultant: Pacific Islands Chiefs of Police Secretariat

Post: Consultant to the Pacific Plan Office, Pacific Forum Secretariat, Suva

Background: To implement their enhanced vision for regional development, Pacific Islands Forum leaders have recently agreed to create a 'Pacific Plan for Strengthening Regional Cooperation and Integration', which aims to deepen and broaden regional cooperation by pooling regional resources. The Pacific Plan will assist all Pacific Forum member countries to increase their appreciation of regionalism, including issues related to the costs and benefits of Pacific regional cooperation and integration. The Plan aims to increase participation, ownerships and regional collective action. The Plan also aims to facilitate the inclusion of regional initiatives in the Pacific Islands countries' national development strategies.

In 2004 the PIF Secretariat requested support from ADB for the development and implementation of the Pacific Plan. Given the limited availability of budget resources and skilled personnel in the region, it was suggested that the technical assistance should focus on increasing stakeholders' appreciation of the benefits and costs generated by regional cooperation and integration for each country, and the opportunity-cost of non-integration for the overall region. The ADB, in conjunction with the Commonwealth Secretariat in London, is providing technical assistance in the form of a consultants team based at the PIF Secretariat in Suva.

The joint ADB-Commonwealth TA team will focus, *inter alia,* on providing a rigorous analytical framework for understanding regionalism in the Pacific. This analysis will be detailed through a series of studies measuring the quantitative and qualitative costs and benefits of specific regional interventions proposed by the Pacific Plan Task Force. The intention of the individual studies is to provide a complete stand-alone policy paper which is of publishable quality as well as much briefer input into the body of the text.

The studies must consider the implications for sovereign nations to allocate resources at the regional level, vis-à-vis their use to sustain national budgets and the effect in terms of resource creation or resource diversion of regionalism, especially when new areas and sectors are taken into consideration for regional cooperation and integration. In particular, the studies should focus on the analysis of the current costs for PIF members to participate in regional institutions, regional programs and benefit from provision of regional public goods and services as well as other positive feedback and spillovers due to regionalism.

Terms of Reference: The consultant shall:

Prepare a report on the costs and benefits of establishing a regional policing force for export. This report should address, at a minimum:

- The past and current levels of export supply of Pacific policing forces in the world;

- The current and potential demand for policing in the international arena, and what share of this demand could be captured by Pacific forces;
- The current regional and national mechanisms to supply policing services, including:
    - Their institutional framework;
    - Their running costs (budget, training, equipment);
    - Their key constraints and level of efficiency;
    - Their ability to meet the potential demand in the international market.

- Areas where pooling resources at the regional level would bring increased benefits;
- The quantitative and qualitative costs of establishing a regional policing force for export to meet international demand, including:
    - Staffing and infrastructure needs both at the regional and at the country level
    - Length of time involved in recovering costs of establishing regional mechanisms
- The quantitative and qualitative benefits of establishing a regional policing force for export, including the longer-run benefits on incomes, employment, national capacities and security, based on clearly laid out assumptions and analytical frameworks.

Responsible: Dr. Roman Grynberg
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Pacific Plan Office, Pacific Islands Forum Secretariat
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Duration: First Draft due no later than April 30th 2005
Comments will be provided by Pacific Plan Office by May 10th
Final draft due ten days after receipt of comments (but no later than May 30th 2005)

- report to a standard acceptable to the Pacific Plan Office

Pacific Studies Series

Toward a New Pacific Regionalism

An Asian Development Bank—Commonwealth Secretariat
Joint Report to the Pacific Islands Forum Secretariat

VOLUME 3: WORKING PAPERS
Working Paper No. 13

Small Island States Bulk Procurement of Petroleum Products: Feasibility Study

Jared Morris
Pacific Islands Forum Secretariat
Suva, Fiji Islands

Preface

This report was prepared for the Pacific Islands Forum Secretariat (PFIS) in Suva, Fiji Islands. The report is one output of an Asian Development Bank (ADB) technical assistance project (TA 6226 REG): "Developing and Implementing the Pacific Plan for Strengthening Regional Cooperation and Integration." The Commonwealth Secretariat provided funding to the project.

The lead author of the report was Dr. Roman Grynberg, Deputy Director of Trade and Regional Cooperation at the Commonwealth Secretariat. He was assisted by Michael Hyndman, a cost-benefit analyst contracted by ADB, and Sacha Silva, an economist contracted by the Commonwealth Secretariat. Consultants from PIFS and the Pacific region provided valuable inputs for the report. Bill Costello was the ADB task manager.

The report is published in three volumes. Volume 1 is the Executive Summary. Volume 2 is the main report. Volume 3 contains the working papers commissioned for the report–a series of independent studies assessing potential benefits and costs of implementing a variety of possible regional initiatives. Volume 3 has been printed in hard copy in only limited numbers. However, it is available on the websites of ADB (www.adb.org) and at www.pacificplan.org.

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CONTENTS

SUMMARY FINDINGS

1. An evaluation of international procurement and supply chain management of the petroleum sector within the Small Island State (SIS), and a risk assessment of the current position reveals the sector to be in a 'critical position' due to a lack of effective competition in the marketplace and a need to improve the capacity and effectiveness of regulators.
   There is strong private sector control of key infrastructure with monopolies – either Shell, Mobil Exxon, or Bitish Petroleum - in five of the seven (70%) of the SIS.
2. Clear objectives from consultations reveal the need to stimulate private sector development (SME) by reducing the cost of doing business. The key role energy has on the costs of achieving Millennium Development Goals (MDGs) is also noted. Options to improve/simulate a competitive environment for the petroleum requirements of the economy are key to achieving these objectives, along with the role of government to supply public goods that support business activity through regulation, facilitation of competition and low cost services.
3, Three intervention models have been evaluated. The options include a sound regulatory framework to manage private sector through to the most extreme of measures, the state operation of key infrastructure assets. The value at risk is defined as the difference between the Net Present Values (NPVs) - over fifteen years – between the status quo and the alternative of public sector ownership of infrastructure nd is calculated at United States dollars (US$)145 million.
4, The need for an independent, accountable, well resourced unit to co-ordinate Clusters, Networks, broker agreements, and provide regulatory support across the SIS is evident. The sharing of resources of this management unit across the SIS is the most cost-effective solution to meet the needs of the SIS and is easily accommodated in the benefits to be gained from these initiatives.
5. Regulatory intervention applied consistently across the region through a Network of regulators, capacity building, and enforcement is a significant improvement on the Status Quo situation. The effectiveness of this intervention tempered by the tension between suppliers and governments in defining a fair industry return on investment, and private sector control of key infrastructure.
6. Positive NPV's are achieved through ownership of bulk terminal facilities, but the continued cost effectiveness of the supply model to the SIS is determined by proactive management of
   a. operational efficiency including transportation and freight;
   b. regional risk assurance processes;
   c. Return on Investment in fixed assets;
   d. costs of working capital; and
   e. bulk/competitive procurement discounts.
7. Three Clusters have been proposed that can progress the concept of bulk procurement. These clusters capitalise on existing shipping and supply lines, and close proximity, and social/business environment. To ensure flexibility and competitiveness, it is unlikely that the entire SIS will be covered under a singe agreement.

8. A summary of the costs and benefits are summarised by Country, Cluster and cumulative for the region below.

STATUS QUO

Southern Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Cook Islands	$ (974,321)	$ -	$ (974,321)	$ -	0.00
Niue	$ (622,483)	$ -	$ (622,483)	$ -	0.00
Cluster Summary	$ (1,596,805)	$ -	$ (1,596,805)	$ -	0.0

Northern Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Federated States of Micronesia	$ (18,693,083)	$ -	$ (18,693,083)	$ -	0.00
Palau	$ (1,869,308)	$ -	$ (1,869,308)	$ -	0.00
Republic of Marshall Islands	$ (2,868,294)	$ -	$ (2,868,294)	$ -	0.00
Nauru	$ (124,497)	$ -	$ (124,497)	$ -	0.00
Cluster Summary	$ (23,555,182)	$ -	$ (23,555,182)	$ -	0.00

Central Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Kiribati	$ (1,522,946)	$ -	$ (1,522,946)	$ -	0.00
Tuvalu	$ (121,790)	$ -	$ (121,790)	$ -	0.00
Cluster Summary	$ (1,644,736)	$ -	$ (1,644,736)	$ -	0.00

	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Regional Network and Cluster	$ (26,796,722)	$ -	$ (26,796,722)	$ -	0.00

REGIONAL REGULATION OF PRIVATE SECTOR

Southern Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Cook Islands	$ 145,461	$ (46,729)	$ (707,071)	$ 852,531	1.21
Niue	$ 145,885	$ -	$ (34,237)	$ 180,121	5.26
Cluster Summary	$ 291,346	$ (46,729)	$ (741,307)	$ 1,032,653	1.4

Northern Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Federated States of Micronesia	$ (182,892)	$ -	$ (2,519,527)	$ 2,336,635	0.93
Palau	$ (349,449)	$ -	$ (2,519,527)	$ 2,170,078	0.86
Republic of Marshall Islands	$ (102,857)	$ -	$ (805,589)	$ 702,732	0.87
Nauru	$ 210,895	$ -	$ (93,723)	$ 304,618	3.25
Cluster Summary	$ (424,302)	$ -	$ (5,938,366)	$ 5,514,063	0.93

Central Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Kiribati	$ 207,504	$ (635,649)	$ (635,649)	$ 843,153	1.33
Tuvalu	$ 24,873	$ -	$ (54,406)	$ 79,280	1.46
Cluster Summary	$ 232,377	$ (635,649)	$ (690,056)	$ 922,433	1.34

	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Regional Regulation Network	$ 99,420	$ (682,378)	$ (6,679,673)	$ 6,546,716	0.98

REGIONAL REGULATION OF PUBLIC SECTOR ENTITY

Southern Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Cook Islands	Not Assessed	Not Assessed	Not Assessed	Not Assessed	-
Niue	Not Assessed	Not Assessed	Not Assessed	Not Assessed	-
Cluster Summary	$ -	$ -	$ -	$ -	-

Northern Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Federated States of Micronesia	$ 78,852,009	$ (7,639,207)	$ (58,217,229)	$ 137,069,238	2.35
Palau	Not Assessed	Not Assessed	Not Assessed	Not Assessed	-
Republic of Marshall Islands	$ 23,703,153	$ (5,841,380)	$ (17,643,682)	$ 41,346,835	2.34
Nauru	Not Assessed	Not Assessed	Not Assessed	Not Assessed	-
Cluster Summary	$ 102,555,161	$ (13,480,587)	$ (75,860,911)	$ 178,416,072	2.35

Central Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Kiribati	$ 1,356,492	$ (3,181,020)	$ (10,533,172)	$ 11,889,664	1.13
Tuvalu	$ 499,968	$ (2,040,990)	$ (6,589,841)	$ 7,089,809	1.08
Cluster Summary	$ 1,856,461	$ (5,222,011)	$ (17,123,013)	$ 18,979,474	1.11

	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Regional Network and Cluster	$ 104,411,622	$ (18,702,598)	$ (92,983,924)	$ 197,395,546	2.12

I. BACKGROUND

1. A number of studies and reports have been compiled in the past for Forum Island Countries (FICs) on Petroleum andEnergy as it relates to specific countries. These studies and programmes have been through the United Nations Pacific Energy Development Programme (UNPEDP), Pacific Islands Forum Secretariat (PIFS), South Pacific Geoscience Commission (SOPAC) and other independent consultants. The overarching findings in the reports continue to highlight the following:

- a complex supply chain with heavy reliance on shipping services;
- a limited access to market information;
- a scarcity of appropriate business skills, expertise and regulatory frameworks; and
- a lack of purchasing power leverage with high transportation and freight costs.

2. These factors are cited for the high costs of doing business in the Pacific, diminishing competitive potential, and difficulties in achieving the Millennium Development Goals (MDG's). Increased economic development and improvement in standards of living has driven a demand for electricity, as have national priorities to increase the access of electricity to their people. The lack of appropriate renewable energy alternatives has – for the long term - solidified the requirement for petroleum in the Pacific.

3. Over the past 6 years, there have been many requests to progress the concept of Bulk Purchasing for the PICT's, and in particular the SIS. These are summarised below:

a. The 1999 Air Transport Forum:
A need to develop the concept of Bulk Purchasing of Fuel for the sub-region, and to address the common problems currently faced by members relating to the reliable supplyand reasonable price of fuel (Federated States of Micronesia (FSM], KIRIBATI and NAURU);The 2003 Forum Leaders Communiqué:
"Para. 64. Leaders agreed that the Secretariat should examine Nauru's proposal for a regional/sub-regional fuel depot as a way of improving the supply and reduce the price of fuel in the Pacific."

b. The Pacific Plan 2005:
"Action to progress the concept of regional bulk purchasing and centralised storage of petroleum and basic imported food items, to improve cost-effective access by Pacific island countries".

c. The 13th SIS Leaders Summit 2004:
Presentation of the study requested to highlight at country level the most appropriate supply model and identify a framework required for alignment of the petroleum industry for the implementation of a joint purchasing scheme for SIS.

A. Petroleum Demand in the SIS

4. The Small Island States (SIS)[1]market for petroleum products though significant – approximately United States dollars (US$)100 million per annum based on Freight on Board (FOB) prices – is not managed in a consolidated manner. The fragmented market, numerous players, and poor economies of scale lead to inefficiencies in the supply chain, asset redundancy, and under utilisation of distribution vessels. This translates to a high cost to the end consumer.

[1] Cook Islands, Federated States of Micronesia, Kiribati, Nauru, Niue, Palau, Republic of Marshall Islands, and Tuvalu.

5. In many PICT's, consumer protection mechanisms are in force, and price regulation – in the form of profit and price caps and petroleum pricing templates - attempt to mimic the presence of true competition and maintain fair and equitable prices. **Though this minimises the price to consumers and avoids price gouging, it does not address flaws and inefficiencies in the supply chain**.

Figure 1 - Petroleum demand figures from the PIFS petroleum database. Rates based on published FOB prices from Singapore Platts Oilgram. Data on demand varies between sources, the table is sufficient to highlight the order of magnitude of the trade, and the effect of oil price movements over the last 4 years.

TRADE MATRIX	Volume Consumption (L)	Calculated $US	Calculated $US
	Approx. 2000	**2000 Market Rates**	**2004 Market Rates**
Cook Islands	18,888,000	$ 3,777,600	$ 6,044,160
Federated States of Micronesia	68,130,000	$ 13,626,000	$ 21,801,600
Fiji	460,000,000	$ 92,000,000	$ 147,200,000
Kiribati	21,000,000	$ 4,200,000	$ 6,720,000
Nauru	2,300,000	$ 460,000	$ 736,000
Niue	2,300,000	$ 460,000	$ 736,000
Palau	26,000,000	$ 5,200,000	$ 8,320,000
Papua New Guniea	990,000,000	$ 198,000,000	$ 316,800,000
Republic of the Marshall Islands	96,250,000	$ 19,250,000	$ 30,800,000
Samoa	80,000,000	$ 16,000,000	$ 25,600,000
Solomon Islands	60,000,000	$ 12,000,000	$ 19,200,000
Tonga	45,000,000	$ 9,000,000	$ 14,400,000
Tuvalu	4,000,000	$ 800,000	$ 1,280,000
Vanuatu	29,000,000	$ 5,800,000	$ 9,280,000
	1,902,868,000	$ 380,573,600	$ 608,917,760

6. **Using the reference volume in 2000, the price differential over the last four years exceeds US$220 million per annum.** Increased prices, though having drastic effects on the economy, stimulates energy efficiency, conservation, and improves the feasibility of renewable energy technology.

II. THE TERMS OF REFERENCE

7. The following process in:

- Review current petroleum supply chains, operating models and performance in the SIS, including the access to markets, the security in supply and environmental regulation and consumer protection mechanisms with respect to petroleum;
- Identify immediate opportunities for the SIS to obtain cost effective access to petroleum fuels by improved procurement and supply chain management by reduction in duplication, redundancy, strengths and weakness of the present supply chain and opportunities to share infrastructure development ;
- Options for the institutional and legal framework for Cluster formation, collective negotiation, supplier and contract management for Regional bulk purchasing initiatives; and
- Appropriate training models for sustainable capacity building in the SIS in the areas of procurement, supply chain, contracts, and supplier management.

A. Methodology

8. The Secretariat has utilised the following methodology to determine stakeholder needs, review present supply chains, and assess competitiveness of supply markets in the SIS:

i) **Stakeholder Consultation:** A desktop reviews and in-country consultations where possible were conducted. In depth industry reviews were conducted in Kiribati, Federated States of Micronesia, Tuvalu, and the Republic of the Marshall Islands. The benefits for Cook Islands, Niue, Nauru are based on desktop study and information available at the PIFS;

ii) **Government objectives clearly defined** based on current position, assessed risks, and regional best practise. Consultation of national sustainable development plans formed the basis of the objectives;

iii) **A "Current Position"** was prepared based on consultations with stakeholders, highlighting current supply chains, assessed competitiveness of the supply strategies, consumer protection mechanisms;

iv) **A "Future Position"** is proposed that addresses key failings in present sector activities. Four different intervention methods are proposed to improve sector performance, and a Risk profile for each option is presented;

v) **Risk Assessments based on a developed risk matrix and standard approach** are conducted to identify key risk areas in the different models to the successful implementation and achievement of government objectives. Risk Mitigation Plans (RMPs) have been the areas that would pose the greatest barriers to achievement of the government goals, and achievement of the future state position;

vi) **Financial Discounted Cash flow** models were prepared for different operating positions and Terminal manning levels, terminal valuations, and Risk Assurance process are based on recognised industry standards projected volume growth and required margins to maintain asset integrity and deliver the defined Results and Services Plan;

vii) **Economic Cost Benefit Analysis** compiled for each option and compared against a base case 'do nothing' scenario. All costs and benefits have been individually identified with build-up rationale and assumptions stated. To ensure no breach in confidentiality arrangements between the Secretariat and support to countries and suppliers, publicly available information has been used to build the models; and

viii) **Regional Bulk Procurement potential is highlighted**, along with proposed management and governance framework that links with national taskforce and regulators. Regional sub-clusters that make logistical and managerial sense are defined and benefits are defined.

B. Guiding Principles

9. The primary focus of this review is to protect the public, the environment and groups such as consumers and workers. The definition of a **clear rationale for action,** the need for change – and its potential effectiveness – will be judged against the objective.

10. The **rationale for government intervention is simply to improve the competitive nature of the industry, and to be able to seek assurance of the cost effectiveness of the present supply strategy in the countries.** In reviewing the SIS potential, the following principles were adopted:

1. Proportionality

11. **Intervention will only be when necessary with remedies appropriate to the risk posed. All costs will be identified and minimised.** Policy advice and resulting implementation solutions will be proportionate to the perceived problem or risk and justify the compliance and implementation costs imposed. All realistic options to achieve policy objectives will be considered - not just prescriptive regulation - to ensure that alternatives that are more effective and cheaper to apply are considered. Enforcement regimes will be proportionate to the risk posed, and enforcement will consider educational, rather than a punitive approach where possible.

2. Accountability

12. **Policy advice and resulting decisions can be justified, and subject to public scrutiny. Policy advice will be based on rigorous and robust analysis.** Proposals will be published and affected parties consulted before decisions are ultimately taken. Clear explanations of how and why final decisions have been reached will be available. The Taskforce and Regulators will establish clear standards and criteria against which they can be judged, and there will be well-publicised, accessible, fair and effective complaints and appeals procedures. There will be clear lines of accountability to Ministers; Parliaments and assemblies; and the public.

3. Consistency

13. **Rules and standards will be aligned and implemented fairly. Policy, regulation and any intervention will be consistent, and work together in a joined-up way.** New models will take account of other existing or proposed regulations, whether of domestic, regional or international origin. Regulation will be predictable in order to give stability and certainty to those being regulated. Enforcement agencies will apply policies and regulations consistently across the country.

4. Transparency

14. **Policy advice and implementation models will be open, and regulations simple and userfriendly.** Policy objectives, including the need for change, will be clearly defined and effectively communicated to all interested parties. Effective consultation will take place before proposals are developed, to ensure that stakeholders' views and expertise are taken into account. Policy advice and solutions will be clear and simple, and guidance, in plain language, will be issued before changes take effect. Those being affected will be made aware of their obligations, with law and best practice clearly distinguished. Those affected will be given the time and support to comply. The consequences of noncompliance should be made clear.

5. Targeting

15. **Policy and proposed implementation models will be focused on the problem, and minimize side effects. Recommendations will focus on the problem, and avoid a scattergun approach.** Where appropriate, reform will adopt a "goals-based" approach, with affected parties given flexibility in deciding how to meet clear, unambiguous targets. Guidance and support will be adapted to the needs of different groups. Focus will be on those whose activities give rise to the most serious risks, and systematically reviewed to test whether they are still necessary and effective.

III. DEFINING THE OBJECTIVES

A. Concerns Prompting the Review

16. The current price of petroleum products is at an all time high, and now at levels where those who most depend on it as an energy source for cooking, light and transportation are now the least likely to afford.

17. **There are few formal or transparent methods for verification of current costs, profits and prices in the SIS to give assurance to governments that the present supply strategy is indeed fair.** There is agreement that proactive management of the petroleum sector is required to ensure that the needs of the economy are met, to create economic growth. This report investigates options to improve the competitiveness in this critical area.

18. **Implementation of Price Control may not be a suitable answer** for this tends to be slow in reacting to the increases and decreases in product prices and operational expenses in a dynamic business like energy. At a minimum, it is expected that a transparent pricing template will be developed enable the monitoring of wholesale and retail prices and allow benchmarking of sector profits.

19. The commercial realities of supply and distribution of petroleum products, and international shareholder demands on returns on investment, must be respected, however with the SIS having some of the most energy dependant economies in the world – measured as barrels of petroleum consumed versus Gross Domestic Product - nations are not in a position to afford return on investment demanded in free market economics, and may not reach agreement with a MNOC on a fair and equitable ROI for the sector.

20. That petroleum is classed as a critical commodity for the SIS, requiring specialised assistance and support, and a supply strategy based on preferred long term partnerships to meet the changing needs of the economy, while also proactively managing what is in local control to counter global pressure.

B. The Millennium Development Goals[2]

21. ***Many people in the islands live in areas that lack access to infrastructure.*** This makes it more difficult and costly to provide energy services, as it is not easy to transport fuels and technology, there are few local organizations able to install, operate and maintain the technology, and few outlets to sell spare parts or appliances.

22. ***Investment in infrastructure is important to increase and sustain the provision of energy services to the poor on the islands.*** It is also important that they have access to information on the availability and use of alternative energy sources to help them make the right choice of energy services and to educate them on how to use them most efficiently.

23. The demand for energy services is not often explicitly expressed in many development plans but in assessments of issues constraining development, lack of access to energy is frequently one of the key bottlenecks. The links between energy and poverty are frequently overlooked.

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[2] DFID –Energy for the Poor, Consultation Document, May 2002.

24. Energy services, and the petroleum sector in the Pacific plays a variety of direct and indirect roles in the key MDG areas. Unlike developed economies, there are little to no alternatives to fossil fuels presently available:

- **To halve extreme poverty** - access to energy services facilitates economic development - micro-enterprise, livelihood activities beyond daylight hours, locally owned businesses, which will create employment - and assists in bridging the 'digital divide;'
- **To reduce hunger and improve access to safe drinking water** - energy services can improve access to pumped drinking water – clean water and cooked food reduce hunger (95% of food needs cooking). The high dependence on Kerosene in remote locations requires sound pricing and cost allocation methodologies based on poverty impact indicators;
- **To reduce child and maternal mortality, and to reduce diseases** – energy is a key component of a functioning health system, for example, operating theatres, refrigeration of vaccines and other medicines, lighting, sterile equipment and transport to health clinics;
- **To achieve universal primary education,** and to promote gender equality and empowerment of women – energy services reduce the time spent by women and children (especially girls) on basic survival activities (gathering firewood, fetching water, cooking, etc.); lighting permits home study, increases security and enables the use of educational media and communications in schools (including information and communication technologies (ICTs); and
- **Environmental sustainability** – improved energy services help to reduce emissions, protecting the local and global environment; efficient use of energy sources and good management can help to achieve sustainable use of natural resources and reduce deforestation.

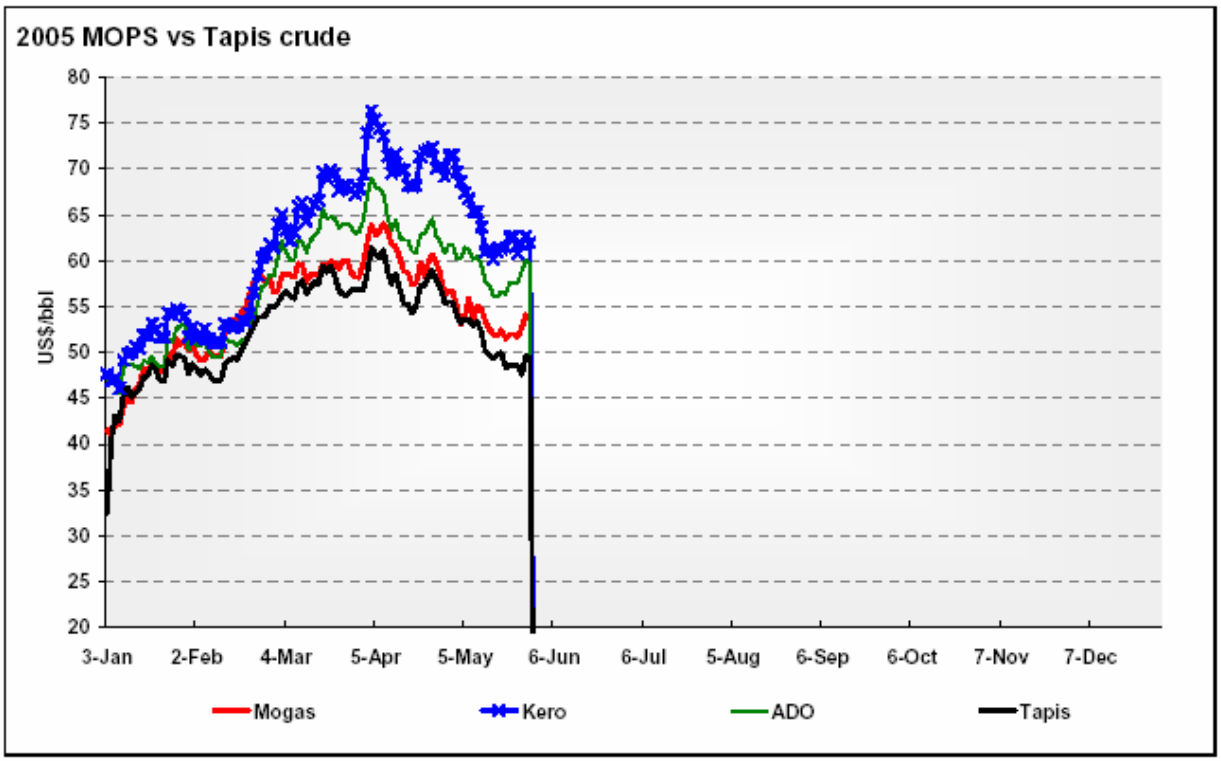
25. Benefits derived from any intervention can be passed directly to all consumers or 'channelled' by government into specific priority areas. Annual review of the impact of benefits is required, with channels aligned to government priorities of the time.

IV. PETROLEUM MARKETS AND THE PACIFIC

A. International Source Markets

26. **International Petroleum Prices have increased significantly.** The futures driven market has experienced record prices based on sentiments over a tight supply, increasing demand and threats on production stability. Growth in People's Republic of People's Republic of China and India has ensured that the 'bulls' of the trading floor command high prices. Tension in the Middle East, threats by OPEC, and concerns with production capacity have all contributed to high prices. Over the last 24 months, crude oil prices have increased from US$30/bbl to over US$50/bbl, with the demand for refined products like Jet A1 now in excess of US$67/bbl.[3] The spread in traded prices has increased, with monthly highs and lows exceeding US$10/bbl.

[3] Platts Oilgram, September 2005, Dual Purpose Kerosene (DPK) spot price listings.



27. **The point of origin for refined petroleum products within the Pacific is Singapore, with product prices benchmarked against Platts Oilgramm.** There is a demonstrated improvement in the understanding of trade in petroleum within the Pacific. Supply agreements commonly reference Mean of Platts Singapore (MOPS) published price. Trade was once dominated by oil company 'posted' prices, however a definite shift to competitive 'spot' prices can be observed. The move to spot references has seen an increase in Freight On Board (FOB) premiums instituted at the refinery. Suppliers now justify premiums to reflect the additional costs of small multi-cargo nature of supply, MTBE free fuel specifications of the specific markets, or as a requirement over SPOT prices to guarantee security in supply. These premiums vary across supplier and need to be challenged and accepted under contracts.

28. **Papua New Guinea have recently commenced operations and supply from their InterOil Napa Napa refinery.** It is still early to make an assessment on the potential of this refinery to supply the PICT's. Napa Napa is ideally located, and has potential to minimise distribution and transportation costs to the pacific. Refinery operations, the supply and demand balance, and is being closely monitored and reviewed by the Secretariat for consideration as a secure source of supply prior.

B. International Procurement and Supply Chain Management

29. **MNOC's refineries and supply departments control and co-ordinate** all medium range shipping, discharge location, vessel scheduling, capacity, stock holding and demand evaluation for supply out of Singapore. The marketing arms resident in the Pacific have supply agreements with their refineries that details trading terms, FOB price calculations, premiums.

30. **The Pacific has two main entreports for product supply - Fiji Islands and Guam.** The origin of

most refined petroleum products in the PICT's – excluding Australia, New Zealand, and Papua New Guinea – is Singapore. A call for an entreport in Nauru has potential for improved shipping and bargaining, however this can only be achieved once on-shore competitiveness has been achieved at national levels in the SIS. This action will ultimately lead to a dilution of the volume base in present entreports. There are immediate benefits that are available prior to the consideration of the required investment in an additional bulk storage terminal.

31. **Freight between Singapore refineries and the main entreports are effectively managed,** with agreements now specifying independent shipping boards – Worldscale and London Tanker Brokers Panel –to benchmark freight rates for petroleum tankers. Supply from the main refineries are via medium range tankers (MRX) in excess of 24,999 DWT.

32. Use of Average Freight Rate Adjustment (AFRA) factors are now common. AFRA was commissioned originally by one of the oil majors as a sophisticated indicator of freighting values for its affiliated companies, AFRA results have been published by the London Tanker Brokers' Panel continuously since 1954. They are unique in being the only assessments of their kind to be recognised by taxation authorities as an acceptable method of charging freight between affiliated companies of multi-national groups. AFRA results are also used by oil traders and government agencies to assess the freight element in various types of oil sale agreements, and at this point in time, are the most transparent means of benchmarking MRX freight in the Pacific.

33. **Freight between the main entreports and locations is dominated by Local Coastal Tankers (LCT) under the direct charter of MNOC's.** Local Coastal Tankers up to 9,000 DWT operate in the Pacific. In PNG, the French Territories, and Fiji Islands all.

34. **A Sub-regional agreement has potential to improve the purchasing power**, shipping logistics, and supplier management framework. This potential and the required management framework are covered in detail later in this report.

35. **Understanding market drivers:** Over the last 15 years, as a result of the Regional Energy Programmes, and the Petroleum Advisory Service at the Pacific Islands Forum Secretariat, a significant amount of work has been done to up skilling. Now more than ever the fact that petroleum is a futures market that is driven be market sentiments. With the advent of technology, and an improvement of telecommunications – television, and internet – it is a lot easier for PICT's to access information directly to understand the markets and the drivers.

C. MNOC Supply Trends in the Pacific

36. **The PICT's remain heavily dependent on fossil fuel** based systems of energy generation that are often environmentally and economically unsustainable and are not equitably available to remote populations. This dependency makes them vulnerable to increased costs and uncertain supplies which slows the sustainable development in rural areas.

37. **Energy consumption is often regarded as an important indicator of economic development** of a nation. For households, access to different types of energy sources is a key indicator of the standard of living: changes in these proportions would, consequently, provide evidence of the development path. The commercial/industrial sector is fuelled by energy. The PICT's energy use in these sectors is dominated by imported fossil fuels. Indeed, the region can

be regarded as among the world's most dependent on fossil fuels for their economic development.[4]

38. **In terms of energy imports, PICT's energy imports account for 15-25% of total imports** and over 40% of the gross domestic commodity exports. A Pacific Regional Energy Assessment (PREA) (1992) report showed the tremendous impact of petroleum imports on the economy. The ratio of petroleum imports to total exports is very large for most Pacific island countries, between 40 - 80%, and alarmingly so for some countries where the figures are as high as 500%. This constitutes a dangerous dependency situation, for in case of a major disruption in the fuel supply due to global shortages, rising prices, conflicts or other causes, the consequences would be dramatic.[5] It is important that while there is high focus and hopes of renewable energy (RE) to reduce dependence on fossil fuels, this must be tempered with reality given that the demand and desire for energy will not be fully met by RE in the immediate future.

39. **It is a strategic imperative that nations assess current supply chains in their country to ensure efficient supply models, fair and equitable prices, and security in the supply.** The monopoly situation in many PICT's further exacerbate the situation, with large multi-national oil companies demanding returns comparable to large booming economies. History has shown that governments are unable to effectively challenge industry ROI unless they have a control over essential infrastructure services.

40. **Competition in the Pacific is limited by economies of scale and diseconomies of location.** There are logistical challenges, a spread of social issues, instances of poor credit performance, limited growth potential, and a high number of health and safety incidents. While a number of island governments have displayed a stable policy environment, there are also numerous instances of political instability. New environmental regulations in a region known for its pristine beaches, clear waters, a dependence on the sea, and increasing reliance on tourism for economic development has raised the perceived risk ratings of supply. This has affected costs of environmental compliance and in some instances returns demanded by suppliers.

41. **There have been many health, safety, quality and environmental incidents relating to the storage, handling and distribution of petroleum products within the Pacific.** The two most significant effects include escape or loss of product to the environment, quality and specifications, and multiple human fatalities. Instances include leaking underground tanks, leaking main terminal facilities, burst discharge hoses, marine spills and road tanker accidents. The root cause of the problems have been attributed to asset integrity, product contamination, human behaviour, management controls and operating standards. *These are "real costs and risks" involved in this sector and exist under any supply model arrangement.* One must be clear and unambiguous where this liability ultimately lies. MNOC's spend significantly more than other organisations on capacity building, operating standards, and maintenance to ensure that risks in the operations are as low as reasonably practical. For these services, they demand more than the actual costs of risk mitigation measures by offering 'peace of mind' through their international band and image.

42. **The trend for many of the MNOC distribution and marketing arms is to consolidate**

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[4] Pacific Regional Submission to the 9th Session of the Commission on Sustainable Development (CSD9), 2000.

[5] Pacific Regional Submission to the 9th Session of the Commission on Sustainable Development (CSD9), 2000.

services to main terminal facilities in urban centres. This measure has been implemented to minimise exposure to risks by reducing the number of depot locations, the number of staff required for operations, the training and auditing requirements, and the intensity of internal control mechanisms. The closure of remote islands depots, and the withdrawal of services mean remote locations make their own arrangements for their needs in a more costly manner. This clearly illustrates the *incompatible goals* of the private sector against energy policy priorities of reliable, safe, and cost effective supply to outer islands. For remote communities, the high cost to serve, coupled with unreliable shipping services result in high costs, and it is not uncommon for their costs to be in excess of US$5/gallon (US$1 per litre).

D. Fair Industry Returns

43. **Global competition for capital investment affects the Pacific.** The record economic growth and demand in energy hungry nations like India and People's Republic of China, have prompted many multi-nationals to divest interests in low growth, high environmental risk markets, and to invest into high growth economies. The Pacific, though an attractive and sizable market now competes for investment. In the petroleum sector the hurdle rates for business performance and new capital investment have steadily risen over the last 10 years. This is globalisation at work and has raised the benchmark for returns for MNOC shareholders.

44. **MNOC's often measure returns based on the Average Capital Employed in the business.** Capital Employed includes Fixed Assets, Stock, and Debtors. There are different methods used to calculate Fixed Assets that include use of depreciated assets values, alternatives replacement costs, market value or even total historical costs.

45. **The issue of a 'fair return' for investment and risk is a point of philosophical debate.** The Pacific, heavily dependant on fossil fuels view this as *an essential commodity with a fixed demand, limited competition, and guaranteed return so do not justify high ROI's.* Oil industry returns are considered high when compared against other private sector business competing in Pacific economies.

46. **MNOC's view the government position with some scepticism, citing that in the value chain, many governments receive more through taxes - import, income, company and sales - without carrying the commercial risks of supply.** MNOC's view the industry as driven by international market movements, and maintain that it is driven by free market economics, and that there is nothing competition in the Pacific markets. There are regular reviews of the opportunity cost of total capital employed (stocks, assets and debtors) and *consistent benchmarking of local operations against global business performance*.

E. Competition in the Pacific

47. **Petroleum supply within the Pacific is dominated by multi-national oil companies** – Mobil, Shell, and British Petroleum. The MNOC's are some of the most consistent Foreign Direct Investors (FDI) in the Pacific, and over the last 60 years have invested millions into our economies. This is however on the backdrop that historically the Pacific earn these companies some of the highest unit margins and Returns on Capital Employed (ROCE) in their operations.

48. **Competition in the Small Island States (SIS)[6] is affected by private sector monopoly**

[6] Cook Islands, Federated States of Micronesia, Kiribati, Nauru, Niue, Palau, Republic of Marshall Islands, and Tuvalu.

ownership of terminal facilities, market size, remoteness of location and availability of shipping. Many prospective suppliers have indicated that the market is attractive, however needs to be packaged together to warrant the effort of setting up supply chains to the countries. It is unlikely that true competition can exist in the SIS without a duplication of infrastructure and operating structures. This can often result in increased costs-to-serve. A balance needs to be achieved between the *benefits of economies of scale, the need for perceived competition and security in supply*. A good example is Samoa who despite recording some of the lowest product prices in the Pacific,[7] have the general public raising issues on what they believe are high prices of products due to a perceived lack of competition.

49. **There are willing suppliers to the Pacific market, however they look to minimise their risk and exposure in any market.** The largest risk areas in operating petroleum companies are technical, infrastructure, financial and human capital. Multi-national investment in our economies has ensured continuity in supply for example tensions in the Solomon Islands. On the other side of the spectrum is the unfortunate disruptions to electricity in the Commonwealth of the Northern Marinara Islands (CNMI) where the supplier refused to deliver petroleum products due to extended trading terms.

50. **The monitoring and response to supply market risks and opportunities at a country and regional level can be improved.** The implementation of consistent price methodologies, contracts, and communication channels is essential to ensure a co-ordinated response to global events. The formation of appropriate clusters and networks will allow appropriate response mechanisms and information dissemination.

51. **Types of information and information providers:** There are a number of international and independent bodies that provide assistance. For the Pacific, the reference international market is Singapore, and the Platts Oilgramm is currently the market information source that is used. Platts is a publishing house that monitors the oil trading in Singapore, and publishes the daily highs and lows of trade by product grade. International tanker freight, the London Tankers Brokers Panel (LTBP), and Worldscale are also available.

52. **Information Support to Supply Market Analysis:** The Pacific Islands Forum Secretariat provide primarily level information and technical assistance support. The work programme includes support for price monitoring, price control verification, annual negotiations and industry reviews. There is also a focus on international issues and appropriate responses for the region.

V. STAKEHOLDER PERCEPTIONS AND REQUIRED CHANGES

53. The in-country consultations reaffirmed primary stakeholder perceptions of monopoly type institutions:

i) **Consumers**: “Monopolies charge too much, competition will reduce prices.”
ii) **Producers & Suppliers**: “Market reform would result in even higher prices, with competition diluting volumes.”
iii) **Governments**: “Resources are limited and likely to shrink further. The least involvement possible is required.”
iv) **Environmental Groups: “**Oil companies are irresponsible and create significant environmental contamination. There is only a 100% renewable energy solution.”

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[7] Pacific Fuel Price Monitor, PIFS.

54. **In assessing root problems in the current market structure and supply strategies, focus is on assessing the benefits against defined objectives, and the probability of realising the potential.** The worth of the intervention can only be evaluated in terms of its objective(s). The objectives of this project are clear, unambiguous and derive from the national strategic development planning process.

Table 1 – Mapping current concerns with 'Future State' objectives of proposed Government Intervention

PROPORTIONALITY:

The petroleum sector within the SIS is approximately 1 million litres per day, and represents annual trade of approximately $US100 million per annum. Recent international price movements have seen an increased pressure on Balance of Payments, and the Consumer Price Index due to increases in electricity, water and transport rates.

The petroleum sector within most of the SIS is dominated by monopoly private sector multinationals. There few Fuel Supply Agreement (FSA) in place, and large differentials exist between the landed price of products and the final wholesale price. With MNOC control and ownership of essential infrastructure services leaves a weak government negotiation position, with the industry achieving its demands without much resistance.

Industry regulation sector varies across the PICT's. The key role that energy plays in the economic development of the SIS, the high dependence on fossil fuels, low competition, and monopoly supply situations have prompted a review of the current value chains in supply of petroleum, where assurance is sought that the present supply models are indeed fair, or alternatives that are available.

"Current Position" Analysis		**"Future Position" Objectives**
PROPORTIONALITY		
• Suppliers are ***unregulated private sector monopolies driven by shareholders*** to maximise profits and returns in their operations. The Pacific delivers some of the highest unit margins and return on investments in world.	⇨	• **The SIS is considered attractive, low risk, long term contract**, that delivers better than average returns with international Shareholder demands balanced against ability to pay for products; • **Few barriers exist to effective competition,** with opportunity to improve bidding and shipping efficiencies with PICT neighbours; • **The supply model capitalises on economies of scale** with competitiveness regularly tested in the market;

• The ***relationship between monopoly petroleum suppliers and governments is described as poor.*** There are few supplier-buyer management frameworks in place, with key stakeholders left feeling that the level of service, and level of control by MNOC's is unsatisfactory.	⇨	• **Strong supplier and industry management framework** in place that is clearly aligned with government priorities; • **Partnership and long term stability in relationships** are developed based on integrity, trust and respect for people and the environment;
• ***Current supplier behaviour is consistent with an unregulated monopoly***, and does not provide any assurance to officials that the supply model is cost-effective;	⇨	• Consumer Led Value Creation
ACCOUNTABILITY		
• ***Government is unable to defend or explain the benefits and suitability of current monopoly supply models***, with stakeholder views that many Governments are powerless against multi-nationals.	⇨	• **Intervention can be defended** based on the economic benefits to the nation and an appropriate supply strategy; • **Petroleum pricing and cost allocation methodologies** are proactively managed as part of the Energy Portfolio;
CONSISTENCY		
• There are ***few proactive supplier price monitoring / price control mechanisms in place,*** the purpose of which is to mimic a competitive market by price and profit capping the local operations.	⇨	• **Strong regulation of industry consistently applied across the region**; • **National and Regional price monitoring** and reporting mechanisms are in place;

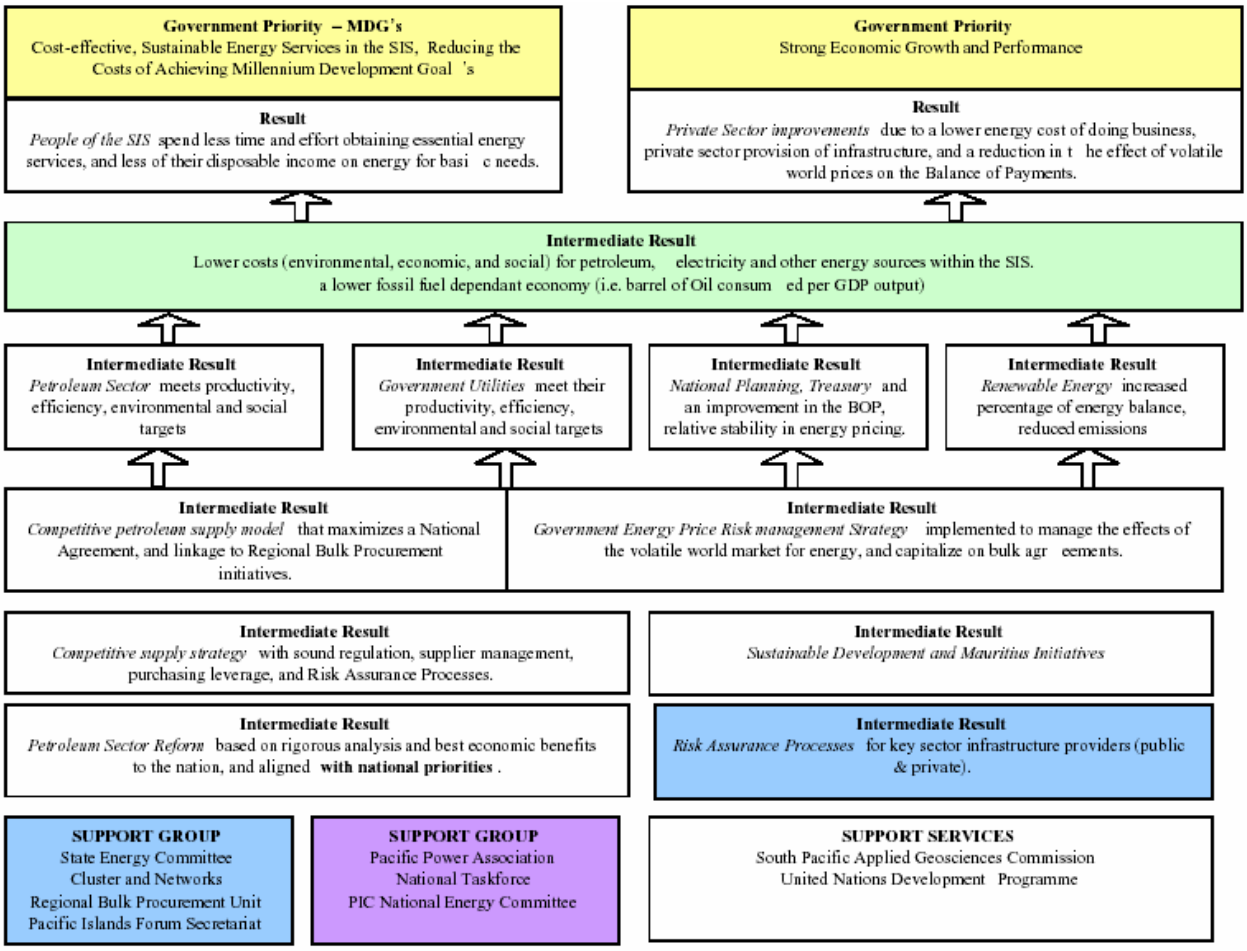
• There are ***few incentives for productivity, efficiency or effectiveness*** in the sector as current costs are recovered in pricing templates;	⇨	• **Performance of supply models benchmarked** against similar operations in the Region; • **Best Practise identified and shared** between national operators and officials;
TRANSPARENCY		
• There is a ***high potential for price gouging and excessive margins to be extracted*** by a monopoly supply situation, and international benchmarks for ROI's are higher than what most countries can afford.	⇨	• **Profits are monitored and assessed** as fair for the market size and investment climate; • **Strong regulation of industry consistently applied across the region**;
• ***Many monopoly suppliers are reluctant to assist*** when opportunities have been provided to explain differences with unfulfilled promises, unquantifiable references to the environmental cost doing business.	⇨	• **Supplier responsive to changing government needs**, and the Results and Services Plan is aligned with national priorities;
TARGETING		
• ***There is no supply or service agreement in place to assure many SIS*** on their security in supply, levels of service. There is no agency identified as the focal point for management of the sector.	⇨	• **Pro-active management of the energy sector (petroleum) portfolio** with sector concerns managed national taskforces; • **Fuel Supply Agreements map government expectations of suppliers**,
• ***Petroleum products are considered "basic and essential" and cross-cutting all sectors of the SIS***, with limited suppliers, specialised skills in the industry and lack of government	⇨	• **Regular assurance of cost-effective access** to products through transparent process reviews; • **Regional sharing of resource persons**

resources .		to ensure cost-effective use of resources; • **Maximised purchasing power through sub-regional** bulk procurement and proactive management of suppliers;
• ***Petroleum cost allocation methodologies to market segments are controlled and managed by the private sector*** and often in direct conflict with national and state government priorities.	⇨	The Energy Taskforce prepare pricing policies for sectors based on clear Poverty Impact Assessments and revised on a yearly basis; Power sector tariffs are reviewed regularly with Automatic Fuel Adjustment factors independently verified;
• ***International energy market volatilities and currency movements drastically affect the SIS Balance of Payments***, provision of social services and CPI.	⇨	• **Energy Price Risk Management strategies** – financial mechanisms and Renewable Energy employment – investigated; • **Lower impact of volatility on ability to deliver the basic social services** of electricity and transportation;

55. This essentially indicates three focused areas for improvement of this sector and includes Coordination; Strategic Cost Reductions; Consumer Led Value Creation; and Proactive Energy Portfolio Management.

56. **Social Responsibility Reporting:** Influential lobbyists moot the idea of including social responsibility reporting as part of the required standard reporting for multinationals. During one the preparatory committee meetings for the World Summit on Sustainable Development the following recommendations were made:

- "Sustainable entrepreneurship" in less developed countries is to be included in company reporting as part of the expanding on the current environmental and sustainability reporting.
- "There is a growing awareness among business and industry that the social side of global
  sustainable development needs to be taken into account alongside environmental and economic
- "In a world increasingly interconnected economically, environmentally and socially this will require not only partnerships with governments and civil society, but also for industry to be fully



VI. ACHIEVING THE "FUTURE POSITION"

57. **The widest possible range of realistic options has been identified** in this, the first step of the planning process. The feasible options in the sector reform are to:

a) remain *status quo*;
b) become a well *regulated private sector;*
c) enter into a *private public partnership; OR*
d) become a *regulated public sector corporation*.

58. An assessment of the key areas in the different business models are provided below. The history of unsuccessful government intervention, poor public entity performance has meant that a regulated public sector, *though having the highest benefit potential also has the largest risk profile*.

Table 2 - A comparison of the Risk Values between the four potential petroleum supply models that are available to the SIS..

	Risk Area	"Current State"	Regulated Private Sector	Public Private Partnership	Regulated Public Sector
	BENEFITS==>	LOW	LOW	MEDIUM	HIGH
1.	Supply Strategy	Observe	Observe	Observe	Critical
2.	Security in Supply	Observe	Observe	Observe	Serious
3.	International Logistics	Serious	Observe	Observe	Serious
4.	Efficiency	Critical (Unknown)	Serious	Serious	Serious
5.	Productivity	Critical (Unknown)	Serious	Serious	Serious
6.	Effectiveness	Critical (Unknown)	Serious	Observe	Serious
7.	Asset Integrity Management	Serious	Observe	Observe	Critical
8.	People and Human Capital	Serious	Observe	Observe	Serious
9.	Processes and Management	Observe	Observe	Observe	Serious
10.	Political	Serious	Serious	Serious	Serious
11.	Monopoly	Serious	Serious	Serious	Critical
12.	Environmental Compliance	Serious	Observe	Observe	Serious
13.	Emergency Preparedness	Observe	Observe	Observe	Critical
14.	Energy Price Risk Management	Critical	Critical	Critical	Critical
15.	Return on Investment	Critical	Serious	Observe	Critical

59. The Current Position carries a HIGH with 11 of the 15 risk categories considered Serious or Critical. A regulated private sector carries a RiskRating of HIGH with 7 of the 15 risk areas. A PPP is classed as LOW with only 5 of the 15 risk areas classed as Serious or Critical. The Regulated Public Sector carries the highest risk with all 15 of the risk areas classed as serious or critical. This is due to the history of poor government intervention, and the need for good governance structures, and robust analysis of intervention prior to implementation.

A.

Option A – Do Nothing
Private Sector Owned Infrastructure, Status Quo

60. The first option to be considered is the Base Case of ***"Do Nothing",*** i.e. what happens if the status quo is maintained. Doing nothing does not necessarily mean "spending nothing". For the SIS this means targeted stock cover may not be maintained and suppliers may continue to recover excessive returns from the region.

61. The minimum regulatory functions will be required to effectively manage the sector. This includes:

- price monitoring, verification and restatement mechanism;

- cost allocation and sector cross-subsidy policy directives;
- supplier management and benchmarking framework;
- commitment to a specific Environment and Operations Standard; and
- a risk assurance process on to ensure that the integrity of assets and processes.

62. Assuming, due to the private sector monopoly control situation, that there is excess recovery of 1 US cent per gallon (0.25 US cents per litre), this has a negative effect and represents NPV by country as follows:

Net Present Value	4%	7%	10%
Cook Islands	$ (630,483)	$ (511,194)	$ (422,803)
Federated States of Micronesia	$ (2,779,558)	$ (2,253,660)	$ (1,863,977)
Kiribati	$ (700,981)	$ (568,354)	$ (470,079)
Nauru	$ (76,774)	$ (62,248)	$ (51,485)
Niue	$ (76,774)	$ (62,248)	$ (51,485)
Palau	$ (76,774)	$ (62,248)	$ (51,485)
Republic of the Marshall Islands	$ (3,212,831)	$ (2,604,957)	$ (2,154,531)
Tuvalu	$ (133,520)	$ (108,258)	$ (89,539)
TOTAL	**$ (7,687,696)**	**$ (6,233,167)**	**$ (5,155,384)**

63. **The 'Value at Risk' for the SIS, under a status quo situation, is approximately US$800k per annum, for every 1 cent per gallon (0.25 cents per litre) excess recovery by monopoly suppliers**.

B.

Option B - Regulated Multinational Private Sector
Private Sector Owned Infrastructure, Government Regulator

64. **In a fully competitive environment, market forces are more effective than regulations in providing consumers with a wide choice of products and services at reasonable prices.** Hence, price and profit regulation should only be imposed on dominant operators that have the potential to abuse their market power and engage in anti-competitive practices.[8]

65**. It is easy to underestimate the costs of regulation**, which include effects on entrepreneurial behaviour and innovation, as well as the costs of the regulatory body and the compliance costs of the people being regulated. Regulation often makes it difficult or costly for companies to take account of technical innovations, and may crowd out market solutions to problems. It is therefore important that any proposed regulation of this sector is proportional to the assessed value at risk. **Based on the 'Status Quo' calculations, every 1 us cent per litre that the SIS can reduce current pricing structures, represent an annual gain of approximately US$800k per annum, and an NPV gain of US$6 million over 15 years.**

66**.** A dominant player will need to be subject to price monitoring arrangements to comply with benchmark prices and ensure the products and services vital to promoting the competitiveness of businesses, and have wide public impact are indeed fair and reasonable. Consistency in this

[8] 'Imaginative Thinking for Better Regulation', Better Regulation Task Force (BRTF) Report 2003, UK.

approach is preferred, with shared regional resources at the Government assistance for regulatory reviews and restatements.
Considering the strong negotiation position of the suppliers, it likely that negotiation will still be in the favour of the MNOC by at least 0.25 us cent per litre.

67. **Bulk terminal facilities and terminal operations remain the ownership of the private sector.** Risks in ensuring a qualified and well trained team of personnel, robust financial management, asset integrity, security in supply and environmental risks are *transferred* to the private sector investor. Under this scenario, ***a higher return will be required*** by the private sector to management these risks, however this is balanced against a monopoly supply situation, and a guaranteed return on investment.

68. **The premium demanded for risk management and assurance by MNOC's are more than the actual costs of risk mitigation, citing 'peace of mind with a world renowned brands' and their 'access to immense global resources' as justification.**

69. **A Fuel Supply Agreement is required to set the long term expectations of the contract** i.e. 15 years, with a review of costs, productivity and effectiveness of services on an annual basis. A formal contractual review period every 5 years with a termination clause to cancel services. A 15 year timeframe has been proposed as this is considered an acceptable timeframe to recover investments in on-shore terminal assets should the government choose to have an alternate supplier and investor.

70. This model addresses shortfalls identified in the current assessment by allowing government to

- maintain the economies of scale offered through a monopoly supply;
- minimise potential risks and liabilities; and
- challenge suppliers operating costs and returns on an annual basis.

71. The minimum regulatory functions – either contractually or through law - to ensure that this model achieves the government objectives include a:

- defined pricing methodology for the SIS;
- price monitoring, verification and restatement mechanism;
- supplier management and benchmarking framework;
- commitment to a specific Environment and Operations Standard; and
- a risk assurance process on to ensure that the integrity of assets and processes.

72. **Level of Competition: LOW**

- **Competition in this model is limited.** The barriers to entry of a new supplier remain, however the institution of fair price and profit caps combined with a supplier monitoring and benchmarking system may create a market that mimics a competitive environment. **Based on the 'Status Quo' calculations, every 1 us cent per litre that the SIS can reduce current pricing structures, represent an annual gain of approximately US$800k million per annum, and an NPV gain of US$6 million over 15 years.**
- **'Monopoly margin creep' is the greatest risk** as there is no easy way of comparing prices and costs. History has shown that under these arrangements, suppliers continue to push returns to the next best alternative – or higher – recognising that change is difficult, requires political will, and capital investment. Margins are greater than in a competitive market. The benchmarking and assessment of productivity, efficiency and effectiveness of these operations is difficult.

- **High capital investment and market size is the single largest barrier to entry for prospective suppliers**. This provides the incumbent a strong and often unacceptable negotiation and supply position. Examples from the northern cluster indicate that this position has been exploited by suppliers in the past, with a growing spread between MNOC's shareholder demands for return on investments and the ability of a nation to afford.
- **Regional support functions and Networks required to minimise the costs of regulation, capacity building and management support functions transfer of best practise and principles of good governance.**

C.

Option C - Private Public Partnership #1
State Owned Terminals, Leased Back to a Supplier/Operator

73. In this model, the government seek to improve their negotiation position and the competitive nature of the industry by controlling key assets and infrastructure in supply of petroleum to the country. This will ensure that market margins are fair, regularly tested and reduce the opportunity for 'monopoly margin creep'.

74. **Government attains control and ownership of key infrastructure** that will include, but not limited to, bulk oil facilities, transfer pipelines, fire fighting equipment, delivery vehicles and oil spill response equipment. This through the outright purchase of existing plant and equipment or by construction of new.

75. **A development/supplier partner is selected based, and a fuel supply agreement implemented for a fixed duration of 5 years.** The FSA is to clearly outline the required services and expectations of government. The tender covers terminal operations, asset integrity management, and risk assurance services for the facilities, and is balanced against a guaranteed monopoly supply to the market. The agreement includes general maintenance of plant and equipment to an agreed budget, with all maintenance and capital expenses funded by the government. A transparent tendering process is paramount, with robust analysis of alternative offers provided.

76. **A terminal 'lease back' arrangement from the state is included in the contract**, and allows government to repay all loans taken to complete the task. This lease back arrangement is traditionally managed by finance, who maintains a separate vote for this sector. It is not recommended that recoveries return to the 'general fund', as there needs to be provision in the budget to respond to regular calls annual capital investment, a typical requirement of bulk oil facility operations. The government will use funds from the lease back arrangement to repay any loans, obtain a fair return, and provide the necessary insurances on assets. Calculated Lease Back discounted cashflows for each state is included in the Financial Viability assessment.

77. This model addresses shortfalls identified by the current assessment by allowing government to

- maximise purchasing power of the nations petroleum energy requirements;
- maintain the economies of scale offered by monopoly supply;
- align with regional bulk procurement initiatives of the future;
- minimise potential risks and liabilities;

- improve negotiation position by eliminating private sector control of key infrastructure;
- influence cost allocation methodologies across market segments;
- retain ROI Asset earnings traditionally claimed by the asset owner; and
- test the market for suppliers to minimise the opportunity for monopoly margin creep.

78. The minimum regulatory functions required to ensure that this model produces the required objectives can be obtain through contractual arrangements with the supplier, or by law and include:

- a defined pricing methodology for the SIS;
- a price monitoring, verification and restatement mechanism;
- definition of Environment and Operational Standards for the operator; and
- an independent risk assurance process for asset management and integrity.

79. In this model, the supplier carries all the risks in the supply of petroleum products provided that government assets are maintained to acceptable standards.

80. **Level of Competition: MEDIUM**

- **Competition in this model has improved, however is still limited by what can only be described as a complicated, intensive, and expensive supplier changeover process.** This is because of institutional knowledge of the existing supplier and the team of workers. In most instances this will have to be duplicated by the new supplier. There is limited knowledge of local operations and there is a risk of over/under estimating the costs of supply and terminal operations.
- **New operators may elect to engage the current supplier employees, however this is often complicated by strong brand loyalty displayed by employees.** This option does not create a stable working environment for local employees, and supplier changeover results in high staff turnover that often results in adverse industrial relations impact. The greatest risk is that it is too difficult to change suppliers because of the impact on local employees, and there is an incentive to retain the current supplier even at a higher cost.
- **A new supplier, prior to assuming the risks of the terminal operations may elect for environmental site assessments (ESA)** to quantify the level of hydrocarbon contamination present in the immediate areas of the site to limit the extent of the liability should there be accident or incident. This will increase the costs of changeover by approximately US$25,000 per site.
- **Regional support functions and Networks required to minimise the costs of regulation, capacity building and management support functions transfer of best practise and principles of good governance.**

D.

Option D - Private Public Partnership #2
State Owned Terminals with essential staff, Lease Back to Supplier/Operator

81. In this model, the government seek to improve their negotiation position, the competitive nature of the industry, create a level playing field for potential suppliers and minimise any liability. This is by owning and controlling key assets and infrastructure for the supply of petroleum to the country, and maintaining a core of qualified maintenance and operations personnel that are transferred to respective terminal operators.

82. **As with Option B, this will require government ownership of key infrastructure** that will include, but not limited to, bulk oil facilities, transfer pipelines, fire fighting equipment, delivery vehicles and oil spill response equipment. This can be obtained either through the outright purchase of existing plant, or by construction of new.

83. **The requirements of a strategic development/supplier partner is defined, and a fuel supply agreement implemented for a fixed duration of 5 years.** A 5 year tender is called for management services over quality control, asset management and terminal management. Incentives are guaranteed monopoly supply in the market for the period of the contract. The agreement includes management of maintenance and operations budgets, with all larger maintenance and capital expenses funded by the government. A transparent tendering process is paramount, with robust analysis of alternative offers.

84. **The terminal 'lease back' arrangement is included in the contract, along with the supplier assuming a staff of qualified individuals.** This is similar to Joint User Hydrant Installation (JUHI) aviation operations where the staff and assets are fixed, the management changes between suppliers.

85. **The lease back arrangement is managed by finance, who will be required to maintain a separate vote for this sector.** It is not recommended that recoveries return to the 'general fund', as a source of funds for regular annual capital investment is required in bulk oil facilities. The government will use funds from the lease back arrangement to repay any loans, obtain a fair return, and provide the necessary insurances on assets. Taxes remain status quo, or increase to retain some of the benefits of this intervention.

86. This model addresses shortfalls identified in the current assessment by allowing government to

- maximise purchasing power of the nations petroleum energy requirements;
- maintain the economies of scale offered by monopoly supply;
- remove a barrier to competitive offers by suppliers;
- minimise potential risks and liability;
- align with regional bulk procurement initiatives;
- improve negotiation position by eliminating private sector control of key infrastructure;
- retain ROI Asset earnings traditionally claimed by the asset owner; and
- test the market for suppliers to minimise the opportunity for monopoly margin creep.

87. The minimum regulatory functions required to ensure that this model produces the required objectives can be obtain through contractual arrangements with the supplier, or by law and include:

- a defined pricing methodology for the SIS;
- a price monitoring, verification and restatement mechanism;
- definition of Environment and Operational Standards for the operations; and
- an independent risk assurance process to ensure that the integrity of assets and processes.

88. **Level of Competition: HIGH**

- **Competition in this model is improved due to a simple supplier changeover process** as the country maintains institutional knowledge of operations and a core group of appropriately certified employees. The risk of under estimating the costs of operations is low, with ability for a supplier to enter over a 2 month window of operations.

- **The new supplier, prior to assuming the risks of the terminal operations may still elect for environmental site assessments (ESA)** to quantify the level of hydrocarbon contamination present in the immediate vicinity of the site to limit the extent of the liability should there be accident or incident. These can increase the costs of changeover by approximately US$25,000 per site.
- **Regional support functions and Networks required to minimise the costs of regulation, capacity building and management support functions transfer of best practise and principles of good governance.**

E.

Option E – Regulated Public Sector State Ownership of Assets, State Operation of Bulk Terminal Facilities

89. In this option, government seeks to improve its negotiation position, the competitive nature of the industry, remove barriers for potential suppliers and **assumes the liability and risks associated with the supply, storage, handling and distribution of petroleum products throughout the nation.** This will require the creation of a new public corporation to provide the entire scope of services of the private sector, and institute independent risk assurance processes to ensure integrity of assets, process and systems. **Strong and effective management and regulation mechanisms need to be instituted to ensure the Corporation does not become a replica of the monopoly it was created to replace.** The operations need to be insulated from political pressure to keep low prices below actual costs and to ensure funds are available for maintenance, working capital and fixed asset requirements.

90. **The Micronesian Petroleum Corporation (MPC) is the closest model in the Pacific, being a government corporation.** It is believed that the MPC are amongst the lowest price operators within the Pacific, sourcing the most competitive offer on the SPOT market once every 3 months to meet their requirements. This low price however is at the cost of high working capital requirements, issues over security of supply, and assuming all on-shore risks with respect to financial, asset integrity, environmental compliance, product quality, operations and capacity building.

91. **As expected this model provides the greatest reward potential as there is opportunity to maximise the market movements and obtain products and services from the most competitive source at any time.** In this model will require the strongest independent risk management and assurance process to ensure that operations are safe, and that social and financial targets are met.

92. This model addresses shortfalls identified in the current assessment by allowing government to

- maximise purchasing power of the nations petroleum energy requirements;
- maintain the economies of scale offered by monopoly supply;
- remove barriers to competitive offers by suppliers;
- align with regional bulk procurement initiatives;
- improve negotiation position by eliminating private sector control of key infrastructure;
- retain ROI Asset earnings traditionally claimed by the asset owner; and
- test the market for suppliers to minimise the opportunity for monopoly margin creep.

93. Minimum regulatory functions will include:

- a defined pricing methodology for the SIS;
- a price monitoring, verification and restatement mechanism;
- definition of Environment and Operational Standards for the operations;
- independent training and certification of key operations personnel; and
- an independent risk assurance process to ensure that the integrity of assets and processes.

94. The Petroleum Sector has its specific management skills, focus and requirements and a state owned and run operation is not considered the most appropriate and carries the highest risk of failure based on past experience with intervention based within the region. This option should only be considered as a last resort, and some of the benefits derived will be offset by the higher costs associated with technical assistance on management, benchmarking.

95. **Level of Competition for the Contract: HIGH**

- **Competition is the most competitive on price as suppliers transfer all risks to government at the ship flange.** All supply being equal, the model allows the country to achieve the lowest possible Cost Insurance Freight (CIF) option for products, and despite a 5 year supply contract, the arms-length nature of this contract will mean little to no long term partnerships and relationships are built.
- **'Monopoly margin creep', is the greatest risk in this model as there is one on-shore government operated facility that has potential to become the monster it was created to replace.** A strong and supporting government management structure required without significant political influence. This can be managed through strong independent management advice, and potentially creation of a local privatised company, with government controlling shares, and the balance to local government and private sector individuals.
- **Regional support functions and Networks required to minimise the costs of regulation, capacity building and management support functions transfer of best practise and principles of good governance.**

VII. MANAGING AND DELIVERING THE RESULTS

A. Formation of Clusters

96. **UNIDO[9] defines clusters as sectoral and geographical concentrations of enterprises that produce and sell a range of related or complementary products and, thus, face common challenges and opportunities.** These concentrations can give rise to external economies such as emergence of specialized suppliers of raw materials and components or growth of a pool of sector-specific skills and foster development of specialized services in technical, managerial and financial matters.

97. **Evidence from developing and developed countries show that cooperative relations and joint action are more likely when members operate in proximity and share business interests such as market access, infrastructure needs or challenging external competition.** Within such groups, or clusters, members joint initiatives are stronger, because of the critical mass of interested parties, more cost-effective due to shared fixed costs and easier to co-ordinate.

[9] UNIDO - United Nations Industrial Development Organization.

98. Numerous examples, in both industrialised and developing countries, demonstrate that Clusters have established themselves as important and dynamic players within the international market by responding to global competition challenges by capitalising on local opportunities and collective competitive advantages.[10] Based on current supply and value chain assessments, there are three clusters within the Pacific that can operate within present shipping services, entreports and suppliers. This will allow for flexibility in suppliers, innovation and minimise diseconomies of location.

Northern Cluster

a) Federated States of Micronesia
b) Republic of Marshall Islands
c) Nauru, and
d) Palau.

Central Cluster

e) Kiribati, and
f) Tuvalu

Southern Cluster

g) Cook Islands
h) Tonga, and
i) Niue.

B. Horizontal Networks

99. **The ability to create a truly competitive market will be driven by the volume and economies of scale in the supply, and the sharing of management systems and operations.** Training programmes, technical assistance, joint learning workshops, presentation of best practices, creation of discussion fora and the like, constitute the implementation phase of a cluster action plan. The Clusters are driven by achieving the most cost-effective supply to their countries, with the role of the Network in achieving consistency in management practises, sharing of resources and benchmarking of performance.

100. **This is meant to overcome the gaps identified, and provide an opportunity for cluster participants to test each other's delivery capability, upgrade efficiency and effectiveness** in relation to their needs and prepare to assume brokering functions to undertake common initiatives.

101. **The clusters will further be supported by the formation of horizontal networks of all operators within the Pacific.** These Networks will comprise of national petroleum operations that cooperate on joint development projects complementing each other and specializing in order to overcome common problems, and achieve collective efficiency and penetrate markets beyond their individual reach – i.e. the refueling of fishing vessels on the high seas by independent traders.

102. **The specific emphasis on networks is to improve performance and overcome obstacles imposed by size.** Among the main benefits that networks generate are:
a) economies of scale and increased negotiation power (reduced costs due to collective purchases, access to markets that demand higher quality, incorporation of more expensive technologies, easier access to subcontracting relationships with large scale enterprises, etc.);

[10] UNIDO SME Clustering

b) increased capacity for learning and innovation (jointly the operating units are better able to obtain, select and filter information); and c) increased capacity of strategic management (networks are in a better position to take strategic decisions since they are able to reduce factors of uncertainty).

103. **Networks are not easy to establish despite their potential advantages, because individual operations are rarely willing to assume the costs that joint initiatives imply.** Coupled with mistrust and fear of opportunistic behaviour, this often blocks cooperative initiatives.

C. Cluster, Network and Broker Management

104. **A characteristic of the cluster and networking approach is to rely on brokers**—also referred to as intermediary agents or system integrators — for implementation. The identification of an appropriate institution to assume the brokering role varies from country to country where these initiatives have been successful. In some instances, it is a public sector agency that assumes the brokerage function, in others it is an association or an NGO/IGO.

105. **To progress the concept, it is recommended that PIFS be utilised to foster cluster or network development.** The training of an appropriate institution to assume the brokering function to guarantee sustainability will follow. Although transfer of knowledge and responsibility is progressive work, it requires planning at the earliest possible stage to ensure smooth continuation of activities.

106. **The crucial factors in promotion and creation of successful networks/clusters are**:

a) **Proximity.** Although the importance of proximity is debatable in the era of globalization, for cooperation it is still an important factor as this lowers transaction and learning costs not only because of physical closeness, but also because of the homogeneity of participants' social background which facilitates trust.
b) **Incentives**. The best incentives for establishment of a network or organization of a cluster are market opportunities and crises. The present high prices for energy, private sector monopolies and demands for higher MNOC returns can their behaviour when they see an imminent reason for it. Crises can be triggered by, for instance, entry of new, stronger competitors. Market opportunities are, by far, among the best positive incentives for groups to organize.
c) **Progressive establishment of trust.** The establishment of trust will be significant and on-going process, and willl be the single most significant barrier to successful implementation of bulk procurement initiatives. This will translate to progressive integration of more participants into joint activities as well as establishment of more ambitious common objectives over time. Starting small and growing over time as trust increases is, usually, the best way to prevent conflicts and disappointments. The establishment of cluster action plans with clear outputs and responsibilities and clarifying mutual roles and obligations.

107. **Bridging the gap:** The key area a for strengthening to ensure the on-going achievement of goals, and ensuring the delivery of objectives of each of the Clusters includes:

a) Quality standards;
b) Cost management and
c) Standard Financial Management Systems;
d) On-time delivery;
e) Labor standards;

f) Legal / government requirements;
g) Foreign government requirements;
h) Financial conditions (payment, financing working capital);
i) Access to finance;
j) Environmental constraints and energy usage;
k) General business skills;
l) Marketing and logistical skills;
m) Access to market information;
n) Supply chain and Distribution;
o) Providing business training;
p) Transferring / sharing higher technology for cost efficiency or environmental purposes;
q) Improving financial terms; and
r) Providing market knowledge / linkages.

D. Good Governance Framework

108. Adherence to principles of good governance is crucial to the viability and sustainability of the Bulk Procurement Initiative. The following is based on the Forum Principles of Accountability provide preliminary operating parameters for the Brokering Role, and the performance of the supply models in each country.

(a) Accountability and transparency in financial management, strategic planning, Investment decisions, awarding contracts, and board appointments;
(b) Clear lines of responsibility for shareholders, boards and management; and
(c) accessing and acting upon professional advice, including in relation to decisions on infrastructure.

2. The Petroleum Industry will be run on a sustainable commercial basis.
   (d) Where appropriate, this should include corporatisation and/or privatisation of these services services;
   (e) Where entities remain in government ownership and are required to perform commercial activities, such entities should be adequately capitalised;
   (f) Service levels should reflect demand and price should reflect the cost of delivery;
   (g) Where subsidies are judged to be necessary to fulfil declared social obligations, these should be open and transparent;
   (h) Where appropriate, legislated monopolies should be removed with a view to increasing competition.
3. A central responsibility of the Network will be in the establishment and administering regulatory systems and consistent application of rules across the region;
4. Regional or sub-regional solutions to problems in the petroleum sector will be addressed via:
   (i) strategic alliances and development of purchasing Clusters and Horizontal Networks;
   (j) liberalisation of the economic regulatory environment;
   (k) coordinated approaches to health, safety and security and environmental issues;
   (l) training and capacity building.
5. Forum member countries need to comply with internationally accepted standards for the petroleum industry.

1. Terminal and Distribution Operations

109. The National Operations body should be charged with delivering a distinct Results and Services Plan, that clearly outlines the performance in the following pillars:

110. The role of the Terminal and Distribution agency are to:

- treat with care all materials that may cause pollution;
- achieve a zero accident goal;
- maintain open communication with Governments and local communities;
- support market mechanisms for conservation and wise use of energy resources.

111. To achieve the objectives, it is important to ensure the following are key drivers for the national operating company:[11]

- Ensure employees and management at all levels understand their petroleum product stewardship responsibilities;
- Monitor compliance at the operating level with company policy, government regulations and industry guidelines;
- Increase emphasis on training, supervision and motivation of employees;
- Maintain an emergency response capability;
- Examine the introduction of their own and other research into practical ways of minimizing pollution;
- Co-operate with government agencies that request assistance with remedial action where pollution has occurred;
- Confer with Governments, the community, other industries, employees and professional bodies on the range of environmental issues which relate to the industry's operations and its products;
- Work with the public to encourage responsible use of petroleum products; and

Protecting the environment is an integral part the oil industry's operations.

VIII. RISK ASSESSMENT AND MANAGEMENT PLAN

112. **Risk** is the chance of something happening that will have an impact upon results. It is the exposure to the possibility of such things as economic or financial loss or gain, physical damage, injury or delay, as a consequence of pursuing or not pursuing a particular course of action. The level of risk is a combination of the *likelihood* of a risk occurring; and the *consequences* if it does occur.

113. **Risk Management** is the culture, processes and structures that are directed towards effective management of potential opportunities and adverse effects. Risk management is both a defensive strategy and a mechanism for systematically identifying and taking advantage of opportunities to improve service delivery.

114. All agencies should have in place a systematic, agency-wide approach for dealing with risks. This is fundamentally important while assessing the risks that are inherent in any sector reform process, and *particularly where government intervention is proposed*.

115. Risk Management is a powerful tool, when applied consistently to all aspects of national planning, change management, negotiations and development strategies, lead to an increased likelihood of successful implementation and achievement objectives. Risk Management is covered in accepted industry standards of AS/NZS 4360:1999 (Standards Australia).

[11] Australian Institute of Petroleum (AIP) Mission Statement

116. The management of risk, through a formal approach to identifying, quantifying, documenting the risks and defining management strategies, is a very important aspect of the managing change at a national and regional level, to ensure that any proposed reform is implemented with the least unforeseen circumstances.

A. Risk Management Methodology

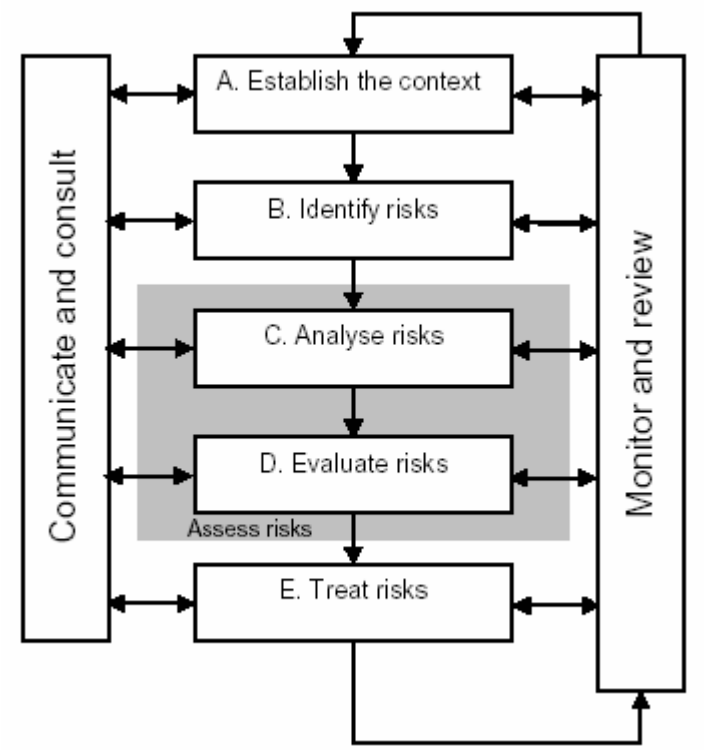
117. The Risk management methodology adopted in reviewing the risks in achieving the desired objectives include the following basic steps:

- Potential risks were *Identified*;
- Risks were *Quantified* in terms of both probability and effect;
- Risks with an unacceptably high-risk value have been Identified;
- Preliminary risk management strategies have been developed and documented to mitigate either, or both, of the probability and / or consequence;
- The risk management strategies, and resultant risk values were reviewed until that all risks were considered as low as reasonably practical.

B. The Risk Management Process

118. Figure 3[12] describes the key steps in the Risk Management process.

Figure 3: Key Steps in Risk Management (Adapted from *Risk Management Overview [AS/NZS 4360:1999])*



[12] NSW Risk Management Guidelines, 1999.

119. When the level of each risk is assessed, it is important to consider the impact and likelihood together. For example, a risk which would have a very high impact but is most unlikely to occur should still be assessed as a significant risk. The following responses are deemed appropriate for each level of risk assessed:

Category	Probability x Effect	Risk Management Plan (RMP)
Crucial	**15 - 25**	- a detailed action plan must be developed; - wide stakeholder consultation; - immediate action taken to resolve; - formal review and assessment process
Serious	**6 – 14**	- an action plan prepared; - Senior Officials in State Agency involvement;
Observe	**0 – 5**	- assign responsibility for addressing the risk to a specific government agency; - manage using routine procedures under current agency charters.

120. Risks are identified and categorised in the following general areas:

INTERNAL FACTORS	EXTERNAL FACTORS
Infrastructure • Availability of Assets • Capability of Assets • Integrity of Assets • Ownership of Assets	**Economic and Business** • Financial & Market Activities • Liquidity • Commodity prices • Currency Movements • Interest Rates • Contracts
Personnel • Employee Capability • Fraud • Health and Safety • Security	**Technological** • Electronic Commerce • External Data • Emerging Technology
Process • Operational Issues • Service Quality • Unexpected Delays • Management Activities • Internal Control • Operations and Maintenance • Risk Management Culture	**Natural Environment** • Natural Disasters • Energy / Water • Sustainable Development • Transport • Emissions • Emergency Preparedness
Technology • Data • System Availability • Capacity • Reliability	**Political** • Government Changes • Legislation • Public Policy • Regulation • Competition Policies
	Social • Socio-economic factors • Demographics • Privacy • Changing Community Needs

121. Once the level of each risk has been determined, the risks were evaluated against what is considered acceptable or unacceptable for the RMI. When evaluating the current risk profiles, the following were considered:

- level of risk;
- degree of control you have over the risk;
- potential impact in terms of costs, benefits and opportunities; and
- importance of the service, result or activity affected by the risk.

122. Risks may be deemed *'as low as reasonably practical'* (ALARP) for a variety of reasons that are unrelated to the level of risk. Some examples include:

- there is no realistic way to deal with (treat) the risk;
- the cost of treating the risk is excessive or provides limited benefits; or
- the risk is justified because it provides good opportunities.

1. Methods for Treatment of Risks

123. An *'unacceptable'* risk must be treated with an appropriate response. The best treatment for a risk will depend on the circumstances in each case, however approaches to treating risk will generally fall into one of the following categories:

- **Accept the Risk** – no action is taken to alter the likelihood or impact/consequences of the risk.

- **Avoid the Risk** – choose an alternative, less risky course of action or avoid the activity that creates the unacceptable level of risk.
- **Reduce the Risk** – take action to reduce either the likelihood of the risk occurring or the consequences if the risk does occur, or both.
- **Transfer the Risk** – give responsibility for all or part of the risk to another party. The most common example of this strategy is a contract of insurance.

2. Purpose of Risk Management Plans (RMP)

124. Risks that are assessed as Crucial or Serious are required to have actions defined to prevent or manage the identified risks. Note that a risk that is assessed as very low probability but catastrophic will come up as a score of 5 but warrants attention.

125. Preventative actions and/or relief work have been proposed to remove / manage the identified risks. Where multiple risks are related to a single risk area, a more comprehensive strategy document may be required to ensure a cohesive approach is taken to manage them collectively. All actions are specific and have a clearly identified responsible party, a proposed implementation date and the RMP should form the backbone of Petroleum Sector reviews and meetings.

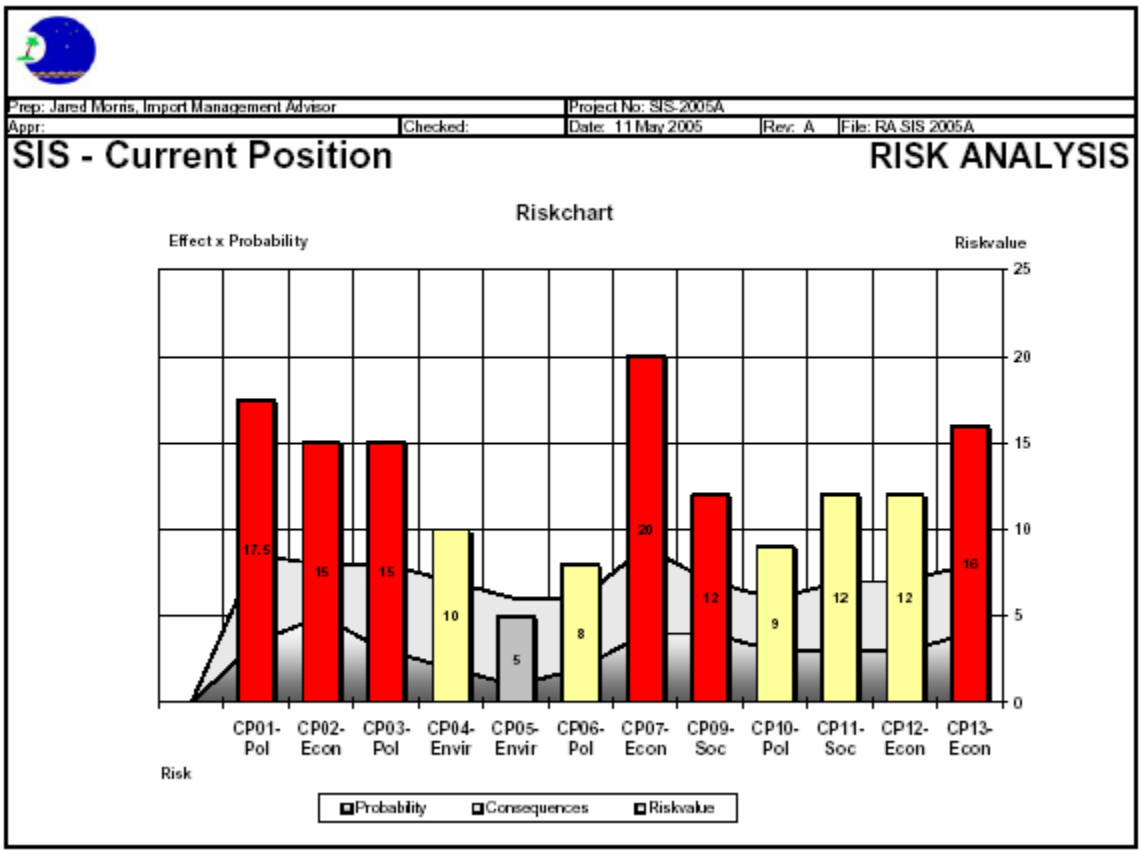
126. Once these actions have been defined then the risk should be re-evaluated, taking into account the preventative / relief actions, and recorded as the new probability and new effect. The aim should be to continue this process until such time as the RiskValue of all risks has been brought into the observe range.

C. An Evaluation of the Risks

127. Once these actions have been defined then the risk should be re-evaluated, taking into account the preventative / relief actions, and recorded as the new probability and new effect. The aim should be to continue this process until such time as the RiskValue of all risks has been brought into the observe range.

1. **'Current Position'**

Figure 3 - Graphical representation of risks areas in the 'current position' of the petroleum sector against the ability to achieve SIS stated objectives. High Risk areas provide a targeted approach to addressing root problems in the sector.



128. **The current state position was reviewed against its ability achieve the objectives defined to a) reduce the costs of achieving MDG's, b) lower the costs of doing business to stimulate private sector development, and c) cost effective access to energy with gains from regional bulk procurement.**

129. The areas that pose the ***greatest risk to success*** are identified, and using a probability and consequence matrix to assign a riskvalue enables a comparison of the relative size of the risk. The assessment is represented in Figure 2 and reveals that in the current state, there are six identified 'Critical' areas and five classed as 'Serious'.

130. **RISK CP07-ECONOMIC: The lack of competition or competitive supply models contribution to high petroleum prices.** The remoteness of locations, small market size and high capital investment make it highly unlikely that the SIS will enjoy multiple suppliers in the medium term. To promote a policy to force direct competition in these markets will only increase the costs to service the nation as a result of duplicated operating and distribution structures, reduced local coastal tanker utilisation, and potential duplication of onshore storage and handling assets. Even the most reliably price controlled environment in the Pacific – i.e. Fiji Islands –mechanisms only reduce prices to the lowest cost operator not the most effective, productive or

efficient. The most effective model to promote competition within each of the SIS will be on competitive Cost Insurance Freight (CIF) tenders with single local operators capitalising on economies of scale.

131. **RISK CP01-POLITICAL: Without intervention, petroleum sector profits remain uncertain and uncontrollable within the SIS.** Few countries have regular support and review framework, and the need for a networking of regulators within the SIS to share processes and best practise.

132. **RISK CP03-POLITICAL: That sector reform is not considered a priority, changes required are deemed radical, and that the change process is not provided the required political will and resources to implement change.** National Energy Taskforces formed to co-ordinate changes with the role and importance of the taskforce and its recommendations are communicated. Commitment to progress the concept from nations and national taskforce are given the time and resources to implement recommendations and required actions.

133. **RISK CP13-ECONOMIC: The lack of/minimal industry regulation within the SIS, coupled with private sector ownership of terminal facilities makes for powerful monopoly negotiation positions that are difficult to manage.** This is already an area for concern within the Republic of Marshall Islands, the Federated States of Micronesia and Kiribati. The private sector ownership of terminal facilities is the most significant barrier to successful regional negotiation of supply agreements and bulk procurement.

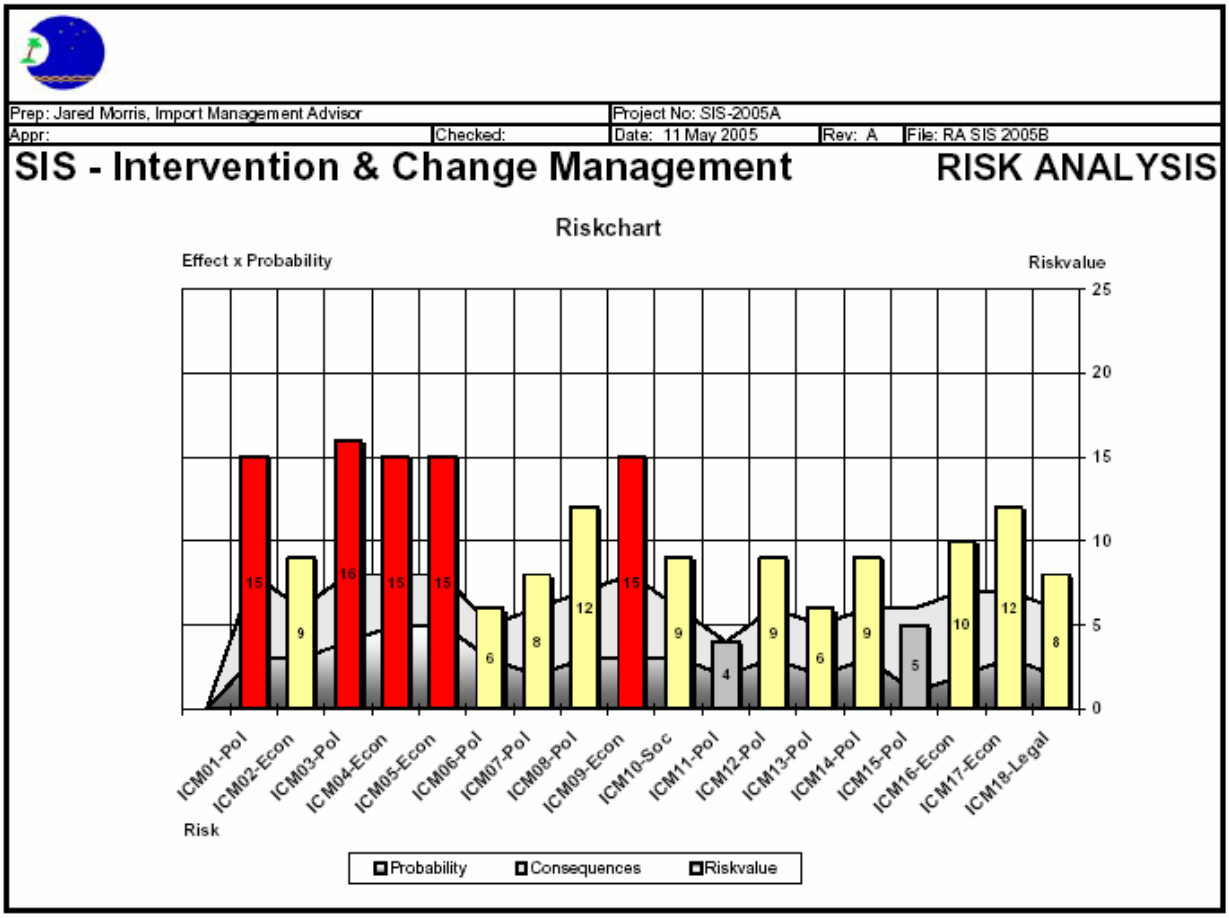
134. **RISK CP12-ECONOMIC: The inability to agree 'fair and reasonable returns' for capital employed in the operations continue to be an area of tension between government and industry.** Based on the recent international performance of MNOC's, investment hurdle rates are Internal Rates of Return (IRR) greater than 25%, and Investment Ratios (IR) – Net Present Value / Capital Invested - greater than 2.

135. **RISK CP04-ENVIRONMENT: Emergency Preparedness and Disaster Management in the industry are also considered 'critical' in the current state analysis.** Regulations covering the storage and handling of petroleum products are generally outdated. A dangerous combination of a lack of enforcement capacity and legislative power leave MNOC's to 'self regulate' to international standards with no formal assurance or appraisal processes. There is a false sense of security in relying on 'world renowned brands'. Whilst MNOC's profess to operate to international standards and codes, time and time again their response has often been to limit responsibility and actions to the laws applicable within a country. The independent assurance methods can be implemented on a regional basis without having to have these residing within local.

136. **RISK CP09-SOCIAL: Corporate Social Responsibility (CSR) of the MNOC's needs to be addressed**, to channel the private sector operations into as consistent theme to demands to minimise risks in operations and maximise shareholder returns can conflict .

Intervention and Change Management

Figure 4 - Graphical representation of the risks present government intervention. Addressing 'Critical' risks early in the planning process will increase probability of successful intervention.



137. **The assessment of the risks through Intervention and Change Management are evaluated against the ability to achieve defined objectives, to manage and ensure the intervention is proportionate to the risk, and to successfully manage the change.**

138. Using a probability and consequence matrix to assess the risk enabled a comparison of the riskvalue, and hence prioritise resulting actions. The assessment is represented in Fig.3, and reveals that in the current state, five ‘Critical’ and eleven ‘Serious’ areas.

139. **RISK ICM07-POLITICAL: That intervention is not effectively managed and leading to legal challenges by suppliers, stakeholder resistance to change, product shortages, and poor government reputation, and a higher than required capital investment expected.** Intervention must be based on the five principles of regulation i.e. Proportionality, Accountability, Targeting, Transparency and Consistency. A regulatory impact assessment indicated minimal effect to the industry, as there are few players in the market, however it is important for thorough review and analysis of the current positions of contracts, land lease arrangements, and liabilities. Current suppliers need to be included in the reform process and convinced of the need for change and the benefits to the economy.

140. **RISK ICM01-POLITICAL**: **It is likely that a monopoly supply situation justified by economies of scale and leverage of purchase power will still be viewed with dissatisfaction by the public and stakeholders due to a perceived lack of competition.** It is likely that cost-effective market access will be through collective purchasing and exclusive supply/distribution of products for a defined tender period. This will provide the necessary balance between purchasing power leverage and competitive offerings. Minimum levels of service are to be developed that include supply, pricing stability, national reserve targets, technical support, and operational excellence targets. The Government position needs to be defendable to all stakeholders and information channel to key stakeholders.

141. **RISK ICM09-ECONOMIC: That though the intervention delivers positive economic benefit, this comes at the opportunity costs of an alternate project that may deliver more benefits.** A review of government Financial Management Framework to ensure that ECBA becomes a part of the screening process for projects of national importance to enable a comparison of the benefits of differing projects for effective use of state resources.

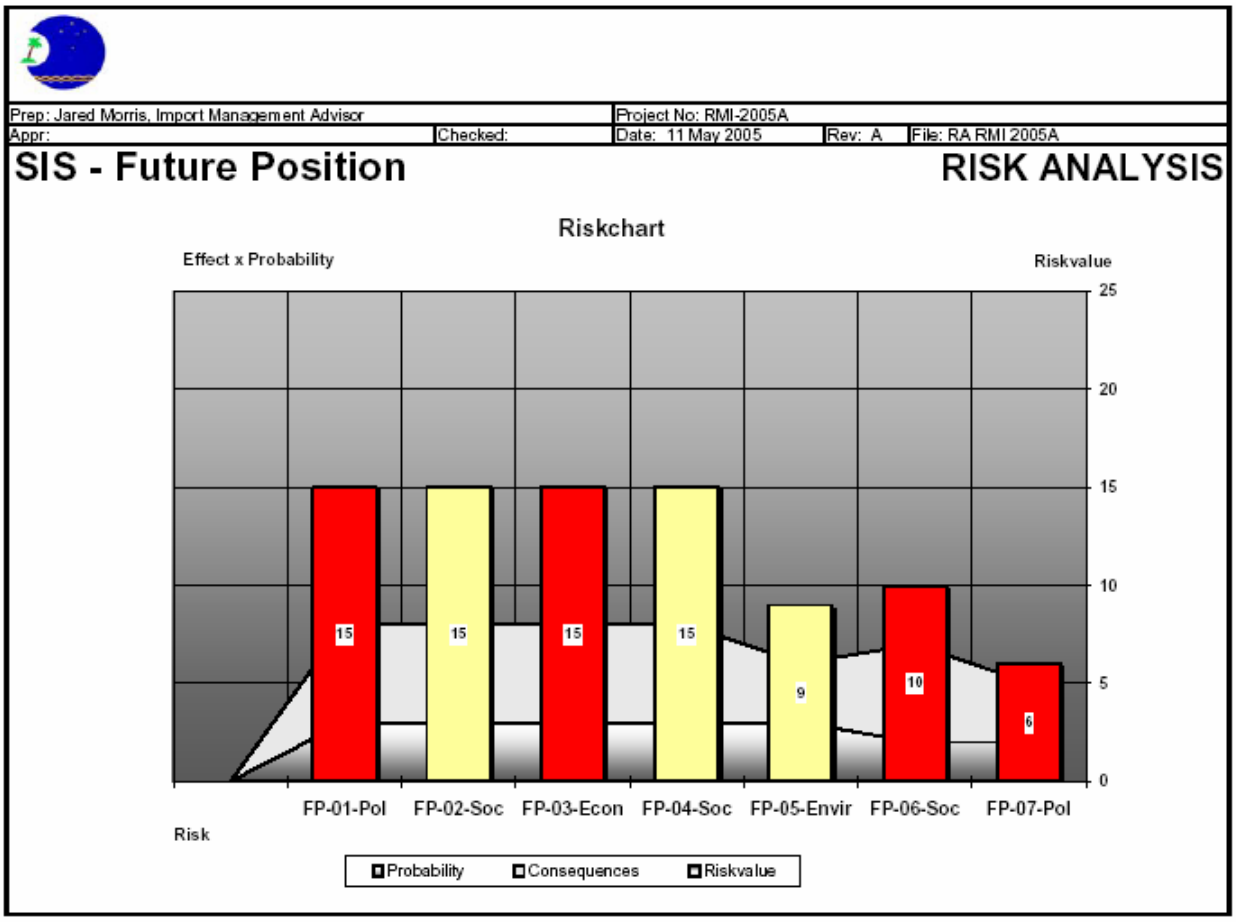
142. **RISK ICM12-POLITICAL**: **That Government intervention is viewed by key stakeholders as a 'one-sided', without commercial reality, creating an unacceptable regulatory burden on industry, with high expectations of failure.** All analysis must be completed based on the next available commercial alternative for the industry. No reliance on donor funding for the work has been considered. The use of donor funds will only improve the viability and projections of the project.

143. **RISK ICM03-POLITICAL: There is a Risk that the existing suppliers - long term multinational investors - were forced to exit, this may be perceived by international investors as high/erratic government policy with a negative signal for FDI in the SIS.** Policy advice and intervention must be supported by robust analysis, significant stakeholder consultation, and management of international reputation of government.

144. **RISK ICM02-ECONOMIC: That the intervention is not successful in delivering the desired economic benefits, resulting in a future position that is worse than the current position.** This is a serious risk based on previous experience in the region on government intervention. This will require a concerted effort amongst the network, require trust in a regional body to manage the performance of the new entities, and minimise political interference on pricing and regulatory structures. The regional unit however will need to deliver results and accountable to each country to deliver an agreed performance targets. There will need to be agreement of a regional co-ordination and project management unit to manage the change effectively.

2. "Future Position" Model

Figure 5 – Anticipated risk areas in Future State operations models. Addressing 'Critical' risks early in the planning process will increase probability of successful achievement of desired results.



145. **FP-01-POLITICAL: That sector reform is not considered a priority, changes required are deemed radical, and that the change process is not provided the required political will and resources to implement change successfully.** SIS Leaders need to commit to this process to ensure that the benefits are passed to all. National Taskforces are appointed to champion this issue locally, with regular meetings and agreed timeline and objectives.

146. **FP-05-ECONOMIC: That given the poor performance and history of asset management in state owned enterprises, that there will be a slippage of maintenance and operating standards due to a lack or loss of key personnel, inadequate cost recoveries, a lack of capacity building programmes.** To address this position a Government Risk Assurance process has been proposed that allows the regional location of resource personnel, a management framework that is supported and managed regionally to international standards. Sound regulation principles, uniform financial accounting systems, independent risk assurance, external auditing of asset integrity, and regional capacity building courses. The regional management unit need to be provided the trust of the National Taskforces to ensure and report on the costeffectiveness of supply strategies employed in any particular country.

147. **FP-04-SOCIAL: That there is insufficient human capital within the SIS to manage and operate petroleum terminal facilities requiring high capacity building efforts, increasing the costs of supplier change over, or requiring high cost expatriate experts.** A review of operations and suitability of local personnel and the location of key highly skilled personnel within the regional network will assure the availability of key personnel and the cost effective sharing of resources. The use of specialised terminal management firm, and the inclusion of basic capacity building programmes in the supply and service agreements with suppliers.

148. **FP-07-ECONOMIC: That individual country reform of petroleum sectors will affect the supply and value chains within the Region to the detriment of close neighbours.** The formation of Cluster and Networks, and regional co-ordination and management of issues will provide consistency, independence, and focused attention to national issues, with impact assessments essential in the analysis.

149. **FP-06-SOCIAL: That the economic benefits derived from intervention are captured only by certain segments and do not filter down to priority segments in the community.** While analysis indicates that there are benefits to the economy, no recommendations have been made on where these are to be channelled within specific communities, sectors or groups. The management unit is to assist national taskforces in managing cost allocation methodologies, and benefit channelling mechanisms to ensure maximum impact within the shortest time.

150. **FP-02-SOCIAL: That political influence on NTO pricing for petroleum products will affect the ability of the NTO to manage the business and deliver its Results and Services plans - including the finance of on-going terminal investments.** This is a serious concern within any public entity. It is recognised that most governments cannot afford to subsidies additional sectors. The regulatory unit is to ensure that pricing systems are based on the cost to provide the goods and services, and provide government with independent assurance that prices remain fair, and that the model remains cost effective.

151. **FP-08-ECONOMIC: That following implementation of a new supply strategy and agreement, that supply model becomes inefficient and ineffective, OR continues to recovery excess margins from the country.** The need for a regulatory review of the market monopoly cannot be avoided. It is unlikely that many of the smaller SIS will be able to justify having the capacity in-house to conduct the annual pricing reviews, assess operations. This is not a full time requirement within a department so shared regional resources are the most appropriate. The creation of indexed productivity, efficiency and effectiveness benchmarking systems are part and parcel of the on-going management assistance of the unit.

IX. ECONOMIC COST BENEFIT-ANALYSIS[13]

152. Economic appraisal and cost benefit analysis is a way of systematically analysing all the costs and benefits associated with the various ways of meeting the objectives highlighted earlier. The use of economic appraisal techniques are encouraged in all relevant areas of public sector activity including asset management, plan and program evaluation, regulation review, in addition to new capital works. The process of undertaking economic appraisals of projects should interact with the review of strategic plans within agencies on an ongoing basis.

[13] This section includes extracts from the Cost Benefit Analysis approach of the Asian Development Bank, and the NSW Federal Government.

153. ***Economic appraisal procedures assist selection of those projects or programs which maximize benefits relative to costs.*** The economic appraisal process assists ranking of projects within particular agencies, clearer definition of project objectives, wider consideration of options to meet objectives, improved strategic planning, enhanced program evaluation, better asset management and improved resource utilisation. 154. This section presents the Economic and Financial cost benefit analysis and compares the different options currently available in the Petroleum Sector. **Ideally, ECBA results should be compared against other projects of national interest – i.e. water, transport, infrastructure, health – to determine the most effective use of Government resources relative to the benefits to the people.**

155. **All petroleum sector models to be considered will have similar operating costs to that experienced. The on-shore component comprising of transportation, handling, storage, distribution, and assets remain similar across all supply models.** The competitive edge and reduced petroleum prices are obtained from:

a) improved operational efficiency including transportation and freight;
b) cost-effective risk assurance processes;
c) retained return on assets;
d) refinanced working capital requirements; and
e) bulk/competitive procurement discounts.

156. **In considering a proposed model and the benefits to be accrued, the total cost of supply is assessed, and not simple comparisons of final prices.** Different tax structures, market cross-subsidies and asset returns are some areas that confuse and complicate analysis, and result in misleading comparisons of supply models. The analysis fundamentals are on third party risk assurance processes, and competition in terminal operation contracts and supply bidding.

157. **The modelling, including new construction costs are based on historical information of terminal construction, budgetary estimates, with benchmarked operating costs and a threshold of 15% IRR.** No information that the Secretariat is privy to in the on-going assistance to countries with price negotiations have been used to compile this report due to confidentiality issues, and this has been developed from a build up based on labour rates in specific countries, manning levels from similar terminals, comparison of landed costs of products, and listed wholesale prices in country. The costs of alternatives have been built up from base operating models, and compared against total mark-up experienced in the markets.

158. **The economic cost benefit and financial cost benefit analysis in this report is conducted to ensure that any intervention proposed is based on the economic benefits, the commercial viability of operations, and to compare on an even playing field current supply models.** It is recommended that in all instances, the replacement of a successful private sector operation is to be done purely on improved ability to achieve stated objectives, and an inability to reach a desired medium between the current supplier positions and the next best alternative.

A. Identification of Quantifiable Costs

159. The economic appraisals are based on incremental costs and benefits associated with a particular project. Changes which would have occurred anyway are excluded. Assumptions underlying all capital and recurrent cost estimates are explicit in the evaluation.

160. The degree of accuracy is sufficient to confirm feasibility of the project due to the data available and cost of obtaining missing data. These estimates are sufficient however will require refinement should this be progressed further. For the purposes of this analysis, the median has been presented, however costs have been modelled with a +/- 20% sensitivity without significant results in the outcomes. Detailed assessments will provide costs within a +/- 10% estimate prior to implementation.

161. **Private sector monopolies in many of the SIS have demonstrated an inflexible approach to negotiation, unexplainable differences in the landed costs of products, a lack of transparency, high demands for return on assets, and evidence of monopoly margin creep.**

Cost #1: Construction of Bulk Terminal Facilities

162. **The ownership of terminal assets will improve the negotiation position and ability to attract competitive supply options.** Private sector monopolies in many of the SIS have demonstrated an inflexible approach to negotiation, unexplainable differences in the landed costs of products, a lack of transparency, high demands for return on assets, and evidence of monopoly margin creep.

163. The replacement cost and resulting analysis is based on the worst case scenario where there is a duplication of assets due to supplier resistance to new supply models, or inability to reach agreement on the return on the fixed assets employed in the operations.

164. For the purpose of Financial Viability calculations the option presented in the direct investment into the construction. More attractive rates can be achieved by utilising alternate:

- Outright purchase of existing investments at Book Value, Replacement Value and Market Rate;
- Design, Build Operate and Transfer (DBOT) construction arrangements.

165. The degree of accuracy of these costs is considered sufficient for a comparison of options. For the purposes of this analysis, the median has been presented, however costs have been modelled with a +/- 20% sensitivity without significant differences in outcomes. Costs also include the engineering designs and quantity surveys to bring costs within a +/- 10% estimate should there be agreement to proceed.

Cost #2: Networks, Clusters and Broker

166. The future state assessment has indicated that some of the highest risk in successful intervention surround effective regulatory capacity, regular assessment and reviews, and performance benchmarking and management. Based on the requirements of the SIS the sharing of resources will deliver the most significant gains. This will allow the most intensive operations to get the level of assistance, professionalism, and attention required, that they require while allowing the smaller clusters to access these resources.

167. **The specific emphasis of the networks management role is to improve performance and overcome obstacles imposed by size.** Among the main benefits of the network management unit will be to improve:

d) economies of scale and increased negotiation power (reduced costs due to collective purchases, access to markets that demand higher quality, incorporation of more expensive technologies, easier access to subcontracting relationships with large scale

enterprises, etc.);

e) increased capacity for learning and innovation (jointly the operating units are better able to obtain, select and filter information); and
f) increased capacity of strategic management (networks are in a better position to take strategic decisions since they are able to reduce factors of uncertainty).

168. The key deliverables within the Unit are on:

a) **Client Led Value Creation:** Assessing the specific priorities and needs of individual Clusters and preparing action and implementation plans to address concerns;
b) **Proactive Portfolio Management:** The continuous monitoring of supply strategies, Supplier performance, risk assurance processes, and operations; and
c) **Strategic Cost Reduction:** Focus on structural removal of costs from operations Without compromising safety, security, quality or level of service. An immediate area for further study is the co-ordination of local coastal tankers and shipping arrangements. An additional area is the standardisation of IT infrastructure and financial operating systems.

169. The Cluster and Network Management unit will have individual Service Level Agreements (SLA) with each country/cluster that details the annual plans, management programmes, issue resolution, and benefit. The performance of the management unit against the SLA will be reviewed annually by country representatives.

170. Appendix 1 has the proposed operating costs and staffing levels anticipated for a fully fledged operation managing the needs of the entire SIS, the 3 Clusters, and suppliers. This has been converted to a cent per gallon rate an d allocated by volume to each country/cluster.

Cost #3: Risk Assurance Process

171. The Risk Assurance Process to be implemented is to ensure the following are addressed:

- **Economic Risk:** National entity is managed in accordance with best practice operations, Results and Services Plans (RSP's) are managed, Annual performance benchmarked for productivity, efficiency and effectiveness, and price monitoring. This to ensure that the new model that is set-up does not become what it was set-up to replace;
- **Safety and Environmental Risk:** Asset Integrity is maintained and funds are sustained for ongoing capital requirements, capacity building.

172. **This process is to ensure that national and state government that the assets are maintained and operated in a manner to ensure the lowest life cost of the asset**, and protect the value of the investment. To ensure that the operations deliver the desired results into the future, an appropriate support network is required for the operations.

173. The Risk Assurance process is simple and consists of a planned 6 monthly audit of assets, maintenance and operating practices. The basic and essential Risk Assurance Systems to ensure conformance, compliance, and management of risks are

174. Common management of IT infrastructure across all operating environments, common Internal Audit and professional fees, risk assurance and group insurance premiums.

175. For the purpose of this assessment and based on current rates for qualified individuals, airfares, best practise inspection frequency, engineering planning requirements, supervision of remediation works, and capacity building requirements. It has been assumed that the co-

ordination and management of the Risk Assurance process will be by the Cluster and Network management unit.

Cost #4: Price Control and Market Monitoring Support

176. This function is current under the current work programme of the Pacific Islands Forum Secretariat, and includes the maintenance of the necessary international publications for petroleum prices, annual price control assistance and country negotiations.

177. The management of the following key parameters are addressed:

- Regulation of State Fuel Supply Operations;
- In-Country Capacity Building Workshops;
- Development of Negotiation Strategies;
- Supplier and Buyer Management Framework;

178. The costs are based on present Secretariat programmes, staffing, and conditions of employment and are included in the build-ups.

Cost #5: Terminal Operating and Maintenance

179. **Salaries and Wages:** Terminal operating costs are based on the staffing levels and costs of operations that currently exist in the maintenance and operations. The need for a high level of refresher training, and international certification.

180. **Overheads and Utilites:** Where possible this has been based on actual costs and lease arrangements existing in the various locations, and take into account local lease arrangements and costs for utilities.

181. **Technical skills and Capacity Building:** training in the following minimum competencies are required for on-shore personnel. There is potential for these skills to be shared amongst locations, however for the purpose of the analysis it is assumed that each location will require these skills and personnel. Should opportunities to share resources be feasible, this will only improve efficiency of on-shore operations and subsequently the return achieved by operators. Minimum technical skills are:

- Shore Officer, Wharf Attendant and Fuels Testing Officers;
- Aviation Note Release Officers;
- Depot Maintenance Fitters;
- Fire Fighting Chief Warden; and
- Safe Work Permit Officers.

182. **Asset Integrity & Maintenance:** has been based on benchmarked terminal operating parameters, the value of the investment, and the need to ensure regular inspection and maintenance services. This includes the costs for all consumables in this process.

183. **These costs have been built up by location terminal facility.** Were there was no opportunity to visit and assess existing structures, operations and costs were benchmarked against terminal facilities sizes and throughput volumes.

Cost #6: Supplier Margin

184. Margins are based on market intelligence, Return on Capital Employed, supply relationship, and risk in the supply chain. For the purposes of this analysis, a 3 year exclusive supply contract is considered in this margin assessment:

- 0 - 20,500,000 gallons: US$0.08 per gallon
- 20,500,001– 40,000,000 gallons: US$0.06 per gallon
- 40,000,001+ gallons: US$0.05 per gallon

185. For 'Status Quo' assessments, this value indicates the monopoly margin premium that exists within the country.

B. Identification of Quantifiable Benefits

186. There are five separate types of benefits that are relevant in analysis of the SIS petroleum sector: **Avoided costs - incremental costs which are unavoidable if nothing is done to solve a particular problem, but may be avoided if action is taken. These are clearly identified as follows:**

Avoided Cost #1: Supplier On-Shore Costs

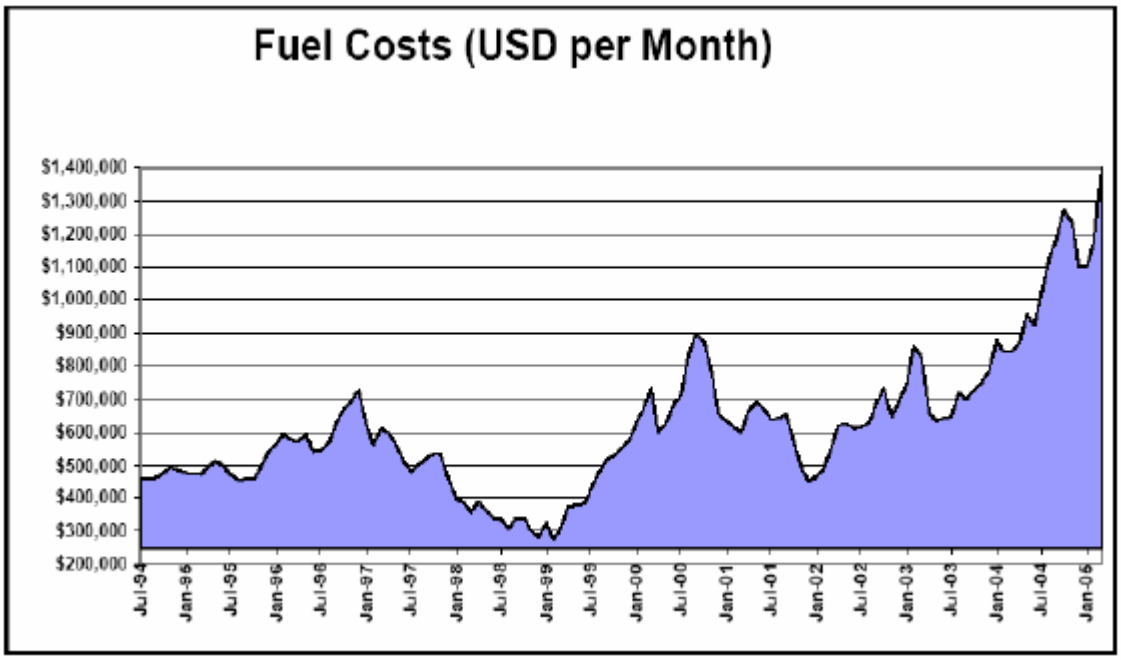
187. The current on-shore mark-up charged by the oil companies have been used as an avoided cost. Depending in the country of operation this varies between 21 and 85 cents per gallon, and includes their operating costs, management fees, head office and regional overheads and profit margins. To avoid issues over use of confidential pricing structures in this assessment, this avoided costs based on available customs data to determine the declared landed cost of the products, and the supplier wholesale list prices to define the landed cost mark-up.

188. Throughout the Pacific, price regulated markets specify maximum return on investments – after tax –at a rate between 15% and 30%. For the SIS, based on current investment thresholds, estimated capital investment, and stock in operations, the returns in the SIS are expected to exceed US$10 million per annum.

Avoided Costs #2: Financial Price Risk Management Strategies.

189. **The Purpose of Hedging is to control the impact of an unknown**, and uncontrollable, variable on an entities profitability, or ability to deliver its national budgets. Often, the effects of unfavourable price moves are more detrimental than favourable moves are beneficial. First and foremost, the purpose of hedging is to protect against the effects of unanticipated, unfavourable moves in the market.

Figure 6 - The costs of 3,000 MT of diesoline per month between Jul-94, and Jan-05. Notice the areas under the graph that indicates an increase in costs from US$275k to US$1.4 million per month respectively. This volatility in prices drastically affect power utilities, air sea and land transport operations increasing prices, foreign exchange drain, and the CPI in a country.



190. Financial products used to manage commodity, interest rates and currency. Hedges are derivatives that can be traded “on exchange” or OTC (Over The Counter). OTC Derivatives are commonly used to hedge fuel price risk and include Swaps, Caps or Collars.

191. To quantify savings we investigate how a Collar would have performed over the 8 months from mid-August 2004. If a collar for zero cost (cap strike US$386/MT and a floor strike US$337/MT) i.e. securing the range in which commodity prices were to fluctuate, this would have resulted in savings of around US$19-00 per MT over the last 8 months. Of course, it is quite possible that prices could have fallen over the last 8 months, beyond the US$337 floor, however the collar provided certainty over the fuel cost range between US$337 and US$386 per MT.

192. Commodity Price Risk Management (or hedging, as it is popularly called) is the control (i.e. adjustment, restriction, or removal) of the exposure (or vulnerability) of budgets, business plans, profits and balance sheets to the vagaries of commodity prices. For the SIS, this is an essential tool to manage the delivery of basic services that include electricity, transportation, and cost of doing business. This will also allow better planning and management of trade deficits and foreign reserves. 193. At present, individual SIS countries are unable to consider hedging arrangements as consumption is too small, and the field is complex. From a regional standpoint, this can be effectively managed. For the purpose of the analysis, volatility in the market and savings from a collar is calculated based on these estimates alone. The spin-off benefits that include stability in utility pricing, inter island transport, reduced foreign exchange are not provided a monetary value.

194. Swap, Caps, and Collar performance for the period were calculated with the assistance of Macquarie Bank Energy Markets.

Savings – are based on verifiable reductions in existing levels of expenditure if the program proceeds. Where manpower savings are claimed, identification of the areas of such savings and costs saved is necessary for post audit review on whether they have actually been achieved.

Savings #1: Bulk Procurement Discounts

195. Bulk Procurement Discounts have only been applied where clusters have been formed to provide improvements in operational excellence and shipping efficiencies. Under current supply arrangements, MNOC charge regional management and overhead charges on to operating parts of the business. These costs are for brand usage, international standards development and shared management fees.

196. Commercial trade in a competitive tender scenario do not attract the full charges as the trade is considered 'incremental' to their business and does not significantly add costs. Based on the aggregated volumes of the cluster and the market margins that are expected in the different regions, savings have been presented for each country.

197. Competitive multi-year tenders are expected to save in excess of US$1 million per annum for the SIS when compared against base case scenarios, and is based on a reduction in regional and head office overheads by approximately 50%.

Savings #2: Local Coastal Tanker (LCT) Efficiency

198. Present arrangements in LCT charter agreements with oil companies are based on long term contracts with fixed daily charter rates that include the provision of crew. Additional costs of operations include fuel and provisions. The fixed costs of this service is in the order of US$7,000 and US$10,000 per day and represent an annual fixed cost to the oil supplier in the region of US$3 million per annum. The key efficiency improvements are to have shorter voyage durations with higher delivered volumes.

199. The Tuvalu and Kiribati are served by two separate local tanker vessels. The efficiency savings are based on charter rates, voyage duration and an improvement in vessel utilisation factors on cargo maximized on a singe vessel. Cook Islands being serviced from Fiji Islands has significant savings potential by increasing vessel utilisation factors.

Savings #3: Price Control

200. Effective price control and monitoring arrangements have seen. Based on the work of the Secretariat in price control and monitoring arrangements in Fiji Islands, Tonga and the Solomon Islands, a conservative estimate of US$0.0025 per gallon has been used as the savings from verification and monitoring of price control arrangement.

C. Identification of Qualitative Factors

201. Quantifiable costs and benefits are only part of an economic appraisal. Other aspects such as environmental considerations, social or regional impacts, resource availability, funding,

distribution of benefits and costs, etc, will also have to be taken into account in choosing between competing options and

- **Benefits to consumers not reflected in revenue flows**. For a variety of reasons, such as the nature of the service provided or equity considerations in pricing policies, the user of a service may not be charged a price which reflects the benefits received (for example, recreational use of national parks). While it may prove difficult, attempts should be made to quantify such benefits wherever possible. If quantification proves impossible, as much detail of the benefits as possible should be included in the
- **Benefits to the broader community.** Benefits of services such as police services flow to the community as a whole rather than to individual consumers. Alternatively, an activity may have secondary or subsidiary effects on groups or industries other than the direct recipient (for example, urban public transport can reduce pollution levels).

1. Benefits to Community

202. **SOCIAL IMPACT:** The analysis in this paper has a number of implications for development agencies and developing country governments. Of primary importance is the need to see energy as a vital element underpinning pro-poor development. A people centred approach to energy issues, oriented around the links between energy and poverty at the national level - macroeconomics, policy and planning – through to the impact on poor people's lives at the local level - time saving, health, education, transport, microenterprise development. Social responsibilities of corporations are effectively managed and benchmarked regionally against defined productivity, efficiency and effectiveness reviews on operations.

203. **ENVIRONMENTAL COMPLIANCE:** The benefits of a regional approach to the management of risk, assurance processes, auditing and compliance initiatives for the industry. This holistic approach while working at a number of different levels results in innovative approaches to energy as a vehicle for increasing opportunities for poor people through good governance, reduced corruption (transparency and accountability) and targeted subsidies. This will be a significant improvement to the present monitoring and enforcement capacities that exist at national levels.

204. **ENERGY PRICE RISK MANAGEMENT:** The proactive management of the volatile energy market to ensure that basic services – electricity and transport – are managed within budgets without the need for additional government subsidies to the sectors. The control of price ensures stability in foreign exchange, balance of payment and currency movement keeping the costs of doing business within the country low and stimulating further private sector development.

205. **HEALTH:** Access to energy services can also affect people's health by providing access to better medical facilities (such as vaccine and medicine refrigerators), reducing the heavy loads that they have to carry (fuelwood and water) and reducing indoor air pollution from open fires. World Health Organisation figures indicate that 20% of the 10.9 million deaths of children under five years old in 1999 were due to acute respiratory infections (ARI). Although the extent to which smoke from cooking contributes to ARI is not yet clear, it is generally accepted that there is a link between indoor air pollution and ARI in children.[14]

[14] Energy for the Poor, Department for International Development (DFID), 2002.

D. Calculation of Net Benefits

206. Quantifiable costs and benefits over the project life - a 15 year analysis period has been proposed – have been expressed in Net Present Value terms.

207. Costs and benefits have been valued in real terms over 15 years: that is, they have been expressed in constant dollar terms and not include nominal increases due to inflation. The stream of costs and benefits have then been discounted by a real discount rate of 7%, with sensitivity testing using discount rates of 4% and 10%.

208. The discounting process has taken into account the fact that initial investment costs are borne up front, while benefits or operating costs may extend far into the future. Discounting the value of future costs and benefits brings these back to a present value for the purpose of comparison. The process of discounting is simply a compound interest calculation worked backwards.

209. Using the discounted stream of costs and benefits the following decision measures have been calculated:

- **Net Present Value (NPV)-** the sum of benefits minus costs; a project is potentially worthwhile(subject to the availability of funds) if the NPV is greater than zero.
- **Net Present Value per $ of capital investment (NPV/I)-** the highest NPV may involve very high capital expenditure and capital availability is normally constrained. Projects with the highest ratios would be potentially worthwhile.
- **Benefit Cost Ratio (BCR)-** a project is potentially worthwhile if the BCR is greater than 1 ie,the present value of benefits exceeds the present value of costs. It has become conventional to deduct ongoing costs from benefits to produce a net benefit stream, and to use initial capital costs as the denominator.
- **Internal Rate of Return (IRR)-** this is the discount rate at which the Net Present Value of a project is equal to zero (ie. discounted benefits equal discounted costs). A project is worthwhile if the IRR is greater than the test discount rate.

210. Sensitivity analysis have been undertaken to test the robustness of results under different scenarios, using different assumptions about some or all of the key variables.

STATUS QUO

Southern Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Cook Islands	$ (974,321)	$ -	$ (974,321)	$ -	0.00
Niue	$ (622,483)	$ -	$ (622,483)	$ -	0.00
Cluster Summary	$ (1,596,805)	$ -	$ (1,596,805)	$ -	0.0

Northern Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Federated States of Micronesia	$ (18,693,083)	$ -	$ (18,693,083)	$ -	0.00
Palau	$ (1,869,308)	$ -	$ (1,869,308)	$ -	0.00
Republic of Marshall Islands	$ (2,868,294)	$ -	$ (2,868,294)	$ -	0.00
Nauru	$ (124,497)	$ -	$ (124,497)	$ -	0.00
Cluster Summary	$ (23,555,182)	$ -	$ (23,555,182)	$ -	0.00

Central Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Kiribati	$ (1,522,946)	$ -	$ (1,522,946)	$ -	0.00
Tuvalu	$ (121,790)	$ -	$ (121,790)	$ -	0.00
Cluster Summary	$ (1,644,736)	$ -	$ (1,644,736)	$ -	0.00

	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Regional Network and Cluster	$ (26,796,722)	$ -	$ (26,796,722)	$ -	0.00

REGIONAL REGULATION OF PRIVATE SECTOR

Southern Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Cook Islands	$ 145,461	$ (46,729)	$ (707,071)	$ 852,531	1.21
Niue	$ 145,885	$ -	$ (34,237)	$ 180,121	5.26
Cluster Summary	$ 291,346	$ (46,729)	$ (741,307)	$ 1,032,653	1.4

Northern Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Federated States of Micronesia	$ (182,892)	$ -	$ (2,519,527)	$ 2,336,635	0.93
Palau	$ (349,449)	$ -	$ (2,519,527)	$ 2,170,078	0.86
Republic of Marshall Islands	$ (102,857)	$ -	$ (805,589)	$ 702,732	0.87
Nauru	$ 210,895	$ -	$ (93,723)	$ 304,618	3.25
Cluster Summary	$ (424,302)	$ -	$ (5,938,366)	$ 5,514,063	0.93

Central Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Kiribati	$ 207,504	$ (635,649)	$ (635,649)	$ 843,153	1.33
Tuvalu	$ 24,873	$ -	$ (54,406)	$ 79,280	1.46
Cluster Summary	$ 232,377	$ (635,649)	$ (690,056)	$ 922,433	1.34

	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Regional Regulation Network	$ 99,420	$ (682,378)	$ (6,679,673)	$ 6,546,716	0.98

REGIONAL REGULATION OF PUBLIC SECTOR ENTITY

Southern Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Cook Islands	Not Assessed	Not Assessed	Not Assessed	Not Assessed	-
Niue	Not Assessed	Not Assessed	Not Assessed	Not Assessed	-
Cluster Summary	$ -	$ -	$ -	$ -	-

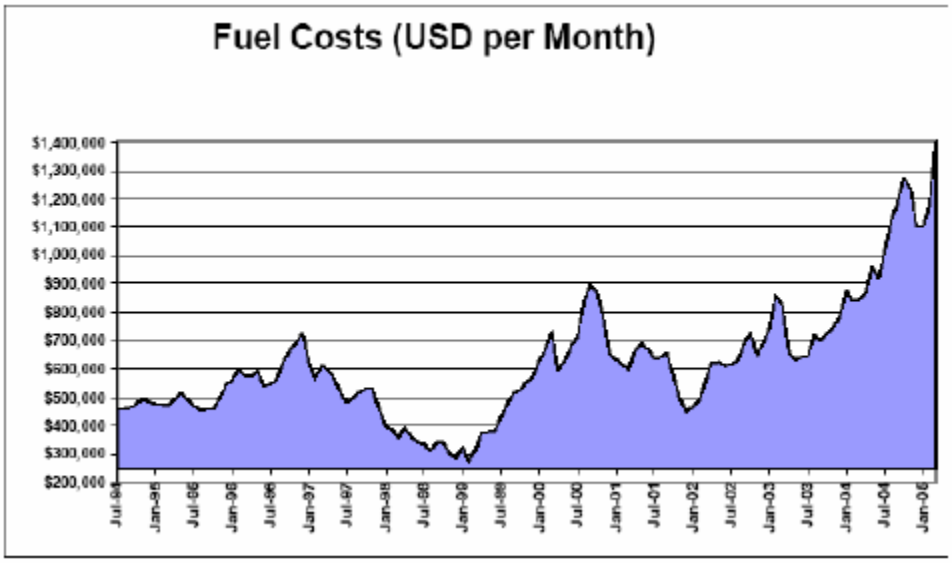
Northern Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Federated States of Micronesia	$ 78,852,009	$ (7,639,207)	$ (58,217,229)	$ 137,069,238	2.35
Palau	Not Assessed	Not Assessed	Not Assessed	Not Assessed	-
Republic of Marshall Islands	$ 23,703,153	$ (5,841,380)	$ (17,643,682)	$ 41,346,835	2.34
Nauru	Not Assessed	Not Assessed	Not Assessed	Not Assessed	-
Cluster Summary	$ 102,555,161	$ (13,480,587)	$ (75,860,911)	$ 178,416,072	2.35

Central Cluster	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Kiribati	$ 1,356,492	$ (3,181,020)	$ (10,533,172)	$ 11,889,664	1.13
Tuvalu	$ 499,968	$ (2,040,990)	$ (6,589,841)	$ 7,089,809	1.08
Cluster Summary	$ 1,856,461	$ (5,222,011)	$ (17,123,013)	$ 18,979,474	1.11

	Net Present Value	PV of Capital Costs	PV Total Costs	NPV Total Benefits	BCR
Regional Network and Cluster	$ 104,411,622	$ (18,702,598)	$ (92,983,924)	$ 197,395,546	2.12

APPENDIX 1: COMMODITY PRICE RISK MANAGEMENT - SUPPLEMENTARY INFORMATION

Figure - This graph shows the price for 3 million litres of diesel per month in USD. In January 2002, this would have cost a nation USD450,000, today the price is in the order of US$1,400,000.



The Purpose of Hedging: The purpose of hedging is to control the impact of an unknown, and uncontrollable, variable on profitability, or the ability to deliver on national budgets. Often, the effects of unfavourable price moves are more detrimental than favourable moves are beneficial. First and foremost, the purpose of hedging is to protect against the effects of unanticipated, unfavourable moves in the market.

What are Hedges: "Instruments or products whose value changes in line with the underlying market". Financial products used to manage commodity, interest rate and currency risk. Hedges are derivatives that can be traded "on exchange" or OTC (Over The Counter). OTC Derivatives commonly used to hedge fuel price risk include: Swaps / Caps / Collars.

Price Certainty: In the simplest form, an oil hedge for removes any uncertainty in the cost of fuel over a given period by fixing the price. This is a very powerful tool in the budgeting process: it allows a tangible budget price to be fixed and removes the dependence on unreliable forecasts.

Reduced Volatility: Forward prices never rise to the extreme highs, or fall to the extreme lows of spot prices. As a result, over an extended period the range of prices paid for hedges will be much narrower than the range of spot prices. This is important because it is the extremes of price that have the most serious impact on a company's results.

Hedging Strategy: If the risk of unfavourable prices cannot be borne, plans should be in place to protecting oneself from those risks. There are many ways to execute a hedging programme. However, whatever course is chosen, the execution strategy must not allow the company to remain unhedged if prices go the wrong way.

Commodity prices are beyond the control of any company: If a company cannot bear the consequences of unfavourable price moves, it should manage the risk. Hedging provides this protection, and over time smoothes the variations in prices paid to or by a company for commodities.

Commodity Risk Management should be a core treasury activity for any entity with exposure to commodity prices. The decision to hedge or not should be the result of a process of analysing and understanding the risks inherent in the business, and their potential impact on the business. This process can also be extended to currency exchange rates.

Commodity Risk Management is a complete process which only starts with the analysis of the exposure, and culminates in a hedging strategy and execution programme focussed on mitigating the risks facing a company that it cannot otherwise control. The range of tools available, and the immense flexibility they offer, allow solutions to be found to suit any entities commodity exposure and business requirements.To dismiss hedging as speculation is to misunderstand – or mistrust – a very important business tool. To run a business unhedged, but without analysing the risks involved, is to run a potentially greater risk than any hedge programme entails.

APPENDIX 2: CLUSTER, NETWORK, BROKER AND MANAGEMENT UNIT COSTS

OPERATING COSTS			
Administraion			
Head Office Management Fees	1	$25,000	$25,000.00
Regional Headoffice Charges	1	$25,000	$25,000.00
Land Lease and Rental	12	$1,000	$12,000.00
		per gallon	$0.0124
Utilities			
Water	12	$300	$3,600.00
Electricity	12	$2,000	$24,000.00
Telecommunications	12	$400	$4,800.00
		per gallon	$0.0065
Salaries and Wages			
Manager	1	$60,000	$60,000.00
Accountant / Internal Control	1	$25,000	$25,000.00
Pricing / IT Support	3	$15,000	$45,000.00
Entertainment	2	5,000	$10,000.00
Professional Fees	1	5,000	$5,000.00
		per gallon	$0.02906
Plant & Equipment			
Vehicles	1	$10,000	$10,000.00
Materials and Supplies	1	$2,500	$2,500.00
Vehicles and Fleet	1	$6,000	$6,000.00
Insurance	1	$10,000	$10,000.00
Miscellaneous	1	$2,000	$2,000.00
		per gallon	$0.0061
Proactive Portfolio Managemnt			
Network Partner Best Practise Sharing	1	$40,000	$40,000.00
RFP/Tendering and Assessments	1	$25,000	$25,000.00
Price Risk Management Strategy	1	$25,000	$25,000.00
Regional Shipping Services Initiative	1	$25,000	$25,000.00
		per gallon	$ 0.0021
Strategic Cost Reduction			
Sector Studies and Reviews	1	$15,000	$15,000.00
Network Partner Development	1	$15,000	$15,000.00
		per gallon	$ 0.0006
Client Led Value Creation			
Southern Cluster Strategic Planning Conference	1	$40,000	$40,000.00
Northern Cluster Strategic Planning Conference	1	$50,000	$50,000.00
Northern Cluster Strategic Planning Conference	1	$20,000	$20,000.00
		per gallon	$ 0.0220
Risk Assurance Process			
Safety Audit and Inspection - South	2	$3,000	$6,000.00
Safety Audit and Inspection - North	2	$6,000	$12,000.00
Safety Audit and Inspection - Central	2	$4,000	$8,000.00
Operations and Maintance Manuala	1	$15,000	$15,000.00
Training and Capacity Building	5	$12,000	$60,000.00
AIP / API Certified Inspector	2	$35,000	$70,000.00
Asset Managemnt & Integrity Engineer	1	$45,000	$45,000.00
		per gallon	$ 0.0040
Annual Operating Costs			$740,900

Total Annual Volume Throughput	
Cook Islands	4,990,225
FSM	18,248,000
Kiribati	4,955,614
Marshall Islands	5,600,000
Nauru	607,662
Niue	607,662
Palau	18,248,000
Tuvalu	1,188,904
	54,446,066

Unit Rate Assessment Operations	$0.014	per gallon

APPENDIX 3: COOK ISLANDS ANALYSIS

COOK ISLANDS - Status Quo

CAPITAL & EXTERNAL COSTS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
COST#1 - Terminal Construction																$0
COST#1A - Working Capital based on National Reserves 35 days																
TOTAL CAPITAL AND EXTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
INTERNAL COSTS																
COST# 2 - Regional Network & Cluster Formation																
TOTAL INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Recurrent Costs																$0
COST# 2A - Network and Cluster Management																$0
COST# 3- Government Risk Assurance Process																$0
COST# 4 - Price Control and Monitoring Assistance (PIFS)																$0
COST# 5 - Terminal Operations and Maintenance																$0
COST# 6 - Supplier Sales Margin (excess margin evaluated)	$95,112	$97,015	$98,955	$100,934	$102,953	$105,012	$107,112	$109,254	$111,439	$113,668	$115,941	$118,260	$120,625	$123,038	$125,499	$1,644,816
TOTAL RECURRENT COSTS	$95,112	$97,015	$98,955	$100,934	$102,953	$105,012	$107,112	$109,254	$111,439	$113,668	$115,941	$118,260	$120,625	$123,038	$125,499	$1,644,816
TOTAL COSTS	$95,112	$97,015	$98,955	$100,934	$102,953	$105,012	$107,112	$109,254	$111,439	$113,668	$115,941	$118,260	$120,625	$123,038	$125,499	$707,092

TOTAL PROJECT COSTS

$707,092
DISCOUNTED COSTS (@ 7%)
$974,321

BENEFITS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
AVOIDED COSTS#1 - Current Average Mark-up (uscpgal)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Volume Throughput	4,755,614	4,850,727	4,947,741	5,046,696	5,147,630	5,250,582	5,355,594	5,462,706	5,571,960	5,683,399	5,797,067	5,913,009	6,031,269	6,151,894	6,274,932	
Total Recoveries Per Annum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
																-
SAVINGS# 1 - Bulk Procurement Discounts																-
SAVINGS# 2 - Energy Price Risk Management Strategy																-
SAVINGS# 3 - Price Monitoring Control																-
SAVINGS# 4 - Local Coastal Tanker Efficiency																-
Asset Residual Value																-
																-
																-
																-
																$0
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

ITEM	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
Capital & External Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Internal Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL CAPITAL & INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL RECURRENT COSTS	$95,112	$97,015	$98,955	$100,934	$102,953	$105,012	$107,112	$109,254	$111,439	$113,668	$115,941	$118,260	$120,625	$123,038	$125,499	$1,644,816
TOTAL COSTS	$95,112	$97,015	$98,955	$100,934	$102,953	$105,012	$107,112	$109,254	$111,439	$113,668	$115,941	$118,260	$120,625	$123,038	$125,499	$1,644,816
Benefits	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
NET/COST BENEFIT	-$95,112	-$97,015	-$98,955	-$100,934	-$102,953	-$105,012	-$107,112	-$109,254	-$111,439	-$113,668	-$115,941	-$118,260	-$120,625	-$123,038	-$125,499	-$1,644,816
NET/COST BENEFIT cents per litre			-$0.0200	-$0.0200	-$0.0200	-$0.0200	-$0.0200	-$0.0200	-$0.0200	-$0.0200	-$0.0200	-$0.0200	-$0.0200	-$0.0200		

Discount Rate		4%	7%	10%
NPV		-1,201,682	-974,321	-805,851
PV of Capital Costs		0	0	0
PV of Recurrent Costs		-1,201,682	-974,321	-805,851
PV of Total Costs		-1,201,682	-974,321	-805,851
PV of Total Benefits		0	0	0
Benefit Cost Ratio		0.00	0.00	0.00
IRR	#DIV/0!			
NPV per $ of Capital		#DIV/0!	#DIV/0!	#DIV/0!

COOK ISLANDS - Regional Network and Cluster Partners Regional Regulation Unit

CAPITAL & EXTERNAL COSTS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
COST#1 - Terminal Construction																$
COST#1A - Working Capital based on National Reserves 35 days																
TOTAL CAPITAL AND EXTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$
INTERNAL COSTS																
COST# 2 - Regional Network & Cluster Formation	$50,000															
TOTAL INTERNAL COSTS	$50,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$
Recurrent Costs																$
COST# 2A - Network and Cluster Management		$48,507	$49,477	$50,467	$51,476	$52,506	$53,556	$54,627	$55,720	$56,834	$57,971	$59,130	$60,313	$61,519	$62,749	$774,85
COST# 3- Government Risk Assurance Process	$18,867	$19,244	$19,629	$20,021	$20,422	$20,830	$21,247	$21,672	$22,105	$22,547	$22,998	$23,458	$23,927	$24,406	$24,894	$326,26
COST# 4 - Price Control and Monitoring Assistance (PIFS)	$2,378	$2,425	$2,474	$2,523	$2,574	$2,625	$2,678	$2,731	$2,786	$2,842	$2,899	$2,957	$3,016	$3,076	$3,137	$41,12
COST# 5 - Terminal Operations and Maintenance																$
COST# 6 - Supplier Sales Margin																$
TOTAL RECURRENT COSTS	$21,244	$70,177	$71,580	$73,012	$74,472	$75,961	$77,481	$79,030	$80,611	$82,223	$83,867	$85,545	$87,256	$89,001	$90,781	$1,142,24
TOTAL COSTS	$71,244	$70,177	$71,580	$73,012	$74,472	$75,961	$77,481	$79,030	$80,611	$82,223	$83,867	$85,545	$87,256	$89,001	$90,781	$513,92

TOTAL PROJECT COSTS

$513,927

DISCOUNTED COSTS (@ 7%)

$707,071

BENEFITS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
AVOIDED COSTS#1 - Current Average Mark-up (uscpgal)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Volume Throughput	4,755,614	4,850,727	4,947,741	5,046,696	5,147,630	5,250,582	5,355,594	5,462,706	5,571,960	5,683,399	5,797,067	5,913,009	6,031,269	6,151,894	6,274,932	
Total Recoveries Per Annum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
																-
SAVINGS# 1 - Bulk Procurement Discounts			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	-
SAVINGS# 2 - Energy Price Risk Management Strategy	$47,556	$48,507	$49,477	$50,467	$51,476	$52,506	$53,556	$54,627	$55,720	$56,834	$57,971	$59,130	$60,313	$61,519	$62,749	822,408.2
SAVINGS# 3 - Price Monitoring Control	$11,889	$12,127	$12,369	$12,617	$12,869	$13,126	$13,389	$13,657	$13,930	$14,208	$14,493	$14,783	$15,078	$15,380	$15,687	205,602.0
SAVINGS# 4 - Local Coastal Tanker Efficiency	$23,778	$24,254	$24,739	$25,233	$25,738	$26,253	$26,778	$27,314	$27,860	$28,417	$28,985	$29,565	$30,156	$30,759	$31,375	411,204.1
Asset Residual Value															$0	-
																-
																-
																-
																$
TOTAL	$83,223	$84,888	$86,585	$88,317	$90,084	$91,885	$93,723	$95,597	$97,509	$99,459	$101,449	$103,478	$105,547	$107,658	$109,811	$1,355,99

ITEM	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
Capital & External Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$
Internal Costs	$50,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$50,00
TOTAL CAPITAL & INTERNAL COSTS	$50,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$50,00
TOTAL RECURRENT COSTS	$21,244	$70,177	$71,580	$73,012	$74,472	$75,961	$77,481	$79,030	$80,611	$82,223	$83,867	$85,545	$87,256	$89,001	$90,781	$1,142,24
TOTAL COSTS	$71,244	$70,177	$71,580	$73,012	$74,472	$75,961	$77,481	$79,030	$80,611	$82,223	$83,867	$85,545	$87,256	$89,001	$90,781	$1,192,24
Benefits	$83,223	$84,888	$86,585	$88,317	$90,084	$91,885	$93,723	$95,597	$97,509	$99,459	$101,449	$103,478	$105,547	$107,658	$109,811	$1,439,21
NET/COST BENEFIT	$11,979	$14,711	$15,005	$15,305	$15,612	$15,924	$16,242	$16,567	$16,898	$17,236	$17,581	$17,933	$18,291	$18,657	$19,030	$246,97
NET/COST BENEFIT cents per litre			$0.0030	$0.0030	$0.0030	$0.0030	$0.0030	$0.0030	$0.0030	$0.0030	$0.0030	$0.0030	$0.0030	$0.0030		

Discount Rate		4%	7%	10%
NPV		179,872	145,461	119,976
PV of Capital Costs		-48,077	-46,729	-45,455
PV of Recurrent Costs		-823,524	-660,342	-539,686
PV of Total Costs		-871,601	-707,071	-585,140
PV of Total Benefits		1,051,472	852,531	705,116
Benefit Cost Ratio		1.21	1.21	1.21
IRR	#DIV/0!			
NPV per $ of Capital		-3.74	-3.11	-2.64

APPENDIX 4: FEDERATED STATES OF MICRONESIA ANALYSIS

Item	Description			Construction Cost $US
1	CIVIL WORKS			
1.1	Stormwater Drainage			0
1.2	Effluent Drainage			0
1.3	Effluent Treatment System (API interceptor)			0
1.4	Earthworks			0
1.5	Roadways			0
1.6	Fencing			0
1.7	Concrete slab to vehicle filling			0
1.8	Bunded concrete pump slab and roof over			0
1.9	Bund wall to tank farm			0
1.10	Wharfline manifold slab and roof over			5,000
	Sub-Total			$ 5,000
2	BUILDINGS AND STRUCTURES			
2.1	Depot Manager's Office			0
2.2	Gate Check Office			0
2.3	Tank Truck Gantry			0
2.4	Drum Platform c/w drum washing plant			0
	Sub-Total			$ 0
3	BULK TANKS	0.85	Gallon	
3.1	Tank No 1	ADO	0	0
3.2	Tank No 2	ULP	0	0
3.3	Tank No 3	DPK	0	0
3.4	Tank No 4	DPK	0	0
3.5	Tank No 5			0
3.6	Tank No 6	Slops	0	0
3.7	Delivery Vehicle	Jet A1	0	0
3.8	Delivery Vehicle	General	0	115,000
	Sub-Total			$ 115,000
4	PIPE AND FITTINGS			
4.1	Pipe, valves and fittings			55,000
4.2	Drum Filling Meters	4	0	0
4.3	Vehicle Filling Meters	4	0	0
	Sub-Total			$ 55,000
5	TRANSFER PUMPS			
5.1	Transfer Pumps c/w electric motors	4	0	0
	Sub-Total			$ 0
6	ELECTRICAL			
6.1	Electrical Switchboard, cables & controls			5,000
6.2	Lighting			0
	Sub-Total			$ 5,000
7	FIRE FIGHTING EQUIPMENT			
7.1	Diesel engined fire pump & controls			0
7.2	Fire hydrant ring main			0
7.3	Fire hose boxes and equipment			12,000
7.4	Portable fire extinguishers			12,000
	Sub-Total			$ 24,000
8	SUNDRY EQUIPMENT			
8.1	Signage			11,000
8.2	Oil Spill Control Equipment			45,000
	Sub-Total			$ 56,000
	TOTAL $US			$ 260,000

Item	Description			Construction Cost $US
1	CIVIL WORKS			
1.1	Stormwater Drainage			25,000
1.2	Effluent Drainage			35,000
1.3	Effluent Treatment System (API interceptor)			25,000
1.4	Earthworks			25,000
1.5	Roadways			60,000
1.6	Fencing			10,000
1.7	Concrete slab to vehicle filling			15,000
1.8	Bunded concrete pump slab and roof over			10,000
1.9	Bund wall to tank farm			55,000
1.10	Wharfline manifold slab and roof over			25,000
	Sub-Total			$ 285,000
2	BUILDINGS AND STRUCTURES			
2.1	Depot Manager's Office			110,000
2.2	Gate Check Office			7,500
2.3	Tank Truck Gantry			25,000
2.4	Drum Platform c/w drum washing plant			80,000
	Sub-Total			$ 222,500
3	BULK TANKS	0.85	Gallon	
3.1	Tank No 1	ADO	500,000	425,000
3.2	Tank No 2	ULP	255,000	216,750
3.3	Tank No 3	DPK	255,000	216,750
3.4	Tank No 4	DPK	0	0
3.5	Tank No 5			0
3.6	Tank No 6	Slops	30,000	25,500
3.7	Delivery Vehicle	Jet A1	0	0
3.8	Delivery Vehicle	General	3,000	115,000
	Sub-Total			$ 999,000
4	PIPE AND FITTINGS			
4.1	Pipe, valves and fittings			350,000
4.2	Drum Filling Meters	4	35000	140,000
4.3	Vehicle Filling Meters	4	35000	140,000
	Sub-Total			$ 630,000
5	TRANSFER PUMPS			
5.1	Transfer Pumps c/w electric motors	2	45000	90,000
	Sub-Total			$ 90,000
6	ELECTRICAL			
6.1	Electrical Switchboard, cables & controls			120,000
6.2	Lighting			20,000
	Sub-Total			$ 140,000
7	FIRE FIGHTING EQUIPMENT			
7.1	Diesel engined fire pump & controls			65,000
7.2	Fire hydrant ring main			35,000
7.3	Fire hose boxes and equipment			12,000
7.4	Portable fire extinguishers			12,000
	Sub-Total			$ 124,000
8	SUNDRY EQUIPMENT			
8.1	Signage			11,000
8.2	Oil Spill Control Equipment			45,000
	Sub-Total			$ 56,000
	TOTAL $US			$ 2,546,500

Item	Description			Construction Cost $US
1	CIVIL WORKS			
1.1	Stormwater Drainage			25,000
1.2	Effluent Drainage			35,000
1.3	Effluent Treatment System (API interceptor)			25,000
1.4	Earthworks			25,000
1.5	Roadways			60,000
1.6	Fencing			10,000
1.7	Concrete slab to vehicle filling			15,000
1.8	Bunded concrete pump slab and roof over			10,000
1.9	Bund wall to tank farm			55,000
1.10	Wharfline manifold slab and roof over			25,000
	Sub-Total			$ 285,000
2	BUILDINGS AND STRUCTURES			
2.1	Depot Manager's Office			20,000
2.2	Gate Check Office			7,500
2.3	Tank Truck Gantry			25,000
2.4	Drum Platform c/w drum washing plant			80,000
	Sub-Total			$ 132,500
3	BULK TANKS	0.7	Gallon	
3.1	Tank No 1	ADO	150,000	105,000
3.2	Tank No 2	ULP	100,000	70,000
3.3	Tank No 3	DPK	0	0
3.4	Tank No 4	DPK	0	0
3.5	Tank No 5			0
3.6	Tank No 6	Slops	30,000	21,000
3.7	Delivery Vehicle	Jet A1	0	0
3.8	Delivery Vehicle	General	3,000	115,000
	Sub-Total			$ 311,000
4	PIPE AND FITTINGS			
4.1	Pipe, valves and fittings			200,000
4.2	Drum Filling Meters	2	35000	70,000
4.3	Vehicle Filling Meters	4	35000	140,000
	Sub-Total			$ 410,000
5	TRANSFER PUMPS			
5.1	Transfer Pumps c/w electric motors	4	45000	180,000
	Sub-Total			$ 180,000
6	ELECTRICAL			
6.1	Electrical Switchboard, cables & controls			100,000
6.2	Lighting			20,000
	Sub-Total			$ 120,000
7	FIRE FIGHTING EQUIPMENT			
7.1	Diesel engined fire pump & controls			65,000
7.2	Fire hydrant ring main			35,000
7.3	Fire hose boxes and equipment			12,000
7.4	Portable fire extinguishers			12,000
	Sub-Total			$ 124,000
8	SUNDRY EQUIPMENT			
8.1	Signage			11,000
8.2	Oil Spill Control Equipment			45,000
	Sub-Total			$ 56,000
	TOTAL $US			$ 1,618,500

Item	Description			Construction Cost $US
1	CIVIL WORKS			
1.1	Stormwater Drainage			25,000
1.2	Effluent Drainage			35,000
1.3	Effluent Treatment System (API interceptor)			25,000
1.4	Earthworks			100,000
1.5	Roadways			25,000
1.6	Fencing			25,000
1.7	Concrete slab to vehicle filling			60,000
1.8	Bunded concrete pump slab and roof over			35,000
1.9	Bund wall to tank farm			250,000
1.10	Wharfline manifold slab and roof over			35,000
	Sub-Total			$ 615,000
2	BUILDINGS AND STRUCTURES			
2.1	Depot Manager's Office			20,000
2.2	Gate Check Office			7,500
2.3	Tank Truck Gantry			25,000
2.4	Drum Platform c/w drum washing plant			80,000
	Sub-Total			$ 132,500
3	BULK TANKS	0.7	Gallon	
3.1	Tank No 1	ADO	150,000	105,000
3.2	Tank No 2	ULP	100,000	70,000
3.3	Tank No 3	DPK	0	0
3.4	Tank No 4	DPK	0	0
3.5	Tank No 5			0
3.6	Tank No 6	Slops	30,000	21,000
3.7	Delivery Vehicle	Jet A1	0	0
3.8	Delivery Vehicle	General	3,000	115,000
	Sub-Total			$ 311,000
4	PIPE AND FITTINGS			
4.1	Pipe, valves and fittings			250,000
4.2	Drum Filling Meters	3	35000	105,000
4.3	Vehicle Filling Meters	0	35000	0
	Sub-Total			$ 355,000
5	TRANSFER PUMPS			
5.1	Transfer Pumps c/w electric motors	4	45000	180,000
	Sub-Total			$ 180,000
6	ELECTRICAL			
6.1	Electrical Switchboard, cables & controls			100,000
6.2	Lighting			20,000
	Sub-Total			$ 120,000
7	FIRE FIGHTING EQUIPMENT			
7.1	Diesel engined fire pump & controls			65,000
7.2	Fire hydrant ring main			35,000
7.3	Fire hose boxes and equipment			12,000
7.4	Portable fire extinguishers			12,000
	Sub-Total			$ 124,000
8	SUNDRY EQUIPMENT			
8.1	Signage			11,000
8.2	Oil Spill Control Equipment			45,000
	Sub-Total			$ 56,000
	TOTAL $US			$ 1,893,500

KOSRAE OPERATING COSTS			
Administraion			
Head Office Management Fees	3.2	$54,400	$54,400.00
Regional Headoffice Charges	2.1	$35,700	$35,700.00
Land Lease and Rental	1	$5,000	$5,000.00
		per gallon	$0.0559
Utilities			
Water	12	$300	$3,600.00
Electricity	12	$500	$6,000.00
Telecommunications	12	$500	$6,000.00
		per gallon	$0.0092
Salaries and Wages			
Manager	1	$35,000	$35,000.00
Accountant	1	$25,000	$25,000.00
Terminal Support Staff	2	$10,000	$20,000.00
Aviation Support Staff	1	$10,000	$10,000.00
Social Security Taxes	1	6,400.00	$6,400.00
Entertainment	1	5,000.00	$5,000.00
Professional Fees	1	34,000.00	$34,000.00
		per gallon	$0.07965
Plant & Equipment			
Tanks and Pumps maintenance	2.7	$45,900	$45,900.00
Materials and Supplies	2.7	$45,900	$45,900.00
General Office and Maintenance	1	$5,000	$5,000.00
Drum Filling Operations	1	$25,000	$25,000.00
Vehicles and Fleet	3	$3,000	$9,000.00
Insurance	$ 0.01	$13,974	$13,974.13
Miscellaneous	1	$2,000	$2,000.00
		per gallon	$0.08634
Risk Assurance			
Terminal Auditing & Supplier Management	1	$55,000	$55,000.00
Capacity Building & Certification	1	$55,000	$55,000.00
Stock Variation	1	$5,000	$5,000.00
Stock Losses	1	$5,000	$5,000.00
Travel	1	$15,000	$15,000.00
		per gallon	$0.07941
Annual Operating Costs			$527,874.44
Total Annual Volume Throughput			1,700,000
Working Capital (Stock) Requirement			163,014
Unit Rate Assessment of Terminal Operations		$0.311	per gallon

POHNPEI OPERATING COSTS			
Administraion			
Head Office Management Fees	3.2	$319,424	$319,424.00
Regional Headoffice Charges	2.1	$209,622	$209,622.00
Land Lease and Rental	1	$75,000	$75,000.00
		per gallon	$0.0605
Utilities			
Water	12	$500	$6,000.00
Electricity	12	$2,500	$30,000.00
Telecommunications	12	$700	$8,400.00
		per gallon	$0.0044
Salaries and Wages			
Manager	1	$35,000	$35,000.00
Accountant	1	$25,000	$25,000.00
Terminal Support Staff	3	$10,000	$30,000.00
Aviation Support Staff	2	$10,000	$20,000.00
Social Security Taxes	1	6,400.00	$6,400.00
Entertainment	0	5,000.00	$0.00
Professional Fees	0	34,000.00	$0.00
		per gallon	$0.01166
Plant & Equipment			
Tanks and Pumps maintenance	2.7	$269,514	$269,514.00
Materials and Supplies	2.7	$269,514	$269,514.00
General Office and Maintenance	1	$5,000	$5,000.00
Drum Filling Operations	0	$25,000	$0.00
Vehicles and Fleet	2	$3,000	$6,000.00
Insurance	$ 0.01	$82,053	$82,052.83
Miscellaneous	1	$2,000	$2,000.00
		per gallon	$0.06352
Risk Assurance			
Terminal Auditing	0	$50,000	$0.00
Capacity Building & Certification	0	$50,000	$0.00
Stock Variation	1	$2,000	$2,000.00
Stock Losses	1	$2,000	$2,000.00
Travel	1	$7,000	$7,000.00
		per gallon	$0.00110
Annual Operating Costs			$1,409,926.97
Total Annual Volume Throughput			9,982,000
Working Capital Requirements			492,263
Unit Rate Assessment of Terminal Operations		$0.141	per gallon

Total Costs	$ 2,872,570	
Total Volume Consumed	18,248,000	
Average Cent Per Gallon Costs	$ 0.1574	
Total Average Working Capital Requirements	$ 1,099,605	Gallons

International Indemnity Insurance 0.0082201

CHUUK OPERATING COSTS			
Administraion			
Head Office Management Fees	3.2	$210,112	$210,112.00
Regional Headoffice Charges	2.1	$137,886	$137,886.00
Land Lease and Rental (& Throughput fee)	1	$15,633	$15,633.33
		per gallon	$0.0554
Utilities			
Water	12	$200	$2,400.00
Electricity	12	$600	$7,200.00
Telecommunications	12	$300	$3,600.00
		per gallon	$0.0020
Salaries and Wages			
Manager	1	$35,000	$35,000.00
Accountant	1	$25,000	$25,000.00
Terminal Support Staff	3	$10,000	$30,000.00
Aviation Support Staff	0	$10,000	$0.00
Social Security Taxes	1	6,400.00	$6,400.00
Entertainment	0	5,000.00	$0.00
Professional Fees	1	34,000.00	$34,000.00
		per gallon	$0.01986
Plant & Equipment			
Tanks and Pumps maintenance	2.7	$177,282	$177,282.00
Materials and Supplies	2.7	$177,282	$177,282.00
General Office and Maintenance	1	$5,000	$5,000.00
Drum Filling Operations	0	$25,000	$0.00
Vehicles and Fleet	1	$3,000	$3,000.00
Insurance	$ 0.01	$53,973	$53,973.04
Miscellaneous	1	$2,000	$2,000.00
		per gallon	$0.06374
Risk Assurance			
Terminal Auditing	0	$50,000	$0.00
Capacity Building & Certification	0	$50,000	$0.00
Stock Variation	1	$1,000	$1,000.00
Stock Losses	1	$1,000	$1,000.00
Travel	1	$7,000	$7,000.00
		per gallon	$0.00137
Annual Operating Costs			$934,768.51
Total Annual Volume Throughput			6,566,000
Working Capital Requirements			323,803
Unit Rate Assessment of Terminal Operations		$0.142	per gallon

YAP OPERATING COSTS						
Administraion						
Head Office Management Fees	3.2	$78,208	$78,208.00	$662,144.00		
Regional Headoffice Charges	2.1	$51,324	$51,324.00	$434,532.00	$ 1,217,309	
Land Lease and Rental	1	$25,000	$25,000.00	$120,633.33	0.0667	per gallon
		per gallon	$0.0632			
Utilities						
Water	12	$200	$2,400.00	$14,400.00		
Electricity	12	$600	$7,200.00	$50,400.00	$ 86,400	
Telecommunications	12	$300	$3,600.00	$21,600.00	0.0047	per gallon
		per gallon	$0.0054			
Salaries and Wages						
Manager	1	$35,000	$35,000.00	$140,000.00		
Accountant	1	$25,000	$25,000.00	$100,000.00		
Terminal Support Staff	3	$10,000	$30,000.00	$110,000.00		
Aviation Support Staff	0	$10,000	$0.00	$30,000.00		
Social Security Taxes	1	6,400.00	$6,400.00	$25,600.00		
Entertainment	0	5,000.00	$0.00	$5,000.00	$ 512,600	
Professional Fees	1	34,000.00	$34,000.00	$102,000.00	0.0281	per gallon
		per gallon	$0.05336			
Plant & Equipment						
Tanks and Pumps maintenance	2.7	$65,988	$65,988.00	$558,684.00		
Materials and Supplies	2.7	$65,988	$65,988.00	$558,684.00		
General Office and Maintenance	1	$5,000	$5,000.00	$20,000.00		
Drum Filling Operations	0	$25,000	$0.00	$25,000.00		
Vehicles and Fleet	1	$3,000	$3,000.00	$21,000.00		
Insurance	$ 0.01	$20,090	$20,089.87	$170,089.87	$ 1,361,458	
Miscellaneous	1	$2,000	$2,000.00	$8,000.00	0.0746	per gallon
		per gallon	$0.06631			
Risk Assurance						
Terminal Auditing	0	$50,000	$0.00	$55,000.00		
Capacity Building & Certification	0	$50,000	$0.00	$55,000.00		
Stock Variation	1	$1,000	$1,000.00	$9,000.00		
Stock Losses	1	$1,000	$1,000.00	$9,000.00	$ 164,000	
Travel	1	$7,000	$7,000.00	$36,000.00	0.0090	per gallon
		per gallon	$0.00368			
Annual Operating Costs			$469,198.06	$3,341,767.99		
Total Annual Volume Throughput			2,444,000			
Working Capital Requirements			120,526			
Unit Rate Assessment of Terminal Operations		$0.192	per gallon			

FSM Status Quo

CAPITAL & EXTERNAL COSTS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
COST#1 - Terminal Construction																$0
COST#1A - Working Capital based on National Reserves 35 days																
TOTAL CAPITAL AND EXTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
INTERNAL COSTS																
TOTAL INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Recurrent Costs																
COST# 2 - Regional Network & Cluster Formation																
COST# 2A - Network and Cluster Management																$0
COST# 3 - Government Risk Assurance Process																$0
COST# 4 - Price Control and Monitoring Assistance (PIPS)																$0
COST# 5 - Terminal Operations and Maintenance																$0
COST# 6 - Supplier Sales Margin	$1,824,800	$1,861,296	$1,898,522	$1,936,492	$1,975,222	$2,014,727	$2,055,021	$2,096,122	$2,138,044	$2,180,805	$2,224,421	$2,268,909	$2,314,288	$2,360,573	$2,407,785	$31,557,027
TOTAL RECURRENT COSTS	$1,824,800	$1,861,296	$1,898,522	$1,936,492	$1,975,222	$2,014,727	$2,055,021	$2,096,122	$2,138,044	$2,180,805	$2,224,421	$2,268,909	$2,314,288	$2,360,573	$2,407,785	$31,557,027
TOTAL COSTS	$1,824,800	$1,861,296	$1,898,522	$1,936,492	$1,975,222	$2,014,727	$2,055,021	$2,096,122	$2,138,044	$2,180,805	$2,224,421	$2,268,909	$2,314,288	$2,360,573	$2,407,785	$13,566,080

TOTAL PROJECT COSTS

	$13,566,080
DISCOUNTED COSTS (@ 7%)	
	$18,693,083

BENEFITS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
AVOIDED COSTS#1 - Current Average Mark-up (uscpgal)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Volume Throughput	18,245,000	18,612,960	18,985,219	19,364,924	19,752,222	20,147,266	20,550,212	20,961,216	21,380,440	21,808,049	22,244,210	22,689,094	23,142,876	23,605,734	24,077,848	
Total Recoveries Per Annum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
																-
SAVINGS# 1 - Bulk Procurement Discounts																-
SAVINGS# 2 - Energy Price Risk Management Strategy																-
SAVINGS# 3 - Price Monitoring Control																-
SAVINGS# 4 - Local Coastal Tanker Efficiency																-
Asset Residual Value																-
																-
																-
																-
																$0
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

ITEM	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
Capital & External Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Internal Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL CAPITAL & INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL RECURRENT COSTS	$1,824,800	$1,861,296	$1,898,522	$1,936,492	$1,975,222	$2,014,727	$2,055,021	$2,096,122	$2,138,044	$2,180,805	$2,224,421	$2,268,909	$2,314,288	$2,360,573	$2,407,785	$31,557,027
TOTAL COSTS	$1,824,800	$1,861,296	$1,898,522	$1,936,492	$1,975,222	$2,014,727	$2,055,021	$2,096,122	$2,138,044	$2,180,805	$2,224,421	$2,268,909	$2,314,288	$2,360,573	$2,407,785	$31,557,027
Benefits	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
NET/COST BENEFIT	-$1,824,800	-$1,861,296	-$1,898,522	-$1,936,492	-$1,975,222	-$2,014,727	-$2,055,021	-$2,096,122	-$2,138,044	-$2,180,805	-$2,224,421	-$2,268,909	-$2,314,288	-$2,360,573	-$2,407,785	-$31,557,027
NET/COST BENEFIT cents per litre			-$0.1000	-$0.1000	-$0.1000	-$0.1000	-$0.1000	-$0.1000	-$0.1000	-$0.1000	-$0.1000	-$0.1000	-$0.1000	-$0.1000		

Discount Rate		4%	7%	10%
NPV		-23,055,170	-18,693,083	-15,460,842
PV of Capital Costs		0	0	0
PV of Recurrent Costs		-23,055,170	-18,693,083	-15,460,842
PV of Total Costs		-23,055,170	-18,693,083	-15,460,842
PV of Total Benefits		0	0	0
Benefit Cost Ratio		0.00	0.00	0.00
IRR	#DIV/0!			
NPV per $ of Capital		#DIV/0!	#DIV/0!	#DIV/0!

FSM : Regulated Private Sector through Regional Regulatory Unit

CAPITAL & EXTERNAL COSTS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
COST#1 - Terminal Construction																$0
COST#1A - Working Capital based on National Reserves 35 days																
TOTAL CAPITAL AND EXTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
INTERNAL COSTS																
TOTAL INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Recurrent Costs																
COST# 2 - Regional Network & Cluster Formation	$50,000															
COST# 2A - Network and Cluster Management		$179,443	$183,031	$186,692	$190,426	$194,234	$198,119	$202,082	$206,123	$210,246	$214,451	$218,740	$223,114	$227,577	$232,128	$2,895,405
COST# 3 - Government Risk Assurance Process	$72,394	$73,842	$75,319	$76,825	$78,362	$79,929	$81,527	$83,158	$84,821	$86,518	$88,248	$90,013	$91,813	$93,649	$95,522	$1,251,935
COST# 4 - Price Control and Monitoring Assistance (PIFS)	$9,124	$9,306	$9,493	$9,682	$9,876	$10,074	$10,275	$10,481	$10,690	$10,904	$11,122	$11,345	$11,571	$11,803	$12,039	$157,785
COST# 5 - Terminal Operations and Maintenance																$0
COST# 6 - Supplier Sales Margin																$0
TOTAL RECURRENT COSTS	$131,518	$262,591	$267,843	$273,200	$278,664	$284,237	$289,922	$295,720	$301,634	$307,667	$313,821	$320,097	$326,499	$333,029	$339,689	$1,400,725
TOTAL COSTS	$131,518	$262,591	$267,843	$273,200	$278,664	$284,237	$289,922	$295,720	$301,634	$307,667	$313,821	$320,097	$326,499	$333,029	$339,689	$1,787,974

TOTAL PROJECT COSTS

$1,787,974

DISCOUNTED COSTS (@ 7%)

$2,519,527

BENEFITS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
AVOIDED COSTS#1 - Current Average Mark-up (uscpgal)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Volume Throughput	18,248,000	18,612,960	18,985,219	19,364,924	19,752,222	20,147,266	20,550,212	20,961,216	21,380,440	21,808,049	22,244,210	22,689,094	23,142,876	23,605,734	24,077,848	
Total Recoveries Per Annum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SAVINGS# 1 - Bulk Procurement Discounts																-
SAVINGS# 2 - Energy Price Risk Management Strategy																-
SAVINGS# 3 - Price Monitoring Control	$228,100	$232,662	$237,315	$242,062	$246,903	$251,841	$256,878	$262,015	$267,256	$272,601	$278,053	$283,614	$289,286	$295,072	$300,973	3,944,628.40
SAVINGS# 4 - Local Coastal Tanker Efficiency	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	-
Asset Residual Value															$0	-
																-
																-
																-
																$0
TOTAL	$228,100	$232,662	$237,315	$242,062	$246,903	$251,841	$256,878	$262,015	$267,256	$272,601	$278,053	$283,614	$289,286	$295,072	$300,973	$3,716,528

ITEM	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
Capital & External Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Internal Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL CAPITAL & INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL RECURRENT COSTS	$131,518	$262,591	$267,843	$273,200	$278,664	$284,237	$289,922	$295,720	$301,634	$307,667	$313,821	$320,097	$326,499	$333,029	$339,689	$4,326,132
TOTAL COSTS	$131,518	$262,591	$267,843	$273,200	$278,664	$284,237	$289,922	$295,720	$301,634	$307,667	$313,821	$320,097	$326,499	$333,029	$339,689	$4,326,132
Benefits	$228,100	$232,662	$237,315	$242,062	$246,903	$251,841	$256,878	$262,015	$267,256	$272,601	$278,053	$283,614	$289,286	$295,072	$300,973	$3,944,628
NET/COST BENEFIT	$96,582	-$29,929	-$30,528	-$31,139	-$31,761	-$32,396	-$33,044	-$33,705	-$34,379	-$35,067	-$35,768	-$36,483	-$37,213	-$37,957	-$38,716	-$381,501
NET/COST BENEFIT cents per litre			-$0.0016	-$0.0016	-$0.0016	-$0.0016	-$0.0016	-$0.0016	-$0.0016	-$0.0016	-$0.0016	-$0.0016	-$0.0016	-$0.0016		

Discount Rate		4%	7%	10%
NPV		-249,638	-182,892	-134,128
PV of Capital Costs		0	0	0
PV of Recurrent Costs		-3,131,534	-2,519,527	-2,056,735
PV of Total Costs		-3,131,534	-2,519,527	-2,056,735
PV of Total Benefits		2,881,896	2,336,635	1,922,607
Benefit Cost Ratio		0.92	0.93	0.94
IRR	32.16%			
NPV per $ of Capital		#DIV/0!	#DIV/0!	#DIV/0!

FSM Asset Ownership, Network and Cluster Member, Regional Regulation.

CAPITAL & EXTERNAL COSTS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
COST#1 - Terminal Construction	$3,841,850	$2,476,650	$100,000	$100,000	$100,000	$100,000	$200,000	$100,000	$100,000	$100,000	$100,000	$200,000	$100,000	$100,000	$100,000	$7,818,500
COST#1A - Working Capital based on National Reserves 35 days		$2,052,525													-$2,052,525	
TOTAL CAPITAL AND EXTERNAL COSTS	$3,841,850	$4,529,175	$100,000	$100,000	$100,000	$100,000	$200,000	$100,000	$100,000	$100,000	$100,000	$200,000	$100,000	$100,000	-$1,952,525	$7,818,500
INTERNAL COSTS																
TOTAL INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Recurrent Costs																
COST# 2 - Regional Network & Cluster Formation	$50,000															
COST# 2A - Network and Cluster Management		$179,443	$183,031	$186,692	$190,426	$194,234	$198,119	$202,082	$206,123	$210,246	$214,451	$218,740	$223,114	$227,577	$232,129	$2,866,406
COST# 3 - Government Risk Assurance Process	$72,394	$73,842	$75,319	$76,825	$78,362	$79,929	$81,527	$83,158	$84,821	$86,518	$88,248	$90,013	$91,813	$93,649	$95,522	$1,251,939
COST# 4 - Price Control and Monitoring Assistance (PIFS)	$9,124	$9,306	$9,493	$9,682	$9,876	$10,074	$10,275	$10,481	$10,690	$10,904	$11,122	$11,345	$11,571	$11,803	$12,039	$157,785
COST# 5 - Terminal Operations and Maintenance	$3,341,787	$3,408,603	$3,476,775	$3,546,310	$3,617,236	$3,689,581	$3,763,373	$3,838,640	$3,915,413	$3,993,721	$4,073,595	$4,155,087	$4,238,189	$4,322,932	$4,409,391	$57,790,574
COST# 6 - Supplier Sales Margin			$1,708,670	$1,742,843	$1,777,700	$1,813,254	$1,849,519	$1,886,509	$1,924,240	$1,962,724	$2,001,979	$2,042,018	$2,082,858	$2,124,516	$2,167,005	$16,997,438
TOTAL RECURRENT COSTS	$3,473,285	$3,671,194	$5,453,287	$5,562,353	$5,673,600	$5,787,072	$5,902,813	$6,020,870	$6,141,287	$6,264,113	$6,389,395	$6,517,183	$6,647,527	$6,780,477	$6,916,087	$75,867,736
TOTAL COSTS	$7,315,135	$8,200,369	$5,553,287	$5,662,353	$5,773,600	$5,887,072	$6,102,813	$6,120,870	$6,241,287	$6,364,113	$6,489,395	$6,717,183	$6,747,527	$6,880,477	$4,963,562	$44,494,629

TOTAL PROJECT COSTS

$44,494,629

DISCOUNTED COSTS (@ 7%)

$58,217,229

BENEFITS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
AVOIDED COSTS#1 - Current Average Mark-up (uscpgal)	-	-	0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850	
Volume Throughput	18,248,000	18,612,960	18,985,219	19,364,924	19,752,222	20,147,266	20,550,212	20,961,216	21,380,440	21,808,040	22,244,210	22,689,094	23,142,876	23,605,734	24,077,848	
Total Recoveries Per Annum	-	-	16,137,436	16,460,185	16,789,389	17,125,177	17,467,680	17,817,034	18,173,374	18,536,842	18,907,579	19,285,730	19,671,445	20,064,874	20,466,171	236,902,015
																-
SAVINGS# 1 - Bulk Procurement Discounts			$379,704	$387,298	$395,044	$402,945	$411,004	$419,224	$427,608	$436,161	$444,884	$453,782	$462,858	$472,115	$481,557	5,574,186.24
SAVINGS# 2 - Energy Price Risk Management Strategy																-
SAVINGS# 3 - Price Monitoring Control	$45,620	$46,532	$47,463	$48,412	$49,381	$50,368	$51,375	$52,403	$53,451	$54,520	$55,611	$56,723	$57,857	$59,014	$60,195	788,925.68
SAVINGS# 4 - Local Coastal Tanker Efficiency	$0	$0	$189,852	$193,649	$197,522	$201,473	$205,502	$209,612	$213,804	$218,080	$222,442	$226,891	$231,429	$236,057	$240,778	2,787,093.12
Asset Residual Value															$3,900,250	3,900,250.00
																-
																-
																-
																$0
TOTAL	$45,620	$46,532	$16,754,456	$17,089,545	$17,431,336	$17,779,963	$18,135,562	$18,498,273	$18,868,239	$19,245,603	$19,630,515	$20,023,126	$20,423,588	$20,832,060	$25,157,951	$249,916,750

ITEM	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
Capital & External Costs	$3,841,850	$4,529,175	$100,000	$100,000	$100,000	$100,000	$200,000	$100,000	$100,000	$100,000	$100,000	$200,000	$100,000	$100,000	-$1,952,525	$7,818,500
Internal Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL CAPITAL & INTERNAL COSTS	$3,841,850	$4,529,175	$100,000	$100,000	$100,000	$100,000	$200,000	$100,000	$100,000	$100,000	$100,000	$200,000	$100,000	$100,000	-$1,952,525	$7,818,500
TOTAL RECURRENT COSTS	$3,473,285	$3,671,194	$5,453,287	$5,562,353	$5,673,600	$5,787,072	$5,902,813	$6,020,870	$6,141,287	$6,264,113	$6,389,395	$6,517,183	$6,647,527	$6,780,477	$6,916,087	$87,200,541
TOTAL COSTS	$7,315,135	$8,200,369	$5,553,287	$5,662,353	$5,773,600	$5,887,072	$6,102,813	$6,120,870	$6,241,287	$6,364,113	$6,489,395	$6,717,183	$6,747,527	$6,880,477	$4,963,562	$95,019,041
Benefits	$45,620	$46,532	$16,754,456	$17,089,545	$17,431,336	$17,779,963	$18,135,562	$18,498,273	$18,868,239	$19,245,603	$19,630,515	$20,023,126	$20,423,588	$20,832,060	$25,157,951	$249,962,370
NET/COST BENEFIT	-$7,269,515	-$8,153,836	$11,201,169	$11,427,192	$11,657,736	$11,892,891	$12,032,749	$12,377,404	$12,626,952	$12,881,491	$13,141,120	$13,305,943	$13,676,062	$13,951,583	$20,194,390	$154,943,329
NET/COST BENEFIT cents per litre			$0.5900	$0.5901	$0.5902	$0.5903	$0.5855	$0.5905	$0.5906	$0.5907	$0.5908	$0.5864	$0.5909	$0.5910		

Discount Rate		4%	7%	10%
NPV		104,270,377	78,852,009	60,410,516
PV of Capital Costs		-7,803,550	-7,639,207	-7,414,586
PV of Recurrent Costs		-62,974,318	-50,578,022	-41,417,571
PV of Total Costs		-70,777,868	-58,217,229	-48,832,157
PV of Total Benefits		175,048,245	137,069,238	109,242,676
Benefit Cost Ratio		2.47	2.35	2.24
IRR	58.73%			
NPV per $ of Capital		-13.36	-10.32	-8.15

DISCOUNTED CASH FLOW FOR

FSM National Terminal Operations

A) FSM to construct new terminal facilites in Pohnpei, Chuuk, and Yap. ASSUMPTIONS : New terminal facilites, a 2% volume growth rate, a 2 year construction period commencing 2006, and constant markup on landed costs.

Year		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Annual Volume		18,248,000	18,612,960	18,985,219	19,364,924	19,752,222	20,147,266	20,550,212	20,961,216	21,380,440	21,808,049	22,244,210	22,689,094	23,142,876	23,605,734	24,077,848
Lube Volumes		182,480	191,604	201,184	211,243	221,806	232,898	244,541	256,768	269,606	283,086	297,241	312,103	327,708	344,093	361,298
Lubes Gross Margin		0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000
Lubes Rebate		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Lubricants W'Sale Margin		0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Fuel Wholesale Margin		0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000
Rebate		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Administration		0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667
Utilities		0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047
Salaries and Wages		0.0281	0.0281	0.0281	0.0281	0.0281	0.0281	0.0281	0.0281	0.0281	0.0281	0.0281	0.0281	0.0281	0.0281	0.0281
Plant & Equipment		0.0746	0.0746	0.0746	0.0746	0.0746	0.0746	0.0746	0.0746	0.0746	0.0746	0.0746	0.0746	0.0746	0.0746	0.0746
Risk Assurance		0.0090	0.0090	0.0090	0.0090	0.0090	0.0090	0.0090	0.0090	0.0090	0.0090	0.0090	0.0090	0.0090	0.0090	0.0090
Net Fuel W'sale Margin		0.117	0.117	0.117	0.117	0.117	0.117	0.117	0.117	0.117	0.117	0.117	0.117	0.117	0.117	0.117
Fuel Gross Margin		2,132,633	2,175,285	2,218,791	2,263,167	2,308,430	2,354,599	2,401,691	2,449,725	2,498,719	2,548,694	2,599,667	2,651,661	2,704,694	2,758,788	2,813,964
Lubes Gross Margin		164,232	172,444	181,066	190,119	199,625	209,606	220,087	231,091	242,645	254,778	267,517	280,892	294,937	309,684	325,168
Total Gross Margin ($)		2,296,865	2,347,729	2,399,857	2,453,286	2,508,055	2,564,205	2,621,777	2,680,816	2,741,365	2,803,471	2,867,184	2,932,553	2,999,631	3,068,472	3,139,132
Asset Residual Value (50% of Total Capital)																3,909,250
Net Income B4 Tax		2,296,865	2,347,729	2,399,857	2,453,286	2,508,055	2,564,205	2,621,777	2,680,816	2,741,365	2,803,471	2,867,184	2,932,553	2,999,631	3,068,472	7,048,382
Depreciation@ 20% Y1 Investment		(768,370)	(768,370)	(768,370)	(768,370)	(768,370)										
Depreciation@ 20% Y2 Investment			(495,330)	(495,330)	(495,330)	(495,330)	(495,330)									
Depreciation@ 20% Y3 Investment				(20,000)	(20,000)	(20,000)	(20,000)	(20,000)								
Depreciation@ 20% Y4 Investment					(20,000)	(20,000)	(20,000)	(20,000)	(20,000)							
Depreciation@ 20% Y5 Investment						(20,000)	(20,000)	(20,000)	(20,000)	(20,000)						
Depreciation@ 20% Y6 Investment							(20,000)	(20,000)	(20,000)	(20,000)	(20,000)					
Depreciation@ 20% Y7 Investment								(40,000)	(40,000)	(40,000)	(40,000)	(40,000)				
Depreciation@ 20% Y8 Investment									(20,000)	(20,000)	(20,000)	(20,000)	(20,000)			
Depreciation@ 20% Y9 Investment										(20,000)	(20,000)	(20,000)	(20,000)	(20,000)		
Depreciation@ 20% Y10 Investment											(20,000)	(20,000)	(20,000)	(20,000)	(20,000)	(20,000)
Depreciation@ 20% Y11 Investment												(20,000)	(20,000)	(20,000)	(20,000)	(20,000)
Depreciation@ 20% Y12 Investment													(40,000)	(40,000)	(40,000)	(40,000)
Depreciation@ 20% Y13 Investment														(20,000)	(20,000)	(20,000)
Depreciation@ 20% Y14 Investment															(20,000)	(20,000)
Depreciation@ 20% Y15 Investment																(20,000)
Depreciation@ 20% Y16 Investment																
Net Income after Depreciation		1,528,495	1,084,029	1,116,157	1,149,586	1,184,355	1,988,875	2,501,777	2,580,816	2,621,365	2,683,471	2,787,184	2,872,553	2,959,631	3,048,472	7,028,382
Tax @		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Income After Tax ($)		2,296,865	2,347,729	2,399,857	2,453,286	2,508,055	2,564,205	2,621,777	2,680,816	2,741,365	2,803,471	2,867,184	2,932,553	2,999,631	3,068,472	7,048,382
Debtor @ 2.5%			58,693	59,996	61,332	62,701	64,105	65,544	67,020	68,534	70,087	71,680	73,314	74,991	76,712	176,210
Net Cash Flow		2,296,865	2,289,036	2,339,861	2,391,954	2,445,354	2,500,100	2,556,233	2,613,796	2,672,831	2,733,385	2,795,504	2,859,239	2,924,640	2,991,760	6,872,172
OUTLAY																
TRANSFER OWNERSHIP																
CIVIL WORKS	1,190,000	0														
BUILDINGS AND STRUCTURES	243,750	243,750														
BULK TANKS	1,041,600	694,400	100,000	100,000	100,000	100,000	200,000	100,000	100,000	100,000	100,000	200,000	100,000	100,000	100,000	0
PIPE AND FITTINGS	725,000	725,000														
TRANSFER PUMPS	225,000	225,000														
ELECTRICAL	192,500	192,500														
FIRE FIGHTING EQUIPMENT		396,000														
SUNDRY EQUIPMENT	224,000	0														
Total Capital Cost	3,841,850	2,476,650	100,000	100,000	100,000	100,000	200,000	100,000	100,000	100,000	100,000	200,000	100,000	100,000	100,000	-
Working Capital based on monthly delivery		3,429,935														(3,429,935)
Total Capital Flow	3,841,850	5,906,585	100,000	100,000	100,000	100,000	200,000	100,000	100,000	100,000	100,000	200,000	100,000	100,000	100,000	(3,429,935)
Net Annual Cash Flow	(3,841,850)	(3,609,720)	2,247,729	2,299,857	2,353,286	2,408,055	2,364,205	2,521,777	2,580,816	2,641,365	2,703,471	2,667,184	2,832,553	2,899,631	2,968,472	10,478,317
Discount Factor @4%	(3,841,850)	(3,470,885)	2,078,152	2,044,564	2,011,599	1,979,248	1,948,468	1,916,344	1,885,777	1,855,788	1,826,368	1,792,552	1,769,204	1,741,443	1,714,219	5,818,237
Cumulated Value	(3,841,850)	(7,312,735)	(5,234,583)	(3,190,018)	(1,178,420)	800,828	2,689,292	4,586,636	6,471,412	8,327,200	10,153,569	11,886,121	13,655,326	15,396,768	17,110,987	22,929,224
Discount Factor @ 7%	(3,841,850)	(3,373,570)	1,983,254	1,877,368	1,795,311	1,718,910	1,575,370	1,570,436	1,502,058	1,436,727	1,374,308	1,287,160	1,257,688	1,203,244	1,151,225	3,797,824
Cumulated Value	(3,841,850)	(7,216,420)	(5,262,167)	(3,374,798)	(1,579,488)	137,423	1,712,792	3,283,229	4,786,287	6,222,014	7,596,322	8,883,482	10,121,169	11,324,413	12,475,638	16,273,462

Discount Rate		4%	7%	10%
NPV		$ 9,788,047	$ 8,283,828	$ 5,054,312
PV of Capital Costs		$ 6,747,319	$ 6,395,057	$ 6,066,677
IRR	24.42%			
NPV per $ of Capital		1.45	1.30	0.83

APPENDIX 5: KIRIBATI ANALYSIS

Item	Description			Construction Cost $US	Item	Description			Construction Cost $US	
1	CIVIL WORKS				1	CIVIL WORKS				
1.1	Stormwater Drainage			15,000	1.1	Stormwater Drainage			0	
1.2	Effluent Drainage			35,000	1.2	Effluent Drainage			0	
1.3	Effluent Treatment System (API interceptor)			25,000	1.3	Effluent Treatment System (API interceptor)			25,000	
1.4	Earthworks			25,000	1.4	Earthworks			25,000	
1.5	Roadways			60,000	1.5	Roadways			60,000	
1.6	Fencing			5,000	1.6	Fencing			10,000	
1.7	Concrete slab to vehicle filling			15,000	1.7	Concrete slab to vehicle filling			15,000	
1.8	Bunded concrete pump slab and roof over			10,000	1.8	Bunded concrete pump slab and roof over			10,000	
1.9	Bund wall to tank farm			21,000	1.9	Bund wall to tank farm			55,000	
1.10	Wharfline manifold slab and roof over			25,000	1.10	Wharfline manifold slab and roof over			25,000	
	Sub-Total			$ 236,000		Sub-Total			$ 225,000	$ 461,000
2	BUILDINGS AND STRUCTURES				2	BUILDINGS AND STRUCTURES				
2.1	Depot Manager's Office			110,000	2.1	Depot Manager's Office			0	
2.2	Gate Check Office			7,500	2.2	Gate Check Office			0	
2.3	Tank Truck Gantry			25,000	2.3	Tank Truck Gantry			0	
2.4	Drum Platform c/w drum washing plant			80,000	2.4	Drum Platform c/w drum washing plant			0	
	Sub-Total			$ 222,500		Sub-Total			$ 0	$ 222,500
3	BULK TANKS	0.85	Gallon		3	BULK TANKS	0.85	Gallon		
3.1	Tank No 1	ADO	525,046	446,289	3.1	Tank No 1	ADO	0	0	
3.2	Tank No 2	ULP	262,523	223,145	3.2	Tank No 2	ULP	0	0	
3.3	Tank No 3	DPK	131,262	111,572	3.3	Tank No 3	DPK	0	0	
3.4	Tank No 4	DPK	0	0	3.4	Tank No 4	DPK	0	0	
3.5	Tank No 5			0	3.5	Tank No 5			0	
3.6	Tank No 6	Slops	131,262	111,572	3.6	Tank No 6	Slops	0	0	
3.7	Delivery Vehicle	Jet A1	0		3.7	Delivery Vehicle	Jet A1	0	0	
3.8	Delivery Vehicle	General	1	115,000	3.8	Delivery Vehicle	General	0	0	
	Sub-Total			$ 1,007,579		Sub-Total			$ 0	$ 1,007,579
4	PIPE AND FITTINGS				4	PIPE AND FITTINGS				
4.1	Pipe, valves and fittings			55,000	4.1	Pipe, valves and fittings			250,000	
4.2	Drum Filling Meters	3	35000	105,000	4.2	Drum Filling Meters	0	35000	0	
4.3	Vehicle Filling Meters	3	35000	105,000	4.3	Vehicle Filling Meters	0	35000	0	
	Sub-Total			$ 265,000		Sub-Total			$ 250,000	$ 515,000
5	TRANSFER PUMPS				5	TRANSFER PUMPS				
5.1	Transfer Pumps c/w electric motors	4	25000	100,000	5.1	Transfer Pumps c/w electric motors	0	45000	0	
	Sub-Total			$ 100,000		Sub-Total			$ 0	$ 100,000
6	ELECTRICAL				6	ELECTRICAL				
6.1	Electrical Switchboard, cables & controls			120,000	6.1	Electrical Switchboard, cables & controls			0	
6.2	Lighting			20,000	6.2	Lighting			20,000	
	Sub-Total			$ 140,000		Sub-Total			$ 20,000	$ 160,000
7	FIRE FIGHTING EQUIPMENT				7	FIRE FIGHTING EQUIPMENT				
7.1	Diesel engined fire pump & controls			65,000	7.1	Diesel engined fire pump & controls				
7.2	Fire hydrant ring main			35,000	7.2	Fire hydrant ring main				
7.3	Fire hose boxes and equipment			12,000	7.3	Fire hose boxes and equipment				
7.4	Portable fire extinguishers			12,000	7.4	Portable fire extinguishers				
	Sub-Total			$ 124,000		Sub-Total			$ 0	$ 124,000
8	SUNDRY EQUIPMENT				8	SUNDRY EQUIPMENT				
8.1	Signage			11,000	8.1	Signage			11,000	
8.2	Oil Spill Control Equipment			45,000	8.2	Oil Spill Control Equipment			45,000	
	Sub-Total			$ 56,000		Sub-Total			$ 56,000	$ 112,000
	TOTAL $US			$ 2,151,079		TOTAL $US			$ 551,000	$ 2,702,079

TARAWA OPERATING COSTS			
Administraion			
Head Office Management Fees	0	$0	$0.00
Regional Headoffice Charges	0	$0	$0.00
Land Lease and Rental	0	$5,000	$0.00
		per gallon	$0.0000
Utilities			
Water	12	$300	$3,600.00
Electricity	12	$500	$6,000.00
Telecommunications	12	$500	$6,000.00
		per gallon	$0.0033
Salaries and Wages			
Manager	1	$35,000	$35,000.00
Accountant	0	$25,000	$0.00
Terminal Support Staff	0	$10,000	$0.00
Aviation Support Staff	0	$10,000	$0.00
Social Security Taxes	0	6,400.00	$0.00
Entertainment	0	5,000.00	$0.00
Professional Fees	0	34,000.00	$0.00
		per gallon	$0.00736
Plant & Equipment			
Tanks and Pumps maintenance	2.7	$128,402	$128,401.59
Materials and Supplies	1	$47,556	$47,556.14
General Office and Maintenance	0	$5,000	$0.00
Drum Filling Operations	0	$25,000	$0.00
Vehicles and Fleet	0	$3,000	$0.00
Insurance	$ 0.03	$143,946	$143,946.26
Miscellaneous	1	$2,000	$2,000.00
		per gallon	$0.06769
Risk Assurance			
Terminal Auditing & Supplier Management	0	$55,000	$0.00
Capacity Building & Certification	0	$55,000	$0.00
Stock Variation	0	$5,000	$0.00
Stock Losses	0	$5,000	$0.00
Travel	0	$15,000	$0.00
		per gallon	$0.00000
Annual Operating Costs			$372,504.07
Total Annual Volume Throughput			4,755,614
Working Capital (Stock) Requirement			195,436
Unit Rate Assessment of Terminal Operations		$0.078	per gallon

XMAS ISLAND						
Administraion						
Head Office Management Fees	0	$0	$0.00	$ -		
Regional Headoffice Charges	0	$0	$0.00	$ -	$ -	
Land Lease and Rental	1	$0	$0.00	$ -	$ -	per galon
		per gallon	$0.0000			
Utilities						
Water	12	$500	$6,000.00	9,600.00		
Electricity	12	$2,500	$30,000.00	36,000.00	$ 60,000.00	
Telecommunications	12	$700	$8,400.00	14,400.00	$ 0.01	per galon
		per gallon	$0.2220			
Salaries and Wages						
Manager	1	$35,000	$35,000.00	70,000.00		
Accountant	0	$25,000	$0.00	0.00		
Terminal Support Staff	0	$10,000	$0.00	0.00		
Aviation Support Staff	0	$10,000	$0.00	0.00		
Social Security Taxes	0	6,400.00	$0.00	0.00		
Entertainment	0	5,000.00	$0.00	0.00	$ 70,000.00	
Professional Fees	0	34,000.00	$0.00	0.00	$ 0.01	per galon
		per gallon	$0.17500			
Plant & Equipment						
Tanks and Pumps maintenance	2.7	$5,400	$5,400.00	$ 133,801.59		
Materials and Supplies	2.7	$5,400	$5,400.00	$ 52,956.14		
General Office and Maintenance	1	$5,000	$5,000.00	$ 5,000.00		
Drum Filling Operations	0	$25,000	$0.00	$ -		
Vehicles and Fleet	2	$3,000	$6,000.00	$ 6,000.00		
Insurance	$ 0.03	$6,054	$6,053.74	$ 150,000.00	$ 351,757.73	
Miscellaneous	1	$2,000	$2,000.00	$ 4,000.00	$ 0.07	per galon
		per gallon	$0.14927			
Risk Assurance						
Terminal Auditing	0	$50,000	$0.00	0.00		
Capacity Building & Certification	0	$50,000	$0.00	0.00		
Stock Variation	1	$2,000	$2,000.00	2,000.00		
Stock Losses	1	$2,000	$2,000.00	2,000.00	$ 11,000.00	
Travel	1	$7,000	$7,000.00	7,000.00	$ 0.00	per galon
		per gallon	$0.05500			
Annual Operating Costs			$120,254.34	$ 492,758.41		
Total Annual Volume Throughput			200,000			
Working Capital Requirements			32,877			
Unit Rate Assessment of Terminal Operations		$0.601	per gallon			

KIRIBATI - Status Quo

CAPITAL & EXTERNAL COSTS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
COST#1 - Terminal Construction																$
COST#1A - Working Capital based on National Reserves 35 days																
TOTAL CAPITAL AND EXTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$
INTERNAL COSTS																
COST# 2 - Regional Network & Cluster Formation																
TOTAL INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$
Recurrent Costs																
COST# 2A - Network and Cluster Management																$
COST# 3- Government Risk Assurance Process+A54																$
COST# 4 - Price Control and Monitoring Assistance (PIFS)																$
COST# 5 - Terminal Operations and Maintenance																$
COST# 6 - Supplier Sales Margin	$148,668	$151,642	$154,675	$157,768	$160,923	$164,142	$167,425	$170,773	$174,189	$177,673	$181,226	$184,851	$188,548	$192,318	$196,165	$1,800,10
TOTAL RECURRENT COSTS	$148,668	$151,642	$154,675	$157,768	$160,923	$164,142	$167,425	$170,773	$174,189	$177,673	$181,226	$184,851	$188,548	$192,318	$196,165	$1,800,10
TOTAL COSTS	$148,668	$151,642	$154,675	$157,768	$160,923	$164,142	$167,425	$170,773	$174,189	$177,673	$181,226	$184,851	$188,548	$192,318	$196,165	$1,105,24

TOTAL PROJECT COSTS

$1,105,243

DISCOUNTED COSTS (@ 7%)

$1,522,946

BENEFITS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
AVOIDED COSTS#1 - Current Average Mark-up (uscpgal)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Volume Throughput	4,965,614	5,054,727	5,155,821	5,258,938	5,364,116	5,471,399	5,580,827	5,692,443	5,806,292	5,922,418	6,040,866	6,161,683	6,284,917	6,410,615	6,538,828	
Total Recoveries Per Annum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
																-
SAVINGS# 1 - Bulk Procurement Discounts																-
AVOIDED # 2 - Energy Price Risk Management Strategy																-
SAVINGS# 3 - Price Monitoring Control																-
SAVINGS# 4 - Local Coastal Tanker Efficiency with Tuvalu																-
Asset Residual Value															$0	-
																-
																-
																-
																$
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$

ITEM	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
Capital & External Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$
Internal Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$
TOTAL CAPITAL & INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$
TOTAL RECURRENT COSTS	$148,668	$151,642	$154,675	$157,768	$160,923	$164,142	$167,425	$170,773	$174,189	$177,673	$181,226	$184,851	$188,548	$192,318	$196,165	$2,570,98
TOTAL COSTS	$148,668	$151,642	$154,675	$157,768	$160,923	$164,142	$167,425	$170,773	$174,189	$177,673	$181,226	$184,851	$188,548	$192,318	$196,165	$2,570,98
Benefits	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$
NET/COST BENEFIT	-$148,668	-$151,642	-$154,675	-$157,768	-$160,923	-$164,142	-$167,425	-$170,773	-$174,189	-$177,673	-$181,226	-$184,851	-$188,548	-$192,318	-$196,165	-$2,570,98
NET/COST BENEFIT cents per litre			-$0.0300	-$0.0300	-$0.0300	-$0.0300	-$0.0300	-$0.0300	-$0.0300	-$0.0300	-$0.0300	-$0.0300	-$0.0300	-$0.0300		

Discount Rate		4%	7%	10%
NPV		-1,878,330	-1,522,946	-1,259,612
PV of Capital Costs		0	0	0
PV of Recurrent Costs		-1,878,330	-1,522,946	-1,259,612
PV of Total Costs		-1,878,330	-1,522,946	-1,259,612
PV of Total Benefits		0	0	0
Benefit Cost Ratio		0.00	0.00	0.00
IRR	#DIV/0!			
NPV per $ of Capital		#DIV/0!	#DIV/0!	#DIV/0!

KIRIBATI - Regional Regulation.

CAPITAL & EXTERNAL COSTS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
COST#1 - Terminal Construction																$0
COST#1A - Working Capital based on National Reserves 35 days																
TOTAL CAPITAL AND EXTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
INTERNAL COSTS																
COST# 2 - Regional Network & Cluster Formation																
TOTAL INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Recurrent Costs																
COST# 2A - Network and Cluster Management		$48,731	$49,706	$50,700	$51,714	$52,748	$53,803	$54,879	$55,977	$57,096	$58,238	$59,403	$60,591	$61,803	$63,039	$778,436
COST# 3 - Government Risk Assurance Process+A54			$20,454	$20,863	$21,281	$21,706	$22,140	$22,583	$23,035	$23,496	$23,966	$24,445	$24,934	$25,432	$25,941	$300,276
COST# 4 - Price Control and Monitoring Assistance (PIFS)	$2,478	$2,527	$2,578	$2,629	$2,682	$2,736	$2,790	$2,846	$2,903	$2,961	$3,020	$3,081	$3,142	$3,205	$3,269	$42,855
COST# 5 - Terminal Operations and Maintenance																$0
COST# 6 - Supplier Sales Margin																$0
TOTAL RECURRENT COSTS	$2,478	$51,259	$72,738	$74,193	$75,677	$77,190	$78,734	$80,309	$81,915	$83,553	$85,224	$86,929	$88,667	$90,441	$92,250	$343,126
TOTAL COSTS	$2,478	$51,259	$72,738	$74,193	$75,677	$77,190	$78,734	$80,309	$81,915	$83,553	$85,224	$86,929	$88,667	$90,441	$92,250	$432,269

TOTAL PROJECT COSTS

$432,269

DISCOUNTED COSTS (@ 7%)

$635,649

BENEFITS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
AVOIDED COSTS#1 - Current Average Mark-up (uscpgal)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Volume Throughput	4,955,614	5,054,727	5,155,821	5,258,938	5,364,116	5,471,399	5,580,827	5,692,443	5,806,292	5,922,418	6,040,866	6,161,683	6,284,917	6,410,615	6,538,828	
Total Recoveries Per Annum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
																-
SAVINGS# 1 - Bulk Procurement Discounts																-
AVOIDED # 2 - Energy Price Risk Management Strategy			$25,779	$26,295	$26,821	$27,357	$27,904	$28,462	$29,031	$29,612	$30,204	$30,808	$31,425	$32,053	$32,694	378,445.81
SAVINGS# 3 - Price Monitoring Control	$61,945	$63,184	$64,448	$65,737	$67,051	$68,392	$69,760	$71,156	$72,579	$74,030	$75,511	$77,021	$78,561	$80,133	$81,735	1,071,243.79
SAVINGS# 4 - Local Coastal Tanker Efficiency with Tuvalu																-
Asset Residual Value															$0	-
																-
																-
																-
																$0
TOTAL	$61,945	$63,184	$90,227	$92,031	$93,872	$95,749	$97,664	$99,618	$101,610	$103,642	$105,715	$107,829	$109,986	$112,186	$114,429	$1,387,744

ITEM	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
Capital & External Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Internal Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL CAPITAL & INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL RECURRENT COSTS	$2,478	$51,259	$72,738	$74,193	$75,677	$77,190	$78,734	$80,309	$81,915	$83,553	$85,224	$86,929	$88,667	$90,441	$92,250	$1,121,556
TOTAL COSTS	$2,478	$51,259	$72,738	$74,193	$75,677	$77,190	$78,734	$80,309	$81,915	$83,553	$85,224	$86,929	$88,667	$90,441	$92,250	$1,121,556
Benefits	$61,945	$63,184	$90,227	$92,031	$93,872	$95,749	$97,664	$99,618	$101,610	$103,642	$105,715	$107,829	$109,986	$112,186	$114,429	$1,449,690
NET/COST BENEFIT	$59,467	$11,925	$17,489	$17,839	$18,195	$18,559	$18,930	$19,309	$19,695	$20,089	$20,491	$20,901	$21,319	$21,745	$22,180	$328,133
NET/COST BENEFIT cents per litre			$0.0034	$0.0034	$0.0034	$0.0034	$0.0034	$0.0034	$0.0034	$0.0034	$0.0034	$0.0034	$0.0034	$0.0034		

Discount Rate		4%	7%	10%
NPV		248,569	207,504	176,887
PV of Capital Costs		0	0	0
PV of Recurrent Costs		-799,931	-635,649	-514,474
PV of Total Costs		-799,931	-635,649	-514,474
PV of Total Benefits		1,048,500	843,153	691,361
Benefit Cost Ratio		1.31	1.33	1.34
IRR	#DIV/0!			
NPV per $ of Capital		#DIV/0!	#DIV/0!	#DIV/0!

KIRIBATI - Asset Ownership, Network and Cluster Member, Regional Regulation.

CAPITAL & EXTERNAL COSTS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
COST#1 - Terminal Construction	$1,620,297	$1,081,781	$50,000	$50,000	$50,000	$50,000	$100,000	$50,000	$50,000	$50,000	$50,000	$100,000	$50,000	$50,000	$50,000	$3,452,079
COST#1A - Working Capital based on National Reserves 35 days		$557,405													-$557,405	
TOTAL CAPITAL AND EXTERNAL COSTS	$1,620,297	$1,639,186	$50,000	$50,000	$50,000	$50,000	$100,000	$50,000	$50,000	$50,000	$50,000	$100,000	$50,000	$50,000	-$507,405	$3,452,079
INTERNAL COSTS																
COST# 2 - Regional Network & Cluster Formation	$20,000															
TOTAL INTERNAL COSTS	$20,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Recurrent Costs																
COST# 2A - Network and Cluster Management		$48,731	$49,706	$50,700	$51,714	$52,748	$53,803	$54,879	$55,977	$57,096	$58,238	$59,403	$60,591	$61,803	$63,039	$778,432
COST# 3- Government Risk Assurance Process+A54			$20,454	$20,863	$21,281	$21,706	$22,140	$22,583	$23,035	$23,496	$23,965	$24,445	$24,934	$25,432	$25,941	$300,276
COST# 4 - Price Control and Monitoring Assistance (PFS)	$2,478	$2,527	$2,578	$2,629	$2,682	$2,736	$2,790	$2,846	$2,903	$2,961	$3,020	$3,081	$3,142	$3,205	$3,269	$42,850
COST# 5 - Terminal Operations and Maintenance	$492,758	$502,613	$512,665	$522,918	$533,377	$544,044	$554,925	$566,024	$577,344	$588,891	$600,669	$612,682	$624,936	$637,435	$650,183	$8,521,465
COST# 6 - Supplier Sales Margin			$206,233	$210,358	$214,565	$218,856	$223,233	$227,698	$232,252	$236,897	$241,635	$246,467	$251,397	$256,425	$261,553	$2,011,725
TOTAL RECURRENT COSTS	$495,236	$553,872	$791,636	$807,469	$823,618	$840,091	$856,892	$874,030	$891,511	$909,341	$927,528	$946,078	$965,000	$984,300	$1,003,986	$10,876,316
TOTAL COSTS	$2,135,533	$2,193,058	$841,636	$857,469	$873,618	$890,091	$956,892	$924,030	$941,511	$959,341	$977,528	$1,046,078	$1,015,000	$1,034,300	$496,581	$8,748,297

TOTAL PROJECT COSTS

$8,748,297
DISCOUNTED COSTS (@ 7%)
$10,533,172

BENEFITS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
AVOIDED COSTS#1 - Current Average Mark-up (uscpgal)	-	-	0.212	0.212	0.212	0.212	0.212	0.212	0.212	0.212	0.212	0.212	0.212	0.212	0.212	
Volume Throughput	4,955,614	5,054,727	5,155,821	5,258,938	5,364,116	5,471,399	5,580,827	5,692,443	5,806,292	5,922,418	6,040,866	6,161,683	6,284,917	6,410,615	6,538,828	
Total Recoveries Per Annum	-	-	1,092,828	1,114,684	1,136,978	1,159,718	1,182,912	1,206,570	1,230,702	1,255,316	1,280,422	1,306,030	1,332,151	1,358,794	1,385,970	16,043,075
																-
SAVINGS# 1 - Bulk Procurement Discounts																-
AVOIDED # 2 - Energy Price Risk Management Strategy			$25,779	$26,295	$26,821	$27,357	$27,904	$28,462	$29,031	$29,612	$30,204	$30,808	$31,425	$32,053	$32,694	378,445.81
SAVINGS# 3 - Price Monitoring Control	$12,389	$12,637	$12,890	$13,147	$13,410	$13,678	$13,952	$14,231	$14,516	$14,806	$15,102	$15,404	$15,712	$16,027	$16,347	214,248.76
SAVINGS# 4 - Local Coastal Tanker Efficiency with Tuvalu			$257,791	$262,947	$268,206	$273,570	$279,041	$284,622	$290,315	$296,121	$302,043	$308,084	$314,246	$320,531	$326,941	3,784,458.14
Asset Residual Value															$1,726,039	1,726,039.30
																-
																-
																-
																$0
TOTAL	$12,389	$12,637	$1,389,288	$1,417,073	$1,445,415	$1,474,323	$1,503,810	$1,533,886	$1,564,563	$1,595,855	$1,627,772	$1,660,327	$1,693,534	$1,727,404	$3,487,992	$22,133,878

ITEM	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
Capital & External Costs	$1,620,297	$1,639,186	$50,000	$50,000	$50,000	$50,000	$100,000	$50,000	$50,000	$50,000	$50,000	$100,000	$50,000	$50,000	-$507,405	$3,452,079
Internal Costs	$20,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$20,000
TOTAL CAPITAL & INTERNAL COSTS	$1,640,297	$1,639,186	$50,000	$50,000	$50,000	$50,000	$100,000	$50,000	$50,000	$50,000	$50,000	$100,000	$50,000	$50,000	-$507,405	$3,472,079
TOTAL RECURRENT COSTS	$495,236	$553,872	$791,636	$807,469	$823,618	$840,091	$856,892	$874,030	$891,511	$909,341	$927,528	$946,078	$965,000	$984,300	$1,003,986	$12,670,588
TOTAL COSTS	$2,135,533	$2,193,058	$841,636	$857,469	$873,618	$890,091	$956,892	$924,030	$941,511	$959,341	$977,528	$1,046,078	$1,015,000	$1,034,300	$496,581	$16,142,668
Benefits	$12,389	$12,637	$1,389,288	$1,417,073	$1,445,415	$1,474,323	$1,503,810	$1,533,886	$1,564,563	$1,595,855	$1,627,772	$1,660,327	$1,693,534	$1,727,404	$3,487,992	$22,146,267
NET/COST BENEFIT	-$2,123,144	-$2,180,421	$547,651	$559,604	$571,797	$584,232	$546,917	$609,855	$623,053	$636,514	$650,244	$614,249	$678,534	$693,104	$2,991,411	$6,003,601
NET/COST BENEFIT cents per litre			$0.1062	$0.1064	$0.1066	$0.1068	$0.0980	$0.1071	$0.1073	$0.1075	$0.1076	$0.0997	$0.1080	$0.1081		

Discount Rate		4%	7%	10%
NPV		2,843,319	1,356,402	339,973
PV of Capital Costs		-3,314,062	-3,181,020	-3,047,557
PV of Recurrent Costs		-9,152,511	-7,352,152	-6,021,805
PV of Total Costs		-12,466,572	-10,533,172	-9,069,161
PV of Total Benefits		15,309,892	11,889,664	9,409,133
Benefit Cost Ratio		1.23	1.13	1.04
IRR	11.32%			
NPV per $ of Capital		-0.85	-0.43	-0.11

APPENDIX 6: MARSHALL ISLANDS ANALYSIS

Item	Description			Construction Cost $US
1	CIVIL WORKS			
1.1	Stormwater Drainage			25,000
1.2	Effluent Drainage			35,000
1.3	Effluent Treatment System (API interceptor)			25,000
1.4	Earthworks			25,000
1.5	Roadways			60,000
1.6	Fencing			10,000
1.7	Concrete slab to vehicle filling			15,000
1.8	Bunded concrete pump slab and roof over			10,000
1.9	Bund wall to tank farm			55,000
1.10	Wharfline manifold slab and roof over			25,000
	Sub-Total			$ 285,000
2	BUILDINGS AND STRUCTURES			
2.1	Depot Manager's Office			110,000
2.2	Gate Check Office			7,500
2.3	Tank Truck Gantry			25,000
2.4	Drum Platform c/w drum washing plant			80,000
	Sub-Total			$ 222,500
3	BULK TANKS	0.85	Gallon	
3.1	Tank No 1	ADO	250,000	212,500
3.2	Tank No 2	ULP	250,000	212,500
3.3	Tank No 3	DPK	250,000	212,500
3.4	Tank No 4	DPK	30,000	25,500
3.5	Tank No 5			0
3.6	Tank No 6	Slops	30,000	25,500
3.7	Delivery Vehicle	Jet A1	3,000	115,000
3.8	Delivery Vehicle	General	3,000	115,000
	Sub-Total			$ 918,500
4	PIPE AND FITTINGS			
4.1	Pipe, valves and fittings			350,000
4.2	Drum Filling Meters	4	35000	140,000
4.3	Vehicle Filling Meters	4	35000	140,000
	Sub-Total			$ 630,000
5	TRANSFER PUMPS			
5.1	Transfer Pumps c/w electric motors	4	45000	180,000
	Sub-Total			$ 180,000
6	ELECTRICAL			
6.1	Electrical Switchboard, cables & controls			175,000
6.2	Lighting			25,000
	Sub-Total			$ 200,000
7	FIRE FIGHTING EQUIPMENT			
7.1	Diesel engined fire pump & controls			65,000
7.2	Fire hydrant ring main			35,000
7.3	Fire hose boxes and equipment			12,000
7.4	Portable fire extinguishers			12,000
	Sub-Total			$ 124,000
8	SUNDRY EQUIPMENT			
8.1	Signage			11,000
8.2	Oil Spill Control Equipment			45,000
	Sub-Total			$ 56,000
	TOTAL $US			$ 2,616,000

MAJURO OPERATING COSTS

Item	Description			Construction Cost $US
1	CIVIL WORKS			
1.1	Stormwater Drainage			25,000
1.2	Effluent Drainage			35,000
1.3	Effluent Treatment System (API interceptor)			25,000
1.4	Earthworks			25,000
1.5	Roadways			60,000
1.6	Fencing			10,000
1.7	Concrete slab to vehicle filling			15,000
1.8	Bunded concrete pump slab and roof over			10,000
1.9	Bund wall to tank farm			55,000
1.10	Wharfline manifold slab and roof over			25,000
	Sub-Total			$ 285,000
2	BUILDINGS AND STRUCTURES			
2.1	Depot Manager's Office			110,000
2.2	Gate Check Office			7,500
2.3	Tank Truck Gantry			25,000
2.4	Drum Platform c/w drum washing plant			80,000
	Sub-Total			$ 222,500
3	BULK TANKS	0.85	Gallon	
3.1	Tank No 1	ADO	150,000	127,500
3.2	Tank No 2	ULP	100,000	85,000
3.3	Tank No 3	DPK	0	0
3.4	Tank No 4	DPK	0	0
3.5	Tank No 5			0
3.6	Tank No 6	Slops	30,000	25,500
3.7	Delivery Vehicle	Jet A1	0	0
3.8	Delivery Vehicle	General	3,000	115,000
	Sub-Total			$ 353,000
4	PIPE AND FITTINGS			
4.1	Pipe, valves and fittings			350,000
4.2	Drum Filling Meters	2	35000	70,000
4.3	Vehicle Filling Meters	0	35000	0
	Sub-Total			$ 420,000
5	TRANSFER PUMPS			
5.1	Transfer Pumps c/w electric motors	2	45000	90,000
	Sub-Total			$ 90,000
6	ELECTRICAL			
6.1	Electrical Switchboard, cables & controls			120,000
6.2	Lighting			20,000
	Sub-Total			$ 140,000
7	FIRE FIGHTING EQUIPMENT			
7.1	Diesel engined fire pump & controls			65,000
7.2	Fire hydrant ring main			35,000
7.3	Fire hose boxes and equipment			12,000
7.4	Portable fire extinguishers			12,000
	Sub-Total			$ 124,000
8	SUNDRY EQUIPMENT			
8.1	Signage			11,000
8.2	Oil Spill Control Equipment			45,000
	Sub-Total			$ 56,000
	TOTAL $US			$ 1,690,500

EBEYE OPERATING COSTS

Item	Description			Construction Cost $US	TOTAL NEW INSTALLATION	DEPRECIATED VALUE	OFFER
1	CIVIL WORKS						
1.1	Stormwater Drainage			25,000			
1.2	Effluent Drainage			35,000			
1.3	Effluent Treatment System (API interceptor)			25,000			
1.4	Earthworks			25,000			
1.5	Roadways			60,000			
1.6	Fencing			10,000			
1.7	Concrete slab to vehicle filling			15,000			
1.8	Bunded concrete pump slab and roof over			10,000			
1.9	Bund wall to tank farm			55,000			
1.10	Wharfline manifold slab and roof over			25,000			
	Sub-Total			$ 285,000	855,000	$ 20 85,500	$ 470,250
2	BUILDINGS AND STRUCTURES						
2.1	Depot Manager's Office			20,000			
2.2	Gate Check Office			7,500			
2.3	Tank Truck Gantry			25,000			
2.4	Drum Platform c/w drum washing plant			80,000			
	Sub-Total			$ 132,500	577,500	$ 15.00 -	$ 288,750
3	BULK TANKS	0.7	Gallon				
3.1	Tank No 1	ADO	150,000	105,000			
3.2	Tank No 2	ULP	100,000	70,000			
3.3	Tank No 3	DPK	0	0			
3.4	Tank No 4	DPK	0	0			
3.5	Tank No 5			0			
3.6	Tank No 6	Slops	30,000	21,000			
3.7	Delivery Vehicle	Jet A1	0	0			
3.8	Delivery Vehicle	General	3,000	115,000			
	Sub-Total			$ 311,000	1,582,500	$ 25 316,500	$ 949,500
4	PIPE AND FITTINGS						
4.1	Pipe, valves and fittings			200,000			
4.2	Drum Filling Meters	2	35000	70,000			
4.3	Vehicle Filling Meters	0	35000	0			
	Sub-Total			$ 270,000	$ 1,320,000	$ 15 -	$ 660,000
5	TRANSFER PUMPS						
5.1	Transfer Pumps c/w electric motors	2	45000	90,000			
	Sub-Total			$ 90,000	$ 360,000	$ 15 72,000	$ 216,000
6	ELECTRICAL						
6.1	Electrical Switchboard, cables & controls			100,000			
6.2	Lighting			20,000			
	Sub-Total			$ 120,000	$ 460,000	$ 10 92,000	$ 276,000
7	FIRE FIGHTING EQUIPMENT						
7.1	Diesel engined fire pump & controls			65,000			
7.2	Fire hydrant ring main			35,000			
7.3	Fire hose boxes and equipment			12,000			
7.4	Portable fire extinguishers			12,000			
	Sub-Total			$ 124,000	$ 372,000	$ 15 223,200	$ 297,600
8	SUNDRY EQUIPMENT						
8.1	Signage			11,000			
8.2	Oil Spill Control Equipment			45,000			
	Sub-Total			$ 56,000	$ 168,000	$ 5 134,400	$ 151,200
	TOTAL $US			$ 1,388,500	$ 5,695,000	$ 923,720	$ 3,309,360
	JALUIT OPERATING COSTS					230930	

MAJURO OPERATING COSTS			
Administraion			
Head Office Management Fees	3.2	$112,000	$112,000.00
Regional Headoffice Charges	2.1	$73,500	$73,500.00
Land Lease and Rental	1	$25,000	$25,000.00
		per gallon	$0.0601
Utilities			
Water	12	$300	$3,600.00
Electricity	12	$2,000	$24,000.00
Telecommunications	12	$700	$8,400.00
		per gallon	$0.0103
Salaries and Wages			
Manager	1	$35,000	$35,000.00
Accountant	1	$25,000	$25,000.00
Terminal Support Staff	3	$10,000	$30,000.00
Aviation Support Staff	2	$10,000	$20,000.00
Social Security Taxes	1	6,400.00	$6,400.00
Entertainment	1	5,000.00	$5,000.00
Professional Fees	1	34,000.00	$34,000.00
		per gallon	$0.04440
Plant & Equipment			
Tanks and Pumps maintenance	2.7	$94,500	$94,500.00
Materials and Supplies	2.7	$94,500	$94,500.00
General Office and Maintenance	1	$5,000	$5,000.00
Drum Filling Operations	1	$25,000	$25,000.00
Vehicles and Fleet	3	$3,000	$9,000.00
Insurance	1	$10,000	$10,000.00
Miscellaneous	1	$2,000	$2,000.00
		per gallon	$0.06857
Risk Assurance			
Terminal Auditing	0	$50,000	$0.00
Capacity Building & Certification	0	$50,000	$0.00
Stock Variation	1	$5,000	$5,000.00
Stock Losses	1	$5,000	$5,000.00
Travel	1	$15,000	$15,000.00
		per gallon	$0.00714
Annual Operating Costs			$666,900.19
Total Annual Volume Throughput			3,500,000
Unit Rate Assessment of Terminal Operations		$0.191	per gallon

EBEYE OPERATING COSTS			
Administraion			
Head Office Management Fees	3.2	$51,200	$51,200.00
Regional Headoffice Charges	2.1	$33,600	$33,600.00
Land Lease and Rental	1	$5,000	$5,000.00
		per gallon	$0.0561
Utilities			
Water	12	$300	$3,600.00
Electricity	12	$1,000	$12,000.00
Telecommunications	12	$500	$6,000.00
		per gallon	$0.0135
Salaries and Wages			
Manager	0	$35,000	$0.00
Accountant	0	$25,000	$0.00
Terminal Support Staff	3	$10,000	$30,000.00
Aviation Support Staff	0	$10,000	$0.00
Social Security Taxes	1	6,400.00	$6,400.00
Entertainment	0	5,000.00	$0.00
Professional Fees	0	34,000.00	$0.00
		per gallon	$0.02275
Plant & Equipment			
Tanks and Pumps maintenance	2.7	$43,200	$43,200.00
Materials and Supplies	2.7	$43,200	$43,200.00
General Office and Maintenance	1	$5,000	$5,000.00
Drum Filling Operations	0	$25,000	$0.00
Vehicles and Fleet	2	$3,000	$6,000.00
Insurance	1	$10,000	$10,000.00
Miscellaneous	1	$2,000	$2,000.00
		per gallon	$0.06838
Risk Assurance			
Terminal Auditing	0	$50,000	$0.00
Capacity Building & Certification	0	$50,000	$0.00
Stock Variation	1	$2,000	$2,000.00
Stock Losses	1	$2,000	$2,000.00
Travel	1	$7,000	$7,000.00
		per gallon	$0.00688
Annual Operating Costs			$268,200.17
Total Annual Volume Throughput			1,600,000
Unit Rate Assessment of Terminal Operations		$0.168	per gallon

Total Costs	$ 1,072,201
	5,600,000
	$ 0.1915

JALUIT OPERATING COSTS							230930
Administraion							
Head Office Management Fees	3.2	$16,000	$16,000.00	$179,200.00			
Regional Headoffice Charges	2.1	$10,500	$10,500.00	$117,600.00	$	331,800	
Land Lease and Rental	1	$5,000	$5,000.00	$35,000.00		0.0593	per gallon
		per gallon	$0.0630				
Utilities							
Water	12	$200	$2,400.00	$9,600.00			
Electricity	12	$600	$7,200.00	$43,200.00	$	70,800	
Telecommunications	12	$300	$3,600.00	$18,000.00		0.0126	per gallon
		per gallon	$0.0264				
Salaries and Wages							
Manager	0	$35,000	$0.00	$35,000.00			
Accountant	0	$25,000	$0.00	$25,000.00			
Terminal Support Staff	3	$10,000	$30,000.00	$90,000.00			
Aviation Support Staff	0	$10,000	$0.00	$20,000.00			
Social Security Taxes	1	6,400.00	$6,400.00	$19,200.00			
Entertainment	0	5,000.00	$0.00	$5,000.00	$	228,200	
Professional Fees	0	34,000.00	$0.00	$34,000.00		0.0408	per gallon
		per gallon	$0.07280				
Plant & Equipment							
Tanks and Pumps maintenance	2.7	$13,500	$13,500.00	$151,200.00			
Materials and Supplies	2.7	$13,500	$13,500.00	$151,200.00			
General Office and Maintenance	1	$5,000	$5,000.00	$15,000.00			
Drum Filling Operations	0	$25,000	$0.00	$25,000.00			
Vehicles and Fleet	1	$3,000	$3,000.00	$18,000.00			
Insurance	1	$10,000	$10,000.00	$30,000.00	$	396,400	
Miscellaneous	1	$2,000	$2,000.00	$6,000.00		0.0708	per gallon
		per gallon	$0.09400				
Risk Assurance							
Terminal Auditing	0	$50,000	$0.00	$0.00			
Capacity Building & Certification	0	$50,000	$0.00	$0.00			
Stock Variation	1	$1,000	$1,000.00	$8,000.00			
Stock Losses	1	$1,000	$1,000.00	$8,000.00	$	45,000	
Travel	1	$7,000	$7,000.00	$29,000.00		0.0080	per gallon
		per gallon	$0.01800				
Annual Operating Costs			$137,100.27	$1,072,200.63			
Total Annual Volume Throughput			500,000				
Unit Rate Assessment of Terminal Operations		$0.274	per gallon				

RMI Status Quo

CAPITAL & EXTERNAL COSTS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
COST#1 - Terminal Construction																$0
COST#1A - Working Capital based on National Reserves 35 days																
TOTAL CAPITAL AND EXTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
INTERNAL COSTS																
TOTAL INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Recurrent Costs																
COST# 2 - Regional Network & Cluster Formation																
COST# 2A - Network and Cluster Management																$0
COST# 3 - Government Risk Assurance Process																$0
COST# 4 - Price Control and Monitoring Assistance (PIFS)																$0
COST# 5 - Terminal Operations and Maintenance																$0
COST# 6 - Supplier Sales Margin	$280,000	$285,600	$291,312	$297,138	$303,081	$309,143	$315,325	$321,632	$328,065	$334,626	$341,318	$348,145	$355,108	$362,210	$369,454	$3,407,240
TOTAL RECURRENT COSTS	$280,000	$285,600	$291,312	$297,138	$303,081	$309,143	$315,325	$321,632	$328,065	$334,626	$341,318	$348,145	$355,108	$362,210	$369,454	$3,407,240
TOTAL COSTS	$280,000	$285,600	$291,312	$297,138	$303,081	$309,143	$315,325	$321,632	$328,065	$334,626	$341,318	$348,145	$355,108	$362,210	$369,454	$2,081,599

TOTAL PROJECT COSTS

$2,081,599

DISCOUNTED COSTS (@ 7%)
$2,868,294

BENEFITS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
AVOIDED COSTS#1 - Current Average Mark-up (uscpgal)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Volume Throughput	5,600,000	5,712,000	5,826,240	5,942,765	6,061,620	6,182,852	6,306,510	6,432,640	6,561,293	6,692,518	6,826,369	6,962,896	7,102,154	7,244,197	7,389,081	
Total Recoveries Per Annum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
																-
SAVINGS# 1 - Bulk Procurement Discounts																-
SAVINGS# 2 - Energy Price Risk Management Strategy																-
SAVINGS# 3 - Price Monitoring Control																-
SAVINGS# 4 - Local Coastal Tanker Efficiency																-
Asset Residual Value																-
																-
																-
																-
																$0
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

ITEM	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
Capital & External Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Internal Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL CAPITAL & INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL RECURRENT COSTS	$280,000	$285,600	$291,312	$297,138	$303,081	$309,143	$315,325	$321,632	$328,065	$334,626	$341,318	$348,145	$355,108	$362,210	$369,454	$4,842,157
TOTAL COSTS	$280,000	$285,600	$291,312	$297,138	$303,081	$309,143	$315,325	$321,632	$328,065	$334,626	$341,318	$348,145	$355,108	$362,210	$369,454	$4,842,157
Benefits	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
NET/COST BENEFIT	-$280,000	-$285,600	-$291,312	-$297,138	-$303,081	-$309,143	-$315,325	-$321,632	-$328,065	-$334,626	-$341,318	-$348,145	-$355,108	-$362,210	-$369,454	-$4,842,157
NET/COST BENEFIT cents per litre			-$0.0500	-$0.0500	-$0.0500	-$0.0500	-$0.0500	-$0.0500	-$0.0500	-$0.0500	-$0.0500	-$0.0500	-$0.0500	-$0.0500		

Discount Rate		4%	7%	10%
NPV		-3,537,619	-2,868,294	-2,372,334
PV of Capital Costs		0	0	0
PV of Recurrent Costs		-3,537,619	-2,868,294	-2,372,334
PV of Total Costs		-3,537,619	-2,868,294	-2,372,334
PV of Total Benefits		0	0	0
Benefit Cost Ratio		0.00	0.00	0.00
IRR	#DIV/0!			
NPV per $ of Capital		#DIV/0!	#DIV/0!	#DIV/0!

RMI Regulated Private Sector

CAPITAL & EXTERNAL COSTS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
COST#1 - Terminal Construction																$0
COST#1A - Working Capital based on National Reserves 35 days																
TOTAL CAPITAL AND EXTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
INTERNAL COSTS																
TOTAL INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Recurrent Costs																
COST# 2 - Regional Network & Cluster Formation	$50,000															
COST# 2A - Network and Cluster Management		$55,068	$56,169	$57,293	$58,438	$59,607	$60,799	$62,015	$63,256	$64,521	$65,811	$67,127	$68,470	$69,839	$71,236	$879,651
COST# 3- Government Risk Assurance Process	$22,216	$22,661	$23,114	$23,576	$24,048	$24,529	$25,019	$25,520	$26,030	$26,551	$27,082	$27,623	$28,176	$28,739	$29,314	$384,199
COST# 4 - Price Control and Monitoring Assistance (PIFS)	$2,800	$2,856	$2,913	$2,971	$3,031	$3,091	$3,153	$3,216	$3,281	$3,346	$3,413	$3,481	$3,551	$3,622	$3,695	$48,422
COST# 5 - Terminal Operations and Maintenance																$0
COST# 6 - Supplier Sales Margin																$0
TOTAL RECURRENT COSTS	$75,016	$80,585	$82,196	$83,840	$85,517	$87,227	$88,972	$90,751	$92,566	$94,418	$96,306	$98,232	$100,197	$102,201	$104,245	$432,620
TOTAL COSTS	$75,016	$80,585	$82,196	$83,840	$85,517	$87,227	$88,972	$90,751	$92,566	$94,418	$96,306	$98,232	$100,197	$102,201	$104,245	$583,354

TOTAL PROJECT COSTS

$583,354

DISCOUNTED COSTS (@ 7%)

$805,589

BENEFITS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
AVOIDED COSTS#1 - Current Average Mark-up (uscpgal)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Volume Throughput	5,600,000	5,712,000	5,826,240	5,942,765	6,061,620	6,182,852	6,306,510	6,432,640	6,561,293	6,692,518	6,826,369	6,962,896	7,102,154	7,244,197	7,389,081	
Total Recoveries Per Annum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
																-
SAVINGS# 1 - Bulk Procurement Discounts		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	-
SAVINGS# 2 - Energy Price Risk Management Strategy																-
SAVINGS# 3 - Price Monitoring Control	$68,600	$69,972	$71,371	$72,799	$74,255	$75,740	$77,255	$78,800	$80,376	$81,983	$83,623	$85,295	$87,001	$88,741	$90,516	1,186,328.40
SAVINGS# 4 - Local Coastal Tanker Efficiency	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	-
Asset Residual Value															$0	-
																-
																-
																-
																$0
TOTAL	$68,600	$69,972	$71,371	$72,799	$74,255	$75,740	$77,255	$78,800	$80,376	$81,983	$83,623	$85,295	$87,001	$88,741	$90,516	$1,117,728

ITEM	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
Capital & External Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Internal Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL CAPITAL & INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL RECURRENT COSTS	$75,016	$80,585	$82,196	$83,840	$85,517	$87,227	$88,972	$90,751	$92,566	$94,418	$96,306	$98,232	$100,197	$102,201	$104,245	$1,362,271
TOTAL COSTS	$75,016	$80,585	$82,196	$83,840	$85,517	$87,227	$88,972	$90,751	$92,566	$94,418	$96,306	$98,232	$100,197	$102,201	$104,245	$1,362,271
Benefits	$68,600	$69,972	$71,371	$72,799	$74,255	$75,740	$77,255	$78,800	$80,376	$81,983	$83,623	$85,295	$87,001	$88,741	$90,516	$1,186,328
NET/COST BENEFIT	-$6,416	-$10,613	-$10,825	-$11,041	-$11,262	-$11,488	-$11,717	-$11,952	-$12,191	-$12,434	-$12,683	-$12,937	-$13,196	-$13,459	-$13,729	-$175,943
NET/COST BENEFIT cents per litre			-$0.0019	-$0.0019	-$0.0019	-$0.0019	-$0.0019	-$0.0019	-$0.0019	-$0.0019	-$0.0019	-$0.0019	-$0.0019	-$0.0019		

Discount Rate		4%	7%	10%
NPV		-127,621	-102,857	-84,520
PV of Capital Costs		0	0	0
PV of Recurrent Costs		-994,337	-805,589	-665,751
PV of Total Costs		-994,337	-805,589	-665,751
PV of Total Benefits		866,717	702,732	581,222
Benefit Cost Ratio		0.87	0.87	0.87
IRR	#DIV/0!			
NPV per $ of Capital		#DIV/0!	#DIV/0!	#DIV/0!

RMI Regulated Public Sector

CAPITAL & EXTERNAL COSTS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
COST#1 - Terminal Construction	$3,331,250	$2,983,750	$50,000	$50,000	$50,000	$100,000	$50,000	$50,000	$50,000	$50,000	$100,000	$0	$0	$0	$0	$6,245,000
COST#1A - Working Capital based on National Reserves 35 days		$629,885													-$629,885	
TOTAL CAPITAL AND EXTERNAL COSTS	$3,331,250	$2,993,635	$50,000	$50,000	$50,000	$100,000	$50,000	$50,000	$50,000	$50,000	$100,000	$0	$0	$0	-$629,885	$6,245,000
INTERNAL COSTS																
TOTAL INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Recurrent Costs																
COST# 2 - Regional Network & Cluster Formation	$60,000															
COST# 2A - Network and Cluster Management		$55,068	$56,189	$57,293	$58,438	$59,607	$60,799	$62,015	$63,255	$64,521	$65,811	$67,127	$68,470	$69,839	$71,236	$879,651
COST# 3- Government Risk Assurance Process	$22,216	$22,661	$23,114	$23,576	$24,048	$24,529	$25,019	$25,520	$26,030	$26,551	$27,082	$27,623	$28,176	$28,739	$29,314	$384,199
COST# 4 - Price Control and Monitoring Assistance (PIFS)	$2,800	$2,856	$2,913	$2,971	$3,031	$3,091	$3,153	$3,216	$3,281	$3,346	$3,413	$3,481	$3,551	$3,622	$3,695	$48,422
COST# 5 - Terminal Operations and Maintenance	$0	$1,039,644	$1,116,517	$1,137,827	$1,160,584	$1,183,795	$1,207,471	$1,231,621	$1,256,253	$1,281,378	$1,307,006	$0	$0	$0	$0	$11,975,000
COST# 6 - Supplier Sales Margin			$466,099	$475,421	$484,930	$494,628	$504,521	$514,611	$524,903	$535,401	$546,110	$557,032	$568,172	$579,536	$591,126	$4,546,625
TOTAL RECURRENT COSTS	$25,016	$1,119,161	$1,607,643	$1,639,796	$1,672,592	$1,705,044	$1,740,165	$1,774,968	$1,810,467	$1,846,677	$1,883,610	$588,137	$599,899	$611,897	$624,135	$16,954,242
TOTAL COSTS	$3,356,266	$4,112,796	$1,657,643	$1,689,796	$1,722,592	$1,806,044	$1,790,165	$1,824,968	$1,860,467	$1,896,677	$1,983,610	$588,137	$599,899	$611,897	-$5,750	$16,135,302

TOTAL PROJECT COSTS

$16,135,302

DISCOUNTED COSTS (@ 7%)

$17,643,682

BENEFITS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
AVOIDED COSTS#1 - Current Average Mark-up (uscpgal)	-	-	0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850	
Volume Throughput	5,600,000	5,712,000	5,826,240	5,942,765	6,061,620	6,182,852	6,306,510	6,432,640	6,561,293	6,692,518	6,826,369	6,962,896	7,102,154	7,244,197	7,389,081	
Total Recoveries Per Annum	-	-	4,952,304	5,051,350	5,152,377	5,255,425	5,360,533	5,467,744	5,577,099	5,688,641	5,802,413	5,918,462	6,036,831	6,157,568	6,280,719	72,701,465
																-
SAVINGS# 1 - Bulk Procurement Discounts		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	-
SAVINGS# 2 - Energy Price Risk Management Strategy																-
SAVINGS# 3 - Price Monitoring Control	$14,000	$14,280	$14,566	$14,857	$15,154	$15,457	$15,766	$16,082	$16,403	$16,731	$17,066	$17,407	$17,755	$18,110	$18,473	242,107.84
SAVINGS# 4 - Local Coastal Tanker Efficiency	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	-
Asset Residual Value															$3,122,500	3,122,500.00
																-
																-
																-
																$0
TOTAL	$14,000	$14,280	$4,966,870	$5,066,207	$5,167,531	$5,270,882	$5,376,299	$5,483,825	$5,593,502	$5,705,372	$5,819,479	$5,935,869	$6,054,586	$6,175,678	$9,421,692	$76,052,072

ITEM	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
Capital & External Costs	$3,331,250	$2,993,635	$50,000	$50,000	$50,000	$100,000	$50,000	$50,000	$50,000	$50,000	$100,000	$0	$0	$0	-$629,885	$6,245,000
Internal Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL CAPITAL & INTERNAL COSTS	$3,331,250	$2,993,635	$50,000	$50,000	$50,000	$100,000	$50,000	$50,000	$50,000	$50,000	$100,000	$0	$0	$0	-$629,885	$6,245,000
TOTAL RECURRENT COSTS	$25,016	$1,119,161	$1,607,643	$1,639,796	$1,672,592	$1,705,044	$1,740,165	$1,774,968	$1,810,467	$1,846,677	$1,883,610	$588,137	$599,899	$611,897	$624,135	$19,250,208
TOTAL COSTS	$3,356,266	$4,112,796	$1,657,643	$1,689,796	$1,722,592	$1,805,044	$1,790,165	$1,824,968	$1,860,467	$1,896,677	$1,983,610	$588,137	$599,899	$611,897	-$5,750	$25,495,208
Benefits	$14,000	$14,280	$4,966,870	$5,066,207	$5,167,531	$5,270,882	$5,376,299	$5,483,825	$5,593,502	$5,705,372	$5,819,479	$5,935,869	$6,054,586	$6,175,678	$9,421,692	$76,066,072
NET/COST BENEFIT	-$3,342,266	-$4,098,516	$3,309,226	$3,376,411	$3,444,939	$3,464,838	$3,586,135	$3,658,857	$3,733,034	$3,808,695	$3,835,869	$5,347,732	$5,454,687	$5,563,781	$9,427,441	$50,570,864
NET/COST BENEFIT cents per litre			$0.5680	$0.5682	$0.5683	$0.5604	$0.5686	$0.5688	$0.5689	$0.5691	$0.5619	$0.7680	$0.7680	$0.7680		

Discount Rate		4%	7%	10%
NPV		32,544,790	23,703,153	17,410,755
PV of Capital Costs		-6,036,870	-5,841,380	-5,695,422
PV of Recurrent Costs		-14,402,733	-11,802,302	-9,809,793
PV of Total Costs		-20,439,603	-17,643,682	-15,445,215
PV of Total Benefits		52,984,393	41,346,835	32,855,969
Benefit Cost Ratio		2.59	2.34	2.13
IRR	39.82%			
NPV per $ of Capital		-5.39	-4.06	-3.00

APPENDIX 7: NAURU ANALYSIS

NAURU - Status Quo																
CAPITAL & EXTERNAL COSTS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
COST#1 - Terminal Construction																$0
COST#1A - Working Capital based on National Reserves 35 days																
TOTAL CAPITAL AND EXTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
INTERNAL COSTS																
																$0
																$0
TOTAL INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Recurrent Costs																
COST# 2 - Regional Network & Cluster Formation																$0
COST# 2A - Network and Cluster Management																$0
COST# 3 - Government Risk Assurance Process																$0
COST# 4 - Price Control and Monitoring Assistance (PIFS)																$0
COST# 5 - Terminal Operations and Maintenance																$0
COST# 6 - Supplier Sales Margin	$12,153	$12,396	$12,644	$12,897	$13,155	$13,418	$13,687	$13,960	$14,239	$14,524	$14,815	$15,111	$15,413	$15,722	$16,036	$147,889
TOTAL RECURRENT COSTS	$12,153	$12,396	$12,644	$12,897	$13,155	$13,418	$13,687	$13,960	$14,239	$14,524	$14,815	$15,111	$15,413	$15,722	$16,036	$147,889
TOTAL COSTS	$12,153	$12,396	$12,644	$12,897	$13,155	$13,418	$13,687	$13,960	$14,239	$14,524	$14,815	$15,111	$15,413	$15,722	$16,036	$90,351

TOTAL PROJECT COSTS

$90,351

DISCOUNTED COSTS (@ 7%)

$124,497

BENEFITS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
AVOIDED COSTS#1 - Current Average Mark-up (uscpgal)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Volume Throughput	607,662	619,815	632,211	644,856	657,753	670,908	684,326	698,012	711,973	726,212	740,736	755,551	770,662	786,075	801,797	
Total Recoveries Per Annum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
																-
SAVINGS# 1 - Bulk Procurement Discounts																-
SAVINGS# 2 - Energy Price Risk Management Strategy																-
SAVINGS# 3 - Price Monitoring Control																-
SAVINGS# 4 - Local Coastal Tanker Efficiency																-
Asset Residual Value															$0	-
																-
																-
																-
																$0
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

ITEM	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
Capital & External Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Internal Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL CAPITAL & INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL RECURRENT COSTS	$12,153	$12,396	$12,644	$12,897	$13,155	$13,418	$13,687	$13,960	$14,239	$14,524	$14,815	$15,111	$15,413	$15,722	$16,036	$210,171
TOTAL COSTS	$12,153	$12,396	$12,644	$12,897	$13,155	$13,418	$13,687	$13,960	$14,239	$14,524	$14,815	$15,111	$15,413	$15,722	$16,036	$210,171
Benefits	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
NET/COST BENEFIT	-$12,153	-$12,396	-$12,644	-$12,897	-$13,155	-$13,418	-$13,687	-$13,960	-$14,239	-$14,524	-$14,815	-$15,111	-$15,413	-$15,722	-$16,036	-$210,171
NET/COST BENEFIT cents per litre			-$0.0200	-$0.0200	-$0.0200	-$0.0200	-$0.0200	-$0.0200	-$0.0200	-$0.0200	-$0.0200	-$0.0200	-$0.0200	-$0.0200		

Discount Rate		4%	7%	10%
NPV		-153,548	-124,497	-102,970
PV of Capital Costs		0	0	0
PV of Recurrent Costs		-153,548	-124,497	-102,970
PV of Total Costs		-153,548	-124,497	-102,970
PV of Total Benefits		0	0	0
Benefit Cost Ratio		0.00	0.00	0.00
IRR	#DIV/0!			
NPV per $ of Capital		#DIV/0!	#DIV/0!	#DIV/0!

APPENDIX 8: NIUE ANALYSIS

NAURU - Regional Network and Cluster Partners, Regional Regulation

CAPITAL & EXTERNAL COSTS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	06/08	08/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	16/16	16/17	17/18	18/19	20/21	21/22	
COST#1 - Terminal Construction																$0
COST#1A - Working Capital based on National Reserves 35 days																
TOTAL CAPITAL AND EXTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
INTERNAL COSTS																
																$0
																$0
TOTAL INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Recurrent Costs																
COST# 2 - Regional Network & Cluster Formation	$10,000															$10,000
COST# 2A - Network and Cluster Management		$6,198	$6,322	$6,449	$6,578	$6,709	$6,843	$6,980	$7,120	$7,262	$7,407	$7,556	$7,707	$7,861	$8,018	$99,009
COST# 3- Government Risk Assurance Process	$2,411	$2,459	$2,508	$2,558	$2,609	$2,662	$2,715	$2,769	$2,825	$2,881	$2,939	$2,997	$3,057	$3,119	$3,181	$41,690
COST# 4 - Price Control and Monitoring Assistance (PIFS)	$304	$310	$316	$322	$329	$335	$342	$349	$356	$363	$370	$378	$385	$393	$401	$5,254
COST# 5 - Terminal Operations and Maintenance																$0
COST# 6 - Supplier Sales Margin																$0
TOTAL RECURRENT COSTS	$12,715	$8,967	$9,146	$9,329	$9,516	$9,706	$9,900	$10,098	$10,300	$10,506	$10,716	$10,931	$11,149	$11,372	$11,600	$46,944
TOTAL COSTS	$12,715	$8,967	$9,146	$9,329	$9,516	$9,706	$9,900	$10,098	$10,300	$10,506	$10,716	$10,931	$11,149	$11,372	$11,600	$69,280

TOTAL PROJECT COSTS

$69,280

DISCOUNTED COSTS (@ 7%)

$93,723

BENEFITS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	06/08	08/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	16/16	16/17	17/18	18/19	20/21	21/22	
AVOIDED COSTS#1 - Current Average Mark-up (uscpgal)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Volume Throughput	607,662	619,816	632,211	644,866	657,753	670,908	684,326	698,012	711,973	726,212	740,736	755,661	770,662	786,075	801,797	
Total Recoveries Per Annum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
																-
SAVINGS# 1 - Bulk Procurement Discounts			$12,644	$12,897	$13,155	$13,418	$13,687	$13,960	$14,239	$14,524	$14,815	$15,111	$15,413	$15,722	$16,036	186,621.46
SAVINGS# 2 - Energy Price Risk Management Strategy	$6,077	$6,198	$6,322	$6,449	$6,578	$6,709	$6,843	$6,980	$7,120	$7,262	$7,407	$7,556	$7,707	$7,861	$8,018	106,085.49
SAVINGS# 3 - Price Monitoring Control	$1,519	$1,550	$1,581	$1,612	$1,644	$1,677	$1,711	$1,745	$1,780	$1,816	$1,852	$1,889	$1,927	$1,965	$2,004	26,271.37
SAVINGS# 4 - Local Coastal Tanker Efficiency	$12,153	$12,396	$12,644	$12,897	$13,155	$13,418	$13,687	$13,960	$14,239	$14,524	$14,815	$15,111	$15,413	$15,722	$16,036	210,170.98
Asset Residual Value															$0	-
																-
																-
																-
																$0
TOTAL	$19,749	$20,144	$33,191	$33,855	$34,532	$35,223	$35,927	$36,646	$37,379	$38,126	$38,889	$39,666	$40,460	$41,269	$42,094	$507,400

ITEM	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	06/08	08/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	16/16	16/17	17/18	18/19	20/21	21/22	
Capital & External Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Internal Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL CAPITAL & INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL RECURRENT COSTS	$12,715	$8,967	$9,146	$9,329	$9,516	$9,706	$9,900	$10,098	$10,300	$10,506	$10,716	$10,931	$11,149	$11,372	$11,600	$155,953
TOTAL COSTS	$12,715	$8,967	$9,146	$9,329	$9,516	$9,706	$9,900	$10,098	$10,300	$10,506	$10,716	$10,931	$11,149	$11,372	$11,600	$155,953
Benefits	$19,749	$20,144	$33,191	$33,855	$34,532	$35,223	$35,927	$36,646	$37,379	$38,126	$38,889	$39,666	$40,460	$41,269	$42,094	$527,149
NET/COST BENEFIT	$7,034	$11,177	$24,045	$24,526	$25,016	$25,516	$26,027	$26,547	$27,078	$27,620	$28,172	$28,736	$29,310	$29,897	$30,495	$371,196
NET/COST BENEFIT cents per litre			$0.0380	$0.0380	$0.0380	$0.0380	$0.0380	$0.0380	$0.0380	$0.0380	$0.0380	$0.0380	$0.0380	$0.0380		

Discount Rate		4%	7%	10%
NPV		265,074	210,895	170,951
PV of Capital Costs		0	0	0
PV of Recurrent Costs		-114,843	-93,723	-78,051
PV of Total Costs		-114,843	-93,723	-78,051
PV of Total Benefits		379,917	304,618	249,002
Benefit Cost Ratio		3.31	3.25	3.19
IRR	#DIV/0!			
NPV per $ of Capital		#DIV/0!	#DIV/0!	#DIV/0!

NIUE: Status Quo

CAPITAL & EXTERNAL COSTS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
COST#1 - Terminal Construction																$0
COST#1A - Working Capital based on National Reserves 35 days																
TOTAL CAPITAL AND EXTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
INTERNAL COSTS																
																$0
																$0
TOTAL INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Recurrent Costs																
COST# 2 - Regional Network & Cluster Formation																$0
COST# 2A - Network and Cluster Management																$0
COST# 2B - Regional Sector Management (Broker and Cluster Mgt)																$0
COST# 3- Government Risk Assurance Process																$0
COST# 4 - Price Control and Monitoring Assistance (PIFS)																$0
COST# 5 - Terminal Operations and Maintenance																$0
COST# 6 - Supplier Sales Margin	$60,766	$61,982	$63,221	$64,486	$65,775	$67,091	$68,433	$69,801	$71,197	$72,621	$74,074	$75,555	$77,066	$78,608	$80,180	$739,446
TOTAL RECURRENT COSTS	$60,766	$61,982	$63,221	$64,486	$65,775	$67,091	$68,433	$69,801	$71,197	$72,621	$74,074	$75,555	$77,066	$78,608	$80,180	$739,446
TOTAL COSTS	$60,766	$61,982	$63,221	$64,486	$65,775	$67,091	$68,433	$69,801	$71,197	$72,621	$74,074	$75,555	$77,066	$78,608	$80,180	$451,753

TOTAL PROJECT COSTS

$451,753
DISCOUNTED COSTS (@ 7%)
$622,483

BENEFITS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
AVOIDED COSTS#1 - Current Average Mark-up (uscpgal)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Volume Throughput	607,582	619,815	632,211	644,856	657,753	670,908	684,326	698,012	711,973	726,212	740,736	755,551	770,662	786,075	801,797	
Total Recoveries Per Annum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
																-
SAVINGS# 1 - Bulk Procurement Discounts																-
SAVINGS# 2 - Energy Price Risk Management Strategy																-
SAVINGS# 3 - Price Monitoring Control																-
SAVINGS# 4 - Local Coastal Tanker Efficiency																-
Asset Residual Value															$0	-
																-
																-
																-
																$0
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

ITEM	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
Capital & External Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Internal Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL CAPITAL & INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL RECURRENT COSTS	$60,766	$61,982	$63,221	$64,486	$65,775	$67,091	$68,433	$69,801	$71,197	$72,621	$74,074	$75,555	$77,066	$78,608	$80,180	$1,050,855
TOTAL COSTS	$60,766	$61,982	$63,221	$64,486	$65,775	$67,091	$68,433	$69,801	$71,197	$72,621	$74,074	$75,555	$77,066	$78,608	$80,180	$1,050,855
Benefits	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
NET/COST BENEFIT	-$60,766	-$61,982	-$63,221	-$64,486	-$65,775	-$67,091	-$68,433	-$69,801	-$71,197	-$72,621	-$74,074	-$75,555	-$77,066	-$78,608	-$80,180	-$1,050,855
NET/COST BENEFIT cents per litre			-$0.1000	-$0.1000	-$0.1000	-$0.1000	-$0.1000	-$0.1000	-$0.1000	-$0.1000	-$0.1000	-$0.1000	-$0.1000	-$0.1000		

Discount Rate		4%	7%	10%
NPV		-767,741	-622,483	-514,849
PV of Capital Costs		0	0	0
PV of Recurrent Costs		-767,741	-622,483	-514,849
PV of Total Costs		-767,741	-622,483	-514,849
PV of Total Benefits		0	0	0
Benefit Cost Ratio		0.00	0.00	0.00
IRR	#DIV/0!			
NPV per $ of Capital		#DIV/0!	#DIV/0!	#DIV/0!

APPENDIX 9: PALAU ANALYSIS

PALAU - Status Quo																
CAPITAL & EXTERNAL COSTS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
COST#1 - Terminal Construction																$0
COST#1A - Working Capital based on National Reserves 35 days																
TOTAL CAPITAL AND EXTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
INTERNAL COSTS																
																$0
																$0
TOTAL INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Recurrent Costs																
COST# 2 - Regional Network & Cluster Formation																
COST# 2A - Network and Cluster Management																$0
COST# 3- Government Risk Assurance Process																$0
COST# 4 - Price Control and Monitoring Assistance (PIES)																$0
COST# 5 - Terminal Operations and Maintenance																$0
COST# 6 - Supplier Sales Margin	$182,480	$186,130	$189,852	$193,649	$197,522	$201,473	$205,502	$209,612	$213,804	$218,080	$222,442	$226,891	$231,429	$236,057	$240,778	$2,220,547
TOTAL RECURRENT COSTS	$182,480	$186,130	$189,852	$193,649	$197,522	$201,473	$205,502	$209,612	$213,804	$218,080	$222,442	$226,891	$231,429	$236,057	$240,778	$2,220,547
TOTAL COSTS	$182,480	$186,130	$189,852	$193,649	$197,522	$201,473	$205,502	$209,612	$213,804	$218,080	$222,442	$226,891	$231,429	$236,057	$240,778	$1,356,608

TOTAL PROJECT COSTS

$1,356,608

DISCOUNTED COSTS (@7%)

$1,869,308

BENEFITS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
AVOIDED COSTS#1 - Current Average Mark-up (uscpgal)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Volume Throughput	18,248,000	18,612,960	18,985,219	19,364,924	19,752,222	20,147,266	20,550,212	20,961,216	21,380,440	21,808,049	22,244,210	22,689,094	23,142,876	23,605,734	24,077,848	
Total Recoveries Per Annum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
																-
SAVINGS# 1 - Bulk Procurement Discounts																-
SAVINGS# 2 - Energy Price Risk Management Strategy																-
SAVINGS# 3 - Price Monitoring Control																-
SAVINGS# 4 - Local Coastal Tanker Efficiency																-
Asset Residual Value																-
																-
																-
																-
																$0
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

ITEM	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
Capital & External Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Internal Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL CAPITAL & INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL RECURRENT COSTS	$182,480	$186,130	$189,852	$193,649	$197,522	$201,473	$205,502	$209,612	$213,804	$218,080	$222,442	$226,891	$231,429	$236,057	$240,778	$3,155,703
TOTAL COSTS	$182,480	$186,130	$189,852	$193,649	$197,522	$201,473	$205,502	$209,612	$213,804	$218,080	$222,442	$226,891	$231,429	$236,057	$240,778	$3,155,703
Benefits	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
NET/COST BENEFIT	-$182,480	-$186,130	-$189,852	-$193,649	-$197,522	-$201,473	-$205,502	-$209,612	-$213,804	-$218,080	-$222,442	-$226,891	-$231,429	-$236,057	-$240,778	-$3,155,703
NET/COST BENEFIT cents per litre			-$0.0100	-$0.0100	-$0.0100	-$0.0100	-$0.0100	-$0.0100	-$0.0100	-$0.0100	-$0.0100	-$0.0100	-$0.0100	-$0.0100		

Discount Rate		4%	7%	10%
NPV		-2,305,517	-1,869,308	-1,546,084
PV of Capital Costs		0	0	0
PV of Recurrent Costs		-2,305,517	-1,869,308	-1,546,084
PV of Total Costs		-2,305,517	-1,869,308	-1,546,084
PV of Total Benefits		0	0	0
Benefit Cost Ratio		0.00	0.00	0.00
IRR	#DIV/0!			

PALAU - Regional Network and Cluster Partners, Regional Regulation

CAPITAL & EXTERNAL COSTS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
COST#1 - Terminal Construction																$0
COST#1A - Working Capital based on National Reserves 35 days																
TOTAL CAPITAL AND EXTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
INTERNAL COSTS																
																$0
																$0
TOTAL INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Recurrent Costs																
COST# 2 - Regional Network & Cluster Formation	$50,000															
COST# 2A - Network and Cluster Management		$179,443	$183,031	$186,692	$190,426	$194,234	$198,119	$202,082	$206,123	$210,246	$214,451	$218,740	$223,114	$227,577	$232,128	$2,866,405
COST# 3- Government Risk Assurance Process	$72,394	$73,842	$75,319	$76,825	$78,362	$79,929	$81,527	$83,158	$84,821	$86,518	$88,248	$90,013	$91,813	$93,649	$95,522	$1,251,939
COST# 4 - Price Control and Monitoring Assistance (PIFS)	$9,124	$9,306	$9,493	$9,682	$9,876	$10,074	$10,275	$10,481	$10,690	$10,904	$11,122	$11,345	$11,571	$11,803	$12,039	$157,785
COST# 5 - Terminal Operations and Maintenance																$0
COST# 6 - Supplier Sales Margin																$0
TOTAL RECURRENT COSTS	$131,518	$262,591	$267,843	$273,200	$278,664	$284,237	$289,922	$295,720	$301,634	$307,667	$313,821	$320,097	$326,499	$333,029	$339,689	$4,276,130
TOTAL COSTS	$131,518	$262,591	$267,843	$273,200	$278,664	$284,237	$289,922	$295,720	$301,634	$307,667	$313,821	$320,097	$326,499	$333,029	$339,689	$1,787,974

TOTAL PROJECT COSTS

$1,787,974

DISCOUNTED COSTS (@ 7%)

$2,519,527

BENEFITS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
AVOIDED COSTS#1 - Current Average Mark-up (uscpgal)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Volume Throughput	18,248,000	18,612,960	18,985,219	19,364,924	19,752,222	20,147,266	20,550,212	20,961,216	21,380,440	21,808,049	22,244,210	22,689,094	23,142,876	23,605,734	24,077,848	
Total Recoveries Per Annum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
																-
SAVINGS# 1 - Bulk Procurement Discounts			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	-
SAVINGS# 2 - Energy Price Risk Management Strategy	$91,240	$93,066	$94,926	$96,825	$98,761	$100,736	$102,751	$104,806	$106,902	$109,040	$111,221	$113,445	$115,714	$118,029	$120,389	1,577,851.36
SAVINGS# 3 - Price Monitoring Control	$45,620	$46,532	$47,463	$48,412	$49,381	$50,368	$51,376	$52,403	$53,451	$54,520	$55,611	$56,723	$57,857	$59,014	$60,195	788,925.68
SAVINGS# 4 - Local Coastal Tanker Efficiency			$94,926	$96,825	$98,761	$100,736	$102,751	$104,806	$106,902	$109,040	$111,221	$113,445	$115,714	$118,029	$120,389	1,393,546.56
Asset Residual Value															$0	-
																-
																-
																-
																$0
TOTAL	$136,860	$139,597	$237,315	$242,062	$246,903	$251,841	$256,878	$262,015	$267,256	$272,601	$278,053	$283,614	$289,286	$295,072	$300,973	$3,623,464

ITEM	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
Capital & External Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Internal Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL CAPITAL & INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL RECURRENT COSTS	$131,518	$262,591	$267,843	$273,200	$278,664	$284,237	$289,922	$295,720	$301,634	$307,667	$313,821	$320,097	$326,499	$333,029	$339,689	$4,326,130
TOTAL COSTS	$131,518	$262,591	$267,843	$273,200	$278,664	$284,237	$289,922	$295,720	$301,634	$307,667	$313,821	$320,097	$326,499	$333,029	$339,689	$4,326,130
Benefits	$136,860	$139,597	$237,315	$242,062	$246,903	$251,841	$256,878	$262,015	$267,256	$272,601	$278,053	$283,614	$289,286	$295,072	$300,973	$3,760,324
NET/COST BENEFIT	$5,342	-$122,994	-$30,528	-$31,138	-$31,761	-$32,396	-$33,044	-$33,705	-$34,379	-$35,067	-$35,768	-$36,483	-$37,213	-$37,957	-$38,716	-$565,806
NET/COST BENEFIT cents per litre			-$0.0016	-$0.0016	-$0.0016	-$0.0016	-$0.0016	-$0.0016	-$0.0016	-$0.0016	-$0.0016	-$0.0016	-$0.0016	-$0.0016		

Discount Rate		4%	7%	10%
NPV		-423,412	-349,449	-293,987
PV of Capital Costs		0	0	0
PV of Recurrent Costs		-3,131,534	-2,519,527	-2,066,733
PV of Total Costs		-3,131,534	-2,519,527	-2,066,733
PV of Total Benefits		2,708,122	2,170,078	1,772,747
Benefit Cost Ratio		0.86	0.86	0.86
IRR	2228.06%			
NPV per $ of Capital		#DIV/0!	#DIV/0!	#DIV/0!

APPENDIX 10: TUVALU ANALYSIS

TUVALU - Regional Regulation Unit

CAPITAL & EXTERNAL COSTS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
COST#1 - Terminal Construction																$0
COST#1A - Working Capital based on National Reserves 35 days															$0	
TOTAL CAPITAL AND EXTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
INTERNAL COSTS																
TOTAL INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Recurrent Costs																
COST# 2 - Regional Network & Cluster Formation	$10,000															
COST# 2A - Network and Cluster Management		$11,691	$11,925	$12,163	$12,407	$12,655	$12,908	$13,166	$13,429	$13,698	$13,972	$14,251	$14,536	$14,827	$15,124	$186,754
COST# 3 - Government Risk Assurance Process	$4,717	$4,811	$4,907	$5,005	$5,105	$5,208	$5,312	$5,418	$5,526	$5,637	$5,750	$5,865	$5,982	$6,101	$6,224	$81,567
COST# 4 - Price Control and Monitoring Assistance (PIFS)	$594	$606	$618	$631	$643	$656	$669	$683	$696	$710	$725	$739	$754	$769	$784	$10,280
COST# 5 - Terminal Operations and Maintenance	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
COST# 6 - Supplier Sales Margin (Excess)			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL RECURRENT COSTS	$5,311	$5,417	$5,526	$5,636	$5,749	$5,864	$5,981	$6,101	$6,223	$6,347	$6,474	$6,604	$6,736	$6,870	$7,008	$91,847
TOTAL COSTS	$5,311	$5,417	$5,526	$5,636	$5,749	$5,864	$5,981	$6,101	$6,223	$6,347	$6,474	$6,604	$6,736	$6,870	$7,008	$39,484

TOTAL PROJECT COSTS

$39,484

DISCOUNTED COSTS @ 7%

$54,406

BENEFITS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
AVOIDED COSTS#1 - Current Average Mark-up (uscpgal)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Volume Throughput	1,188,904	1,212,682	1,236,935	1,261,674	1,286,907	1,312,646	1,338,899	1,365,676	1,392,990	1,420,850	1,449,267	1,478,252	1,507,817	1,537,974	1,568,733	
Total Recoveries Per Annum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
																-
SAVINGS# 1 - Bulk Procurement Discounts																-
SAVINGS# 2 - Energy Price Risk Management Strategy																-
SAVINGS# 3 - Price Monitoring Control	$29,723	$30,317	$3,092	$3,154	$3,217	$3,282	$3,347	$3,414	$3,482	$3,552	$3,623	$3,696	$3,770	$3,845	$3,922	105,436.18
SAVINGS# 4 - Local Coastal Tanker Efficiency with Kiribati																-
Asset Residual Value															$0	-
																-
																-
																-
																$0
TOTAL	$29,723	$30,317	$3,092	$3,154	$3,217	$3,282	$3,347	$3,414	$3,482	$3,552	$3,623	$3,696	$3,770	$3,845	$3,922	$75,714

ITEM	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
Capital & External Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Internal Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL CAPITAL & INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL RECURRENT COSTS	$5,311	$5,417	$5,526	$5,636	$5,749	$5,864	$5,981	$6,101	$6,223	$6,347	$6,474	$6,604	$6,736	$6,870	$7,008	$91,847
TOTAL COSTS	$5,311	$5,417	$5,526	$5,636	$5,749	$5,864	$5,981	$6,101	$6,223	$6,347	$6,474	$6,604	$6,736	$6,870	$7,008	$91,847
Benefits	$29,723	$30,317	$3,092	$3,154	$3,217	$3,282	$3,347	$3,414	$3,482	$3,552	$3,623	$3,696	$3,770	$3,845	$3,922	$105,436
NET/COST BENEFIT	$24,411	$24,900	-$2,433	-$2,482	-$2,532	-$2,582	-$2,634	-$2,687	-$2,740	-$2,795	-$2,851	-$2,908	-$2,966	-$3,026	-$3,086	$13,589
NET/COST BENEFIT cents per litre			-$0.0020	-$0.0020	-$0.0020	-$0.0020	-$0.0020	-$0.0020	-$0.0020	-$0.0020	-$0.0020	-$0.0020	-$0.0020	-$0.0020		

Discount Rate		4%	7%	10%
NPV		21,398	24,873	27,062
PV of Capital Costs		0	0	0
PV of Recurrent Costs		-67,102	-54,406	-44,999
PV of Total Costs		-67,102	-54,406	-44,999
PV of Total Benefits		88,501	79,280	72,061
Benefit Cost Ratio		1.32	1.46	1.60
IRR	-3.93%			

TUVALU - Asset Ownership, Network & Cluster Member, Regional Regulation Unit

CAPITAL & EXTERNAL COSTS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
COST#1 - Terminal Construction	$850,650	$869,350	$50,000	$50,000	$50,000	$50,000	$100,000	$50,000	$50,000	$50,000	$50,000	$100,000	$50,000	$50,000	$50,000	$2,470,000
COST#1A - Working Capital based on National Reserves 35 days		$133,727													-$133,727	
TOTAL CAPITAL AND EXTERNAL COSTS	$850,650	$1,003,077	$50,000	$50,000	$50,000	$50,000	$100,000	$50,000	$50,000	$50,000	$50,000	$100,000	$50,000	$50,000	-$83,727	$2,470,000
INTERNAL COSTS																
TOTAL INTERNAL COSTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Recurrent Costs																
COST# 2 - Regional Network & Cluster Formation	$10,000															
COST# 2A - Network and Cluster Management		$11,691	$11,925	$12,163	$12,407	$12,655	$12,908	$13,166	$13,429	$13,698	$13,972	$14,251	$14,536	$14,827	$15,124	$186,754
COST# 3- Government Risk Assurance Process	$4,717	$4,811	$4,907	$5,005	$5,105	$5,208	$5,312	$5,418	$5,526	$5,637	$5,750	$5,865	$5,982	$6,101	$6,224	$81,567
COST# 4 - Price Control and Monitoring Assistance (PIFS)	$594	$606	$618	$631	$643	$656	$669	$683	$696	$710	$725	$739	$754	$769	$784	$10,286
COST# 5 - Terminal Operations and Maintenance	$368,792	$376,168	$383,691	$391,365	$399,193	$407,176	$415,320	$423,626	$432,099	$440,741	$449,556	$458,547	$467,718	$477,072	$486,614	$6,377,679
COST# 6 - Supplier Sales Margin			$74,216	$75,700	$77,214	$78,759	$80,334	$81,941	$83,579	$85,251	$86,956	$88,695	$90,469	$92,278	$94,124	$723,951
TOTAL RECURRENT COSTS	$384,103	$393,277	$475,358	$484,865	$494,563	$504,454	$514,543	$524,834	$535,331	$546,037	$556,958	$568,097	$579,459	$591,048	$602,869	$7,380,220
TOTAL COSTS	$1,234,753	$1,396,354	$525,358	$534,865	$544,563	$554,454	$614,543	$574,834	$585,331	$596,037	$606,958	$668,097	$629,459	$641,048	$519,142	$5,404,891

TOTAL PROJECT COSTS

$5,404,891

DISCOUNTED COSTS (@ 7%)

$6,589,841

BENEFITS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
AVOIDED COSTS#1 - Current Average Mark-up (uscpgal)	-	-	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	0.606	
Volume Throughput	1,188,904	1,212,682	1,236,935	1,261,674	1,286,907	1,312,646	1,338,899	1,365,676	1,392,990	1,420,850	1,449,267	1,478,252	1,507,817	1,537,974	1,568,733	
Total Recoveries Per Annum	-	-	740,088	764,070	779,351	794,938	810,837	827,054	843,595	860,467	877,676	895,230	913,134	931,397	950,025	10,996,860
																-
SAVINGS# 1 - Bulk Procurement Discounts			$24,739	$25,233	$25,738	$26,253	$26,778	$27,314	$27,860	$28,417	$28,985	$29,565	$30,156	$30,759	$31,375	363,172.40
SAVINGS# 2 - Energy Price Risk Management Strategy			$6,185	$6,308	$6,435	$6,563	$6,694	$6,828	$6,965	$7,104	$7,246	$7,391	$7,539	$7,690	$7,844	90,793.10
SAVINGS# 3 - Price Monitoring Control	$2,972	$3,032	$3,092	$3,154	$3,217	$3,282	$3,347	$3,414	$3,482	$3,552	$3,623	$3,695	$3,770	$3,845	$3,922	51,400.51
SAVINGS# 4 - Local Coastal Tanker Efficiency with Kiribati			$37,108	$37,850	$38,607	$39,379	$40,167	$40,970	$41,790	$42,625	$43,478	$44,348	$45,235	$46,139	$47,062	544,758.60
Asset Residual Value															$1,235,000	1,235,000.00
																-
																-
																-
																$0
TOTAL	$2,972	$3,032	$820,212	$836,616	$853,348	$870,415	$887,824	$905,580	$923,692	$942,166	$961,009	$980,229	$999,834	$1,019,830	$2,275,227	$13,279,013

ITEM	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Total
	05/06	06/07	07/08	08/09	09/10	10/11	12/13	13/14	14/15	15/16	16/17	17/18	18/19	20/21	21/22	
Capital & External Costs	$850,650	$1,003,077	$50,000	$50,000	$50,000	$50,000	$100,000	$50,000	$50,000	$50,000	$50,000	$100,000	$50,000	$50,000	-$83,727	$2,470,000
Internal Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL CAPITAL & INTERNAL COSTS	$850,650	$1,003,077	$50,000	$50,000	$50,000	$50,000	$100,000	$50,000	$50,000	$50,000	$50,000	$100,000	$50,000	$50,000	-$83,727	$2,470,000
TOTAL RECURRENT COSTS	$384,103	$393,277	$475,358	$484,865	$494,563	$504,454	$514,543	$524,834	$535,331	$546,037	$556,958	$568,097	$579,459	$591,048	$602,869	$7,755,797
TOTAL COSTS	$1,234,753	$1,396,354	$525,358	$534,865	$544,563	$554,454	$614,543	$574,834	$585,331	$596,037	$606,958	$668,097	$629,459	$641,048	$519,142	$10,225,797
Benefits	$2,972	$3,032	$820,212	$836,616	$853,348	$870,415	$887,824	$905,580	$923,692	$942,166	$961,009	$980,229	$999,834	$1,019,830	$2,275,227	$13,281,985
NET/COST BENEFIT	-$1,231,781	-$1,393,322	$294,854	$301,751	$308,786	$315,961	$273,281	$330,746	$338,361	$346,128	$354,051	$312,132	$370,375	$378,782	$1,756,085	$3,056,188
NET/COST BENEFIT cents per litre			$0.2384	$0.2392	$0.2399	$0.2407	$0.2041	$0.2422	$0.2429	$0.2436	$0.2443	$0.2111	$0.2456	$0.2463		

Discount Rate		4%	7%	10%
NPV		1,313,071	499,968	-51,149
PV of Capital Costs		-2,201,920	-2,040,993	-1,905,411
PV of Recurrent Costs		-5,695,962	-4,548,852	-3,744,826
PV of Total Costs		-7,897,283	-6,589,841	-5,650,237
PV of Total Benefits		9,150,354	7,089,809	5,599,088
Benefit Cost Ratio		1.17	1.08	0.99
IRR	9.67%			
NPV per $ of Capital		-0.60	-0.24	0.03

71%

Pacific Studies Series

Toward a New Pacific Regionalism

An Asian Development Bank—Commonwealth Secretariat
Joint Report to the Pacific Islands Forum Secretariat

VOLUME 3: WORKING PAPERS
Working Paper No. 14

A Regional Statistics Office for the Pacific

Michael Andrews
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Preface

This report was prepared for the Pacific Islands Forum Secretariat (PFIS) in Suva, Fiji Islands. The report is one output of an Asian Development Bank (ADB) technical assistance project (TA 6226 REG): "Developing and Implementing the Pacific Plan for Strengthening Regional Cooperation and Integration." The Commonwealth Secretariat provided funding to the project.

The lead author of the report was Dr. Roman Grynberg, Deputy Director of Trade and Regional Cooperation at the Commonwealth Secretariat. He was assisted by Michael Hyndman, a cost-benefit analyst contracted by ADB, and Sacha Silva, an economist contracted by the Commonwealth Secretariat. Consultants from PIFS and the Pacific region provided valuable inputs for the report. Bill Costello was the ADB task manager.

The report is published in three volumes. Volume 1 is the Executive Summary. Volume 2 is the main report. Volume 3 contains the working papers commissioned for the report–a series of independent studies assessing potential benefits and costs of implementing a variety of possible regional initiatives. Volume 3 has been printed in hard copy in only limited numbers. However, it is available on the websites of ADB (www.adb.org) and at www.pacificplan.org.

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I. OPTIONS FOR STRUCTURE

There are two basic options for a regional statistical organization. The first option would include all aspects of statistics, from collection of base data including implementation of censuses and surveys, compilation of "middle level" statistics (such as migration, employment, external trade, and consumer price index [CPI]), to compilation of economic statistics required for the General Data Dissemination Statistics system managed by the International Monetary Fund (IMF), as well as social statistics required for poverty studies and the measurement of progress towards the Millennium Development Goals.

A second, and possibly more realistic, development option in the near term may the creation of a "Specialized' regional statistical office. The center would be responsible for "high level analytical" economic and social statistics such as national accounts and balance of payments data, price indexes, and productivity measurement as well as major social and economic surveys and data indicators such as the data required for the Millennium Development Goals presentations. The organization may also advise on basic data collection methodology, including developments of censuses and household or industry surveys. Provided it was properly funded, the organization may take over some statistical activities, particularly balance of payments data, now undertaken by central banks.

Establishment of either organization would require attention to a number of issues, many of which relate to the national and regional structure and responsibilities that would need to be resolved (a partial list of which is shown in Appendix 1).

II. POTENTIAL BENEFITS AND COSTS

A number of benefits could flow from either of the organizational options listed, including:

- Greater comparability across countries in the region reflecting the opportunities to apply consistent methodologies, classifications, legislation, revisions policy, etc, where appropriate.
- The publication of such data on a common web site may raise the quality (accuracy, consistency, timeliness) and dissemination of major economic and social statistics both to national policy makers and the general public thus improving the economic and social debate in the pacific.
- The standard of administration of statistical organizations in the pacific may also be improved by greater attention to priority setting, staff recruitment and training and career paths of national statisticians.
- The organizations would also provide donors with a clearer mechanism to provide coordinated assistance to the development of statistics on the pacific.

A summary measure of these benefits may be assessed via their assumed impact on a broad measure of economic welfare such as gross domestic product (GDP). For the 15 member countries of the Pacific Forum, the aggregate GDP in 2003 was about United States dollars (US$)7 billion (see Appendix 2) (excluding Australia and New Zealand). Therefore, if improved statistical data contributed to an improvement in decision-making

that, in turn, increased GDP by only a 0.1%, the annual flow of benefits to the developing Forum countries would be about US$7million.[1]

The *costs of existing national statistics offices* in the region are about US$4-5 million per year, dominated by Papua New Guinea (PNG) and Fiji Islands. This includes all costs, statistical and support staff, office expenses, travel. Staff costs constitute around 70 to 80% of the total costs, most travel is paid for by outside donors. The cost of existing external technical assistance to national statistics offices (NSOs) in the region is unknown, but may be in the range of US$3-4 million per year (excluding population censuses). In addition, in some countries, some macroeconomic statistics are compiled by other agencies, notably the balance of payments by central banks and government finance statistics by ministries of finance (estimated costs approximately US$0.5-1million). In total, the costs of existing statistical services may be in the order of US$7.5-10 million, of which about 60% is funded by the Pacific Island Countries (PICs) themselves (see attached worksheet at Appendix 3I).

The costs of a *comprehensive new regional statistical office* depend considerably on the structure and configuration that was agreed. However, it seems clear that the costs of a comprehensive regional statistics office would increase considerably from that of the existing offices even if the existing offices are subsumed into the regional office and continued to operate in each country and were linked by high-speed communications. This would follow from the need to standardize the activities and approaches to statistical development in each country, and to bring those which are lagging behind the average up to the level of statistical development of the better PICs. On an approximate basis this might add, say 50% or US$4-5 million to the present operation of PIC statistical offices, especially if an allowance is included for some increases in average salaries to permit offices to retain quality staff. This increase in costs would take place over several years and would be matched by improvements in the quality of data. (NB. To bring all countries up to the standard of say, Australia and New Zealand, would require a further major increase in spending.)

If the regional statistical office was located in one or two countries and existing staff had to move to these new locations and/or there were other changes to the configuration of offices the increase may be greater.

There are a number of reasons to favour a *specialist regional office*. Most importantly, it is likely to achieve quality improvements in economic and social statistics more quickly.

There are two ways the statistical operations could be organised, either:

1. A team could be assembled for each country, comprising experts in such topics as national accounts, balance of payments, price data and government finance statistics as well as social data. There would also be survey design and operation specialists. Because of the variation in size, some countries would need larger teams than others and, for example, one team could cover several smaller countries. This approach would develop and facilitate maximum use of existing staff and capacity building, and provide local knowledge of the economy.

[1] Forum membership: Australia, Cook Islands, Federated States of Micronesia, Fiji Islands, Kiribati, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu.

2. Another possibility is the development of separate teams for each specialty (for example national accounts, balance of payments, social statistics and survey design and operation). Each team would then provide services to all countries.

Given the difficulty of coordinating all data collections, the second option may prove more practical and this option is costed in Appendix 4. Note that Papua New Guinea may need to be treated separately due to it size.

Under either option there would be a decision to be made about whether to have all statistical staff based in one (or two) location. There are clear advantages in this approach as it would allow interaction and standardization in statistical compilation but it would also require a significant travel and subsistence budget (with some staff on mission travel for perhaps 3 to 6 months per year) as well as installation of high speed communications to facilitate data transfer. Alternatively, one could locate teams in countries where most of the services are provided and needed. A mixture of in-country work and work in the regional organization's base as training attachments, etc, is likely to be used.

By way of example, the estimated cost of operating a specialist regional center in Fiji Islands (or Samoa) is estimated at US$5-6million (refer Appendix 4). Note that this is an incremental cost estimate which would be matched in a considerable increase in the average quality of major statistics produced in the region. It must also be noted that to the extent that personnel for the regional centre were recruited from existing national offices there would be a need to find replacements for the NSOs.

APPENDIX 1: CHALLENGES AND ISSUES

- Legislation and management issues – confidentiality, compulsory supply of data, ownership of source and output data; regional vs. national priority setting; coordination with donors and TA providers; solutions to statistical problems involve organisations other than NSOs (administrative data, etc).
- Diversity of countries (size, physical characteristics, etc) and existing statistical operations (size, capability, spread across different organisations, etc) may require a number of solutions. Cultural differences/national priorities and independence.
- Staffing – skilled staff are scarce and in high demand, higher salaries are available in other agencies. Resourcing a regional statistics office with existing NSO staff would have serious implications for the NSOs ongoing operations.
- Existing TA providers. Strong affinity with SPC, with regional statisticians recently requesting SPC create more economic statistics positions.

APPENDIX 2: GROSS DOMESTIC PRODUCT AT CURRENT PRICES, 2003

	US$ million
Cook Islands	166
Fiji Islands	2,036
Kiribati	55
Marshall Islands	106
Micronesia, Federated States	243
Nauru	28
Niue	6
Palau	126
Papua New Guinea	3,182
Samoa	268
Solomon Islands	253
Tokelau	1
Tonga	163
Tuvalu	14
Vanuatu	283
Total	**6,930**

Sources: National Statistics Offices' websites
World Development Indicators Database

APPENDIX 3: EXISTING STATISTICS OFFICES COST ESTIMATES

Existing NSO costs	US$4-5million
Existing costs for macroeconomic statistics (BOP, GFS, NA) of other government agencies	US$0.5-1million
Existing TA costs	US$3-4million
Total	**US$7.5-10million**

APPENDIX 4: INDICATIVE RESOURCE NEEDS FOR SPECIALIST REGIONAL STATISTICAL ORGANISATION

Assumes locally recruited staff:

Cost Item	**No of Staff**	**Costs** (US$'000)
Supervisor and deputy	2	150
Managerial advisors (stats law, planning, advocacy, etc)	2	80
Source data specialists – (survey design, processing systems development, supervision of survey staff, logistics, survey validation and analysis, etc)	10	400
National accounts specialists	3	150
Balance of payments/IIP specialists	3	150
Publications and publicity specialists	1	40
Social statistics specialists	5	250
Support staff	4	80
Steering committee		50
Communications		4
Travel		200
Other		6
Sub-total	30	1,560
External advisors		4,000
Total		**5,560**

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VOLUME 3: WORKING PAPERS
Working Paper No. 15

Costs and Benefits of Deregulating Telecommunication Markets in the Pacific

Professor James McMaster
University of the South Pacific
Suva, Fiji Islands

Preface

This report was prepared for the Pacific Islands Forum Secretariat (PFIS) in Suva, Fiji Islands. The report is one output of an Asian Development Bank (ADB) technical assistance project (TA 6226 REG): "Developing and Implementing the Pacific Plan for Strengthening Regional Cooperation and Integration." The Commonwealth Secretariat provided funding to the project.

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EXECUTIVE SUMMARY

This study provides an assessment of the economic costs and benefits of deregulating the telecommunication markets in the Pacific Island countries. It was conducted in June 2005 as part of the Pacific Plan research program. The study makes use of the tariff and revenue data available in the April 2005 edition of the International Telecommunications Union Data Base, the Asia-Pacific Telecommunity 2004 Yearbook and many research publications and case studies from websites.

A. Main Findings

1. International case studies of telecommunications deregulation undertaken by the International Telecommunication Union and other researchers clearly demonstrate the substantial economic benefits that result from opening monopoly government-dominated telecommunication markets to private sector competition by licensing new providers. The research shows that competition results in improved service quality and lower prices, a higher level of investment in new infrastructure, more rapid adoption of new technology, increased bandwidth and improved productivity and efficiency in the use of resources. Competitive telecommunications markets will generate substantial net economic benefits to the citizens of the Pacific Islands in all consumer groups including: urban and rural residential subscribers, private sector business firms, schools and universities, and public enterprises and government department and agencies. All consumers stand to gain and the costs of regulation are tiny.
2. The economic benefits to consumers in the Pacific islands from lower telecommunication charges for international calls, mobile calls and Internet usage are estimated to be US$66 million a year for the Forum Island countries (FICs) as a whole, based on the assumption that the telecommunication markets are fully competitive with strong price competition among the providers operating on a level playing field. It is assumed that the regulator will ensure that new entrants have access to the fixed line network owned by the former monopoly provider at fair access rental rates. This economic benefit is in the form of consumer surplus.
3. Over a five year period, the total consumer surplus resulting from deregulation and competition in the FICs is estimated to have a present value of United States dollars (US$)285.9 million at a 5% discount rate and US$250.9 discounted at 10%. These estimates are based on FICs revenue data drawn from the International Telecommunications Union (ITU) Database 2005 edition, on total telecommunications revenue for Pacific Island ITU member country and a set of assumptions about the likely level of reduction of call charges resulting from competition, the response of telecoms to the threat of competition in contestable markets, the profitability of different market segments and the price elasticity of demand for telecommunication services. Almost all the consumer surplus is estimated to come from a sharp reduction in international telephone call rates and peak rate mobile phone rates and Internet charges.
4. The introduction of competition will also lead to improved service quality and a more rapid increase in bandwidth but no attempt has been made in this study to estimate the monetary value of quality improvement based on the willingness of consumers to pay. The New Zealand (NZ) experience with telecommunication deregulation shows that the benefits of quality improvement may be greater than the benefits from call rate reductions. The benefits to New Zealand consumers were improved service availability, in terms of access to new services, fault service response, and new service installation times.

5. The longer-term dynamic impacts of deregulation and the development of competitive telecommunication markets will be most beneficial for private sector development, trade and investment promotion and will support the generation of an estimated 20,000 new jobs in information and communication technology (ICT)-enabled businesses such as call centres and back office services.
6. International case studies demonstrate that the costs of providing high quality regulation of the telecommunications markets following the introduction of competition are minimal and usually less than 1% of industry total revenue.
7. It is important for FIC governments to allocate sufficient resources to strengthening national utilities regulatory authorities and to enact appropriate modern regulatory laws and regulations prior to deregulation to support the introduction of strong and fair competition.
8. International experience demonstrates that it is not necessary to maintain a public telecommunications monopoly in order to cross-subsidies the provision of telecommunications services to rural areas and remote island communities through profits by from international calls. The universal service objectives of expanding services to rural areas can be achieved by establishing a universal service fund and requiring all telecom providers to contribute to the fund. It may then be used to provide universal service obligations through contracting out these activities to providers.
9. There are likely to be substantial cost savings and economic benefits from all FICs enacting a common set of E-commerce laws. Most governments have recognized the need for new laws to support national ICT policy and ICT development plans. Fiji Islands, Cook Islands and Tonga have made good progress in drafting a set of modern e-commerce laws benchmarked on international best practice. A regional approach to e-commerce laws has many advantages.
10. There may be a sound case for establishing a Pacific Islands regional telecommunication authority similar to the Eastern Caribbean Telecommunications Authority to promote liberalization and fair competition, harmonization of regulations and policies, universal service, fair pricing, access to advanced services, and overall sector development across the Pacific Islands. There are likely to be substantial economies of scale and other technical advantages from adopting a regional approach to industry regulation especially since the smaller FICs may not be able to attract professionally skilled ICT regulatory specialists to lead the national regulatory authorities.

B. Recommendations

1. All Pacific Island countries should deregulate their telecommunications markets and at the same time establish effective national regulatory authorities to ensure all new and existing operators play by the rules of fair competition. The regulator should ensure that not single operator can exploit a dominant market position to unfairly prevent competition or to establish barriers to entry. There should be a level playing field.
2. Governments should establish a telecommunications community service fund and require all operators to make contributions to the fund based on capacity to pay and an equity formula. The fund should be used to finance and subsidize the provision and expansion of services to consumers residing rural and remote areas.
3. A regional approach to the development of e-commerce cyber laws should be adopted to ensure all countries enact the same unified set of modern laws and regulations.
4. A regional approach should be adopted for the institutional strengthening and technical

support for national utility regulatory authorities. The Forum Island Countries (FICs) should establish a Pacific Islands regional telecommunication authority similar to the Eastern Caribbean Telecommunications Authority to assist member countries deregulate their telecommunications sector.

5. A regional undersea cable project should be implemented under the leadership of Pacific Islands Forum Secretariat (PIFS) to link all FICs to the Southern Cross cable network. (See Appendix 3, Undersea Cable Proposal.)

Table 1 provides an estimate of the likely level of economic benefits that will be received by consumers in each FIC as a result of deregulation of telecommunication markets in the Pacific Islands. The benefits take the form of consumer surplus that consumers will receive as a result of competition driving down the tariffs for international telephone calls, mobile telephone calls and Internet usage.

It is important to note, that theses calculations of the level of consumer surplus are based on the limited amount of revenue data that is made publicly available by the Pacific Islands telecommunications authorities to the International Telecommunications Union database and in some countries from statistics in their annual reports. More precise estimates of the economic benefits from competition could be made providing that the Pacific Islands telecommunications authorities are willing to make available detailed historical accounting information on their sources of revenue from different services and their revenue and cost projections for the next five years. However, most Pacific Islands telecommunications authorities do not publish statistics showing the amount of revenue they earn from different services such as international telephone calls, national long distance calls, local calls, and mobile calls but they report their revenue in an aggregated format. For the purposes of this study, it has been necessary to make estimates of international call revenue for each country. These estimates have been made using the expenditure ratios that prevail in Fiji Islands in 2004. The assumptions made about the price elasticity of demand in this report are based on the findings of a 2003 report undertaken for the New Zealand Commerce Commission and the elasticities contained in the World Bank Telecommunications Regulatory Handbook (2000). The NZ Commerce Commission 2003 study provides a comprehensive review of international research studies on the price elasticity of demand for fixed line and mobile telecommunications services.

Table 1: Benefits to Consumers from Deregulation of Telecommunications

Country	Consumer Surplus ($US million for one year)	Consumer Surplus ($US millions 5 years discounted at 5%)	Consumer Surplus ($US million 5 years discounted at 10%)
Cook Islands	0.32	1.39	1.21
Federated States of Micronesia	2.61	11.30	9.89
Fiji Islands	26.25	113.60	99.50
Kiribati	0.95	4.11	3.60
Marshall Islands	1.43	6.19	5.42
Nauru	0.32	1.39	1.21
Palau	1.74	7.53	6.60
Papua New Guinea	25.20	109.10	96.18
Samoa	1.39	6.02	5.27
Solomon Islands	2.51	10.87	9.51
Tonga	0	00	00
Tuvalu	0.32	1.39	1.21
Vanuatu	2.98	12.90	11.30
Total	**66.07**	**285.80**	**250.90**

Table 2 illustrates the economic costs and benefits to the main stakeholder groups.

Table 2: Economic Benefits and Costs of Information and Communication Technology Deregulation in the Pacific Islands

GROUP	COSTS	BENEFITS
Urban Residential Consumers		• Reduced tariffs • Increased consumer surplus • Improvement in ICT service quality • Choice of providers
Rural Consumers	Slower roll out of fixed-line network to isolated locations that are uneconomic	• Reduced cost of some ICT services • Improved quality of services • Introduction of new wireless services
Private Businesses		• Reduced business ICT costs • Businesses more competitive globally • Expanded use of Internet for business functions • Opportunities for new Business Process Outsourcing contracts
Government and other public utilities		• Reduced cost of ICT services for government departments and public enterprises • Improved Internet services and more rapid introduction of e-government • Increased government revenue from a more rapid growth of ICT total revenue
Regulator for ICT	Need to strengthen regulation to ensure strong competition on a level playing field	
Monopoly ICT Provider	• Loss of monopoly market power • Loss of opportunity to make supernormal profits • Pressure to reduce costs and to excess staff • Lower incentive to invest in long term capital infrastructure • Reduced capacity to repay loans for previous capital investment • Reduced market share • Strong price competition from new competitors • Need to improve productivity	
New ICT providers		• Opportunity to enter new profitable market • Opportunities to test new technology in small markets
Educational Institutions		• Reduced cost of Internet for e-learning

I. REGULATORY BARRIERS IN THE PACIFIC ISLANDS

The main regulatory barrier that prevents a new entrance from starting up a business in a telecommunication sector in the Pacific Islands is the requirement to have an operating license granted by the government. In most Pacific Island Countries (PICs), the government owned monopoly provider has an exclusive license to provide telecommunication services for a fixed period, usually for a 10-15 year period. This form of license guarantees the monopoly status of the provider. The providers have argued that the exclusive license gives them more confidence to invest in long-term infrastructure projects, based on more certain projections of their future earning and capacity to service infrastructure loans. The government monopoly providers also have had responsibilities for achieving universal service objectives. This responsibility involves them in investing in expanding the telephone network to new consumers in rural areas. Most urban consumers are already well serviced by the authorities. However, there are still many potential consumers located in rural areas and remote islands that want telephone services. Their capacity to pay is very limited and governments have generally cross-subsidized these uneconomic services from the high profits they have made from international telephone calls.

Establishing a new telecommunications business in any of the Forum Island Countries (FICs) is a complex business undertaking requiring many different forms of approval. A foreign company wishing to enter the market firstly requires approval from the telecommunications regulator in the form of a license. Foreign investors are generally required to gain government approval under a foreign investment act. Approvals are required for work permits for expatriates, foreign exchange dealings, registration of the company, leasing of land and industrial space, to name a few. The many constraints to private sector development and investment in the Pacific Islands has been recently analysed by the Asian Development Bank (ADB) 2004, in a report entitled *Swimming Against the Tide?: An Assessment of the Private Sector in the Pacific* by Paul Holden, Malcom Bale, and Sarah Holden.

With reference to establishing a new telecommunication business, some of the important issues that investors would take into consideration are as follows:

- Remoteness from foreign suppliers of telecommunication equipment adding to the unit cost of inputs.
- Small size of telecommunication market impacting on the ability of firms to gain economies of scale.
- High cost of electricity for operating telecommunication equipment.
- High cost of access to communications satellites.
- Lack of access to international under-sea cable network for most FICs.
- High cost to new entrants of buying access to consumers from the former monopoly through its fixed line network.
- Opportunity to use power lines for access to consumers.
- Availability of skills telecommunications staff.
- Unfair competition and restrictions from former monopoly provider.
- Low capacity of rural consumers to pay for telecommunication services.
- Ability to developed prepaid systems for all information and communication technology (ICT) services.
- Difficulty in finding a suitable joint-venture partner that is required in some countries as a condition for foreign investment approval.
- Unstable economic policy environment making it difficult for long-range planning.
- Ability to repatriate profits to foreign destinations.
- High tax environment and uncertainty about future level of company and value added tax.

- Political instability and ethnic tension increase the risk factor for telecommunications investors

II. COMPARATIVE ANALYSIS OF TARIFFS

A. Key Features of Pacific Island Country Telecommunications Markets

- Teledensities are comparative low with large differences between rural and urban areas.
- Rural areas are well served with fax, paging, cellular and Internet services.
- Most rural areas are poorly served with telecommunications and some have no electricity available to operate a telephone system.
- New technology is transforming the national networks, examples included the launch of GSM in Papua New Guinea (PNG), wireless broadband in Niue and Tonga, ADSL in French Polynesian, SMS in New Caledonia and Fiji Islands.
- Telecommunications service providers are mainly state owned monopoly with exclusive long-term licenses.
- Partial privatization has commenced in different market segments in the Cook Islands, Fiji Islands, Kiribati, Marshall Islands, PNG, Samoa, Solomon Islands, Tonga and Vanuatu.
- Privatization by new entrance has focused on cellular and Internet services.
- The Southern Cross and Pacific Rim cables transit the region and are linked to Fiji Islands and Guam only.
- The Internet has been slow to come to the region beginning first in Fiji Islands in 1995.
- Internet is limited by bandwidth constraints and in some locations lack of access to telephone systems.
- Choice of Internet service providers is available in Papua New Guinea, Samoa and Tonga, and will soon be available in Fiji Islands.
- Internet dial up rates are high and broadband is now coming to the region. Fiji Islands is introducing broadband in 2005 and wireless broadband is available in Tonga.
- PICs are developing national ICT policies, strategic plans and new regulatory frameworks.
- Mobile phone use is growing rapidly and most of the mobile telephones use a prepaid system.
- A number of countries are upgrading from analogue to digital including: Kiribati, Samoa, Solomon Islands, Marshall Islands and Cook Islands.
- Tuvalu, Tokelau, and Wallis and Futuna Islands have no mobile network.
- Governments recognise the benefits of a common vision for Pacific Telecommunications including regional harmonization of telecommunication, inter-connectivity and network procedures.

The next section of the report is based on data provided in the International Telecommunications Data Base.

B. International Telecommunications Union Data Base

The International Telecommunications Union (ITU) Database (http://www.itu.int) is the most important international source of reliable data. It provides key statistics on most aspects of

telecommunications markets for almost all countries in the world. The cost information is shown in United States dollars. All the charts in this report have been prepared from the data in the ITU database. The data is drawn from the April 2005 update of the database that can be purchased on-line from the ITU website at www.iti.int.

The database allows the users to select a set of countries and prepare tables and charts on selected issues such as the average cost of a 3-minute mobile call during peak or off-peak hours.

One of the weaknesses of the ITU database is that it does not provide information on the tariffs for international calls. This is because there are so many different rates from a wide range of providers of international calls between all the countries, thus making it difficult to prepare a meaningful report.

The Table 3 from the April 2005 edition of the ITU database on the Solomon Islands illustrates the information in the database. Note that some information has not been provided to the ITU.

Table 3: Solomon Islands Telecommunications Data

SOLOMON ISLANDS	2000	2001	2002	2003
Total telecommunication service revenue (US$)	11994106	12092453	..	..
Cellular - cost of 3 minute local call (off-peak) (US$)	1.202358	1.154717	0.906667	..
Cellular - cost of 3 minute local call (peak) (US$)	1.202358	1.154717	0.906667	..
Cellular mobile telephone subscribers (Total)	1151	967	999	1488
Cost of a local 3 minute call (peak rate) (US$)	0.090373	0.086792	0.068148	0.061252
Coverage of population (%)	35	..	..	..
International outgoing telephone traffic (minutes)	2996647	5907270	..	..
International incoming telephone traffic (minutes)	6648912	..	..	..
Internet subscribers	1150	906	988	1000
Internet users per 100 inhabitants	0.47563	0.462675	0.49508	0.524109
Main telephone lines in operation	7689	7389	6601	6238
Main telephone lines per 100 inhabitants	1.828559	1.709352	1.485464	1.307757
Business telephone connection charge (US$)	44.77603	43.00189	33.76445	30.34754
Business telephone monthly subscription (US$)	9.430255	9.056603	7.111111	6.391478
Cellular connection charge (US$)	37.31238	35.83396	28.1363	..
Cellular monthly subscription (US$)	8.911592	8.558491	6.72	..
Main telephone lines in largest city	6704	..	..	..
Residential monthly telephone subscription (US$)	7.544204	6.037736	4.740741	4.260985
Residential telephone connection charge (US$)	49.11591	37.92075	29.77481	26.76165

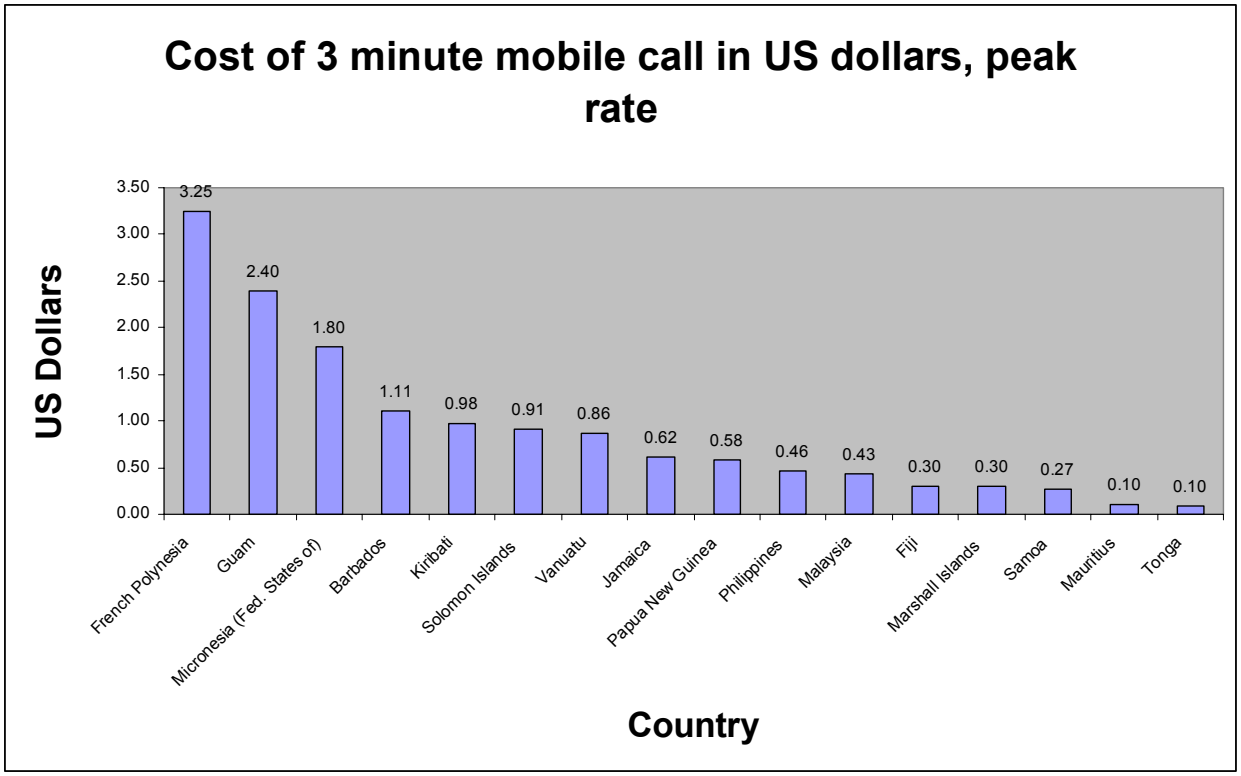
Source: International Telecommunications Union (ITU) Database (http://www.itu.int).

Table 4 shows the same data for Papua New Guinea. It shows that total telecommunications revenue has not been reported to the ITU since the year 2000. The failure of countries to supply the full set of national data to the ITU creates problems for data base users and reduces the value of this most valuable research tool.

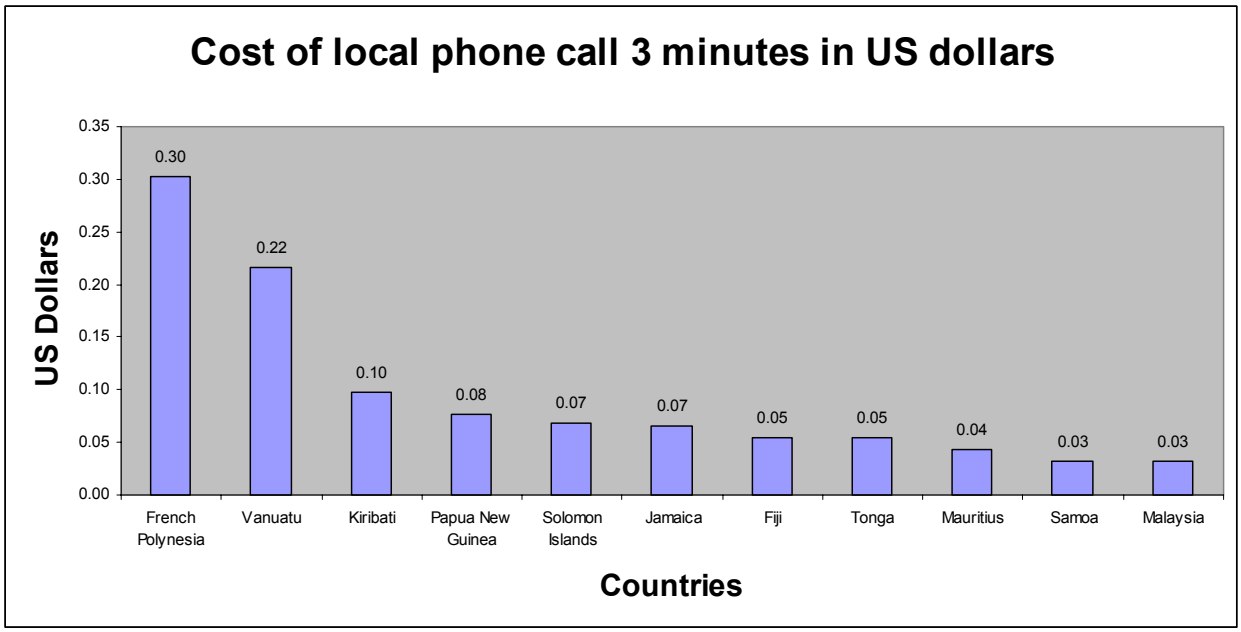
Table 4: Papua New Guinea Telecommunications Data

PAPUA NEW GUINEA	1999	2000	2001	2002
Total telecommunication service revenue (US$)	72979224	79150048	..	..
Cellular - cost of 3 minute local call (off-peak) (US$)	0.700389	0.809353	0.663717	0.576923
Cellular - cost of 3 minute local call (peak) (US$)	0.700389	0.809353	0.663717	0.576923
Cellular mobile telephone subscribers (Total)	7059	8560	10700	15000
Cost of a local 3 minute call (off-peak rate) (US$)	..	..	..	..
Cost of a local 3 minute call (peak rate) (US$)	0.311284	0.359712	0.064897	0.076923
Coverage of population (%)	..	..	..	..
International outgoing telephone traffic (minutes)	25200000	23739964	24900000	..
International incoming telephone traffic (minutes)	19576326	19209144	..	..
Internet subscribers	..	27000	..	..
Internet users per 100 inhabitants	0.703716	0.877131	0.944287	1.372621
Main telephone lines in operation	59773	64835	62000	62000
Main telephone lines per 100 inhabitants	1.201806	1.26375	1.170916	1.1347
Mobile communication revenue (US$)	3881869	4190803	..	..
Annual investment for telephone service (US$)	..	..	..	..
Business telephone connection charge (US$)	217.8988	201.4388	14.74926	12.82051
Business telephone monthly subscription (US$)	4.163424	3.852518	3.159292	5.128205
Cellular connection charge (US$)	466.9261	431.6547	26.54867	23.07692
Cellular monthly subscription (US$)	77.82101	89.92805	11.79941	10.25641
Main telephone lines in largest city	29107	29107	..	..
Number of local telephone (minutes)	26000000	31950000	..	..
Residential monthly telephone subscription (US$)	1.167315	1.079137	1.179941	1.794872
Residential telephone connection charge (US$)	46.69261	43.16547	14.74926	12.82051

Source: International Telecommunications Union (ITU) Database (http://www.itu.int).



Source: International Telecommunications Union (ITU) Database 2002 data (http://www.itu.int).



Source: International Telecommunications Union (ITU) Database 2002 data (http://www.itu.int).

C. Price Benchmarking in the Pacific

The 2003 study by Halvor Sannaes and Teligen developed a model to analyse the Pacific Telecommunication Market. It developed the Pacific PSTN Basket based on Organisation for Economic Co-operation and Development (OECD) basket structure. The OECD basket model is a reference for regulators and operators around the world. The basket for the Pacific provides generalized information for Pacific Island Countries telecommunications markets. It

does not reflect a single country, but a cross-section of information provided by national operators in each country. The basket has been used to analyse residential use of telephones and it found that on average 80% of calls are to local and national fixed lines telephones. It reports that 7% of calls made by consumers are to mobile phones. 13% of calls are international calls, however they account for 46% of telephone revenues. The distributions of telephone calls over the day, shows that: 54% are made in the daytime, 25% in the evenings and 20% on weekends. The tariffs in the baskets are from 11 Pacific Island Countries (PICs) plus a few other countries for reference. Across the PICs there is a wide variation in telephone tariff levels and price structures. Most PICs have very high international telephone call charges that are used to subsidized local calls and services to uneconomic rural areas. The monthly costs of line rentals are low is comparison to developed countries. Most PICs are in need of tariff rebalancing, however, tariffs have not been rebalanced because it is convenient for countries to cross-subsidise rural telephone users from the high profits made from international calls. Only four out of the 11 countries have some form of off-peak telephone call pricings where the tariff differs from off-peak to peak periods. Many countries have changed the prices of their services (tariffs) over the last year (2004).

An interesting result of this study is that on average 46% of the total expenditure by residential users is for international telephone calls. There is no data on the percentage of total cost of international calls made by private sector enterprises.

D. Comparison of Pacific Island Country Tariffs with Other Countries

The 2003 Halvor/Teligen study found that PICs telephone tariffs are more expensive than OECD countries especially for international and national long distance calls. The PICs telephone charges for line rentals and local calls are generally cheaper than OECD countries. The study compared the Pacific with other developing countries in Eastern Europe and found that in these countries tariffs were also way out of balance with the cost of providing services. A common feature of the East European and PIC tariff structure is very low line rentals, cheap local calls, expensive long distance calls to other parts of the country and very expensive international calls.

E. CASTALIA Strategic Advisors Report

Public Infrastructure Review, October 2004, Report for the World Bank

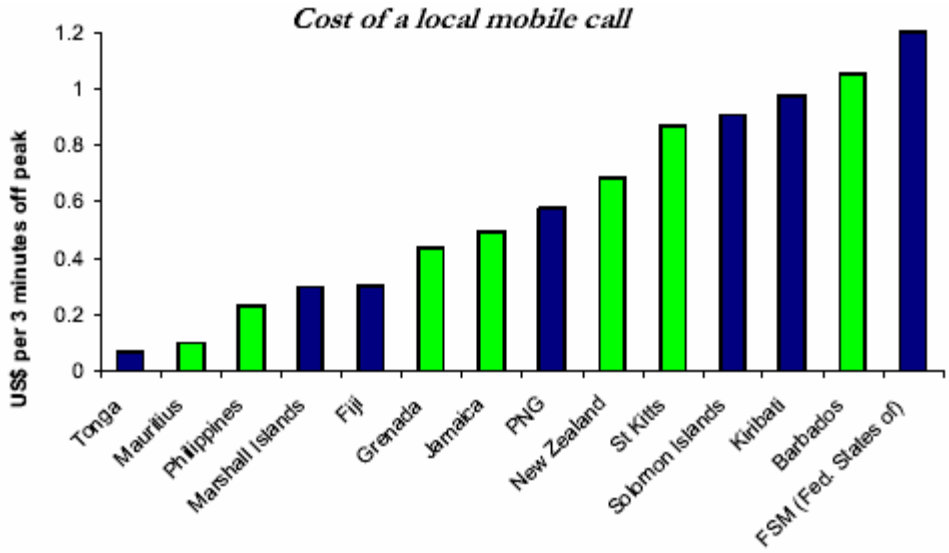
The Castalia Report (2004) covers public infrastructure development in the telecommunications, electricity, water and sanitation, roads, ports and marine transport, airports and civil aviations sectors. With regard to telecommunication sector, it undertook a benchmarking exercise with regard to access, universal access, price, quality, and economies of scale. The study notes that the Pacific Islands region is diverse but the countries face some common problems. Only PNG and Fiji Islands are connected to submarine cable systems. The other countries rely on satellite communications systems for international communications. Castalia Report (2004) notes that satellite communications is expensive compared to the cable systems. In addition, electric power which is required for running telecommunication equipment is expensive to purchase, unreliable and in rural areas it is sometimes unavailable. Castalia Report (2004) finds that the PICs have failed to follow the international trend of deregulation, liberalization, increase private sector involvement and in some PICs , the establishment of independent regulatory bodies. In other parts of the world, deregulation has lead to rising access levels and falling costs of international telephone calls. In comparison, most PICs still have government owned monopoly providers and there is little competition or choices for consumers. Castalia Report (2004) notes that the two exceptions are Tonga and Samoa. Both these countries have partial deregulated their telecommunication sectors. Competition has led to substantially lower prices and an expansion of demand for services. These countries are discussed in more details as case

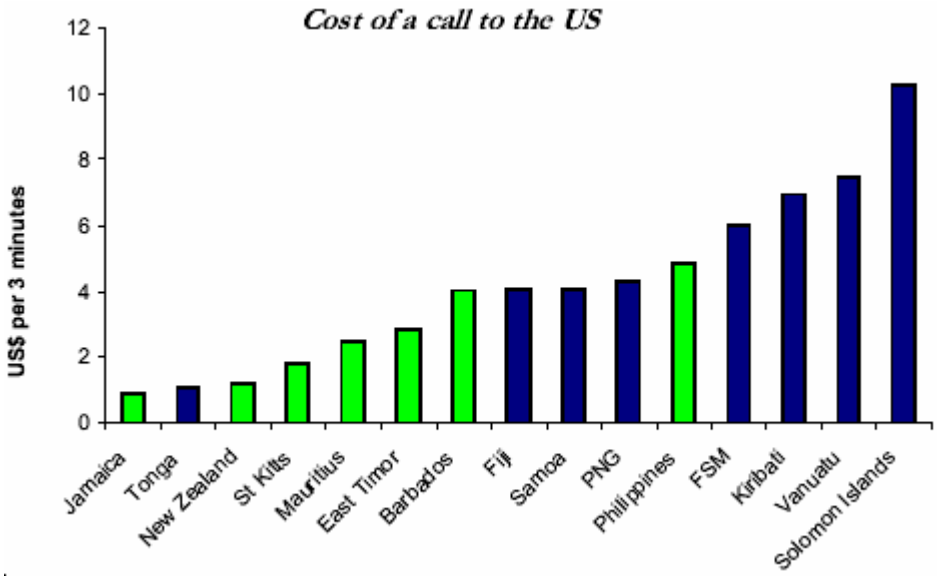
studies in this report in sections III.A and III.B.

With regard to price, the Castalia Report (2004) presents the following graphs to show that many PICs have high international telephone tariffs but local and mobile call charges are similar to comparator economies. Castalia Report (2004) finds that Vanuatu has significant higher rates for local telephone calls. Telecom Vanuatu Limited has a very different price structure for local and regional calls. It has a single fixed-line plan for all business and residential consumers and applies one charge rate for all calls nationwide without any distinction for the calling distance. Local and national calls are all priced the same. The result is that long distance calls within the country are relatively cheap but local calls are expensive. Castalia Report (2004) states that the two countries that have deregulated – Samoa and Tonga – have the lowest rates for local phone calls. Samoa has the lowest rate followed by Tonga. Of the PICs, Tonga has the lowest international calling rates, and Solomon Islands, Kiribati and FSM have some of the highest international calling rates (Castalia Report (2004). The report notes the international trend in mobile and international telephony has been that call charges have fallen significantly with the introduction of competition. Of particular interest is the experience of the Caribbean island nations that have many similarities to the PICs. Liberalisation and the introduction of competition in the Caribbean have led to a substantial reduction of call charges. The Caribbean experience is reviewed in section III.D. of this report. The Castalia report also notes that Tonga is the only PIC with competition in the mobile phone sector and the competition has resulted in the lowest mobile phone call cost in the PICs.

The Castalia Report (2004) found that the cost to consumers of Internet services in the Pacific Islands is higher than most similar countries elsewhere. The Solomon Islands is reported to have the highest monthly Internet charges. The Castalia Report (2004) found that Fiji Islands, Samoa, Kiribati, Tonga and Vanuatu have higher Internet charges than most comparator countries.

Interestingly, the Castalia Report (2004) found that in Samoa, the introduction of competition between the three competing Internet service providers has resulted in a price reduction of 50% in the incumbent ISP and an increase of over 100% in Internet usage. This Castalia Report (2004) observation of Samoan consumer reaction to a reduction in the price of Internet services, demonstrates that the price elasticity of demand for Internet use has a value of 1 or has unitary price elasticity of demand. The Castalia Report also notes that within a year of introducing competition for mobile services, the tariff for almost all services dropped by more than 20% and the number of mobile subscribers and Internet users doubled.





Source: Castalia Report based on ITU 2002 data.

III. CASES OF TELECOMMUNICATIONS SECTOR LIBERALIZATION

A. Tonga Case Study

1. Introducing Telecommunications Sector Competition in Tonga

The deregulation of the telecommunications sector in Tonga provides a very relevant case study of the impact of competition on call charges and telephone usage.

Like most Pacific Island countries, the Kingdom of Tonga, had for many years one monopoly, government-owned telecommunications provider. Now in 2005, it has a competitive market that is efficiently providing consumers with the lowest cost calls in the Pacific Islands. Its experience with liberalization clearly demonstrates that competition can produce significant economic benefits even in a small island country like the Kingdom of Tonga.

2. Tonga Communications Corporation

Tonga Communications Corporation (TCC) was established on the 5th of February 2001 as a Public Enterprise. TCC is governed by a Board of Directors chaired by HRH Prince 'Ulukalala Lavaka Ata. At present the Government of Tonga is the sole shareholder, but there is a plan to invite prospective shareholders to invest in this entity in the future. (TCC Website,2005)

The Company provides a range of local and international voice and data services via a fixed copper network and a GSM cellular network. The Company also provides a variety of Internet and leased-line services. TCC's mission is to provide cost effective, quality telecommunications services to all of the people of Tonga. Local and international telecommunications services are provided by Tonga Communications Corporation (TCC). It also operates the ISP Kalianet and a GSM network U-Call Mobile, which it launched in 1991.

The telecommunications sector was deregulated in Tonga in 2002, when a new competitor, TonFon entered the market and started to compete with the government owned, Tonga telecommunications Corporation that had a monopoly on all telecommunications.

Shoreline Communications trading the name; TonFon, was awarded a license to provide mobile services and launched a GSM service in August 2002, providing mobile coverage across Tonga's main islands and a wireless home phone service. Shoreline Communication Ltd., which is based in Tongatapu is the parent company of Tonfon Tonga, Tonfon Vava'u, Tonfon Ha'apai and Tonfon Eua. These businesses all manage voice, data and video transactions. Voice transactions include the sale of mobile packages, the sale of phone cards, the sale of simm cards and the sale of Home phone packages. Data service is the sale of Internet access packages

"The result of competition has been that "telephones are easier to get, cheaper to buy and communication is faster". It has also resulted in the two competing companies upgrading their infrastructures for further use in communications and broadcasting.

In a speech in Geneva earlier this year, the Tongan Prime Minister emphasized that the country's vision for ICT is driven both by local market parameters, recognition that the information economy transcends national borders and interests. Expanded connectivity in Tonga will help to stimulate domestic growth and greater participation in an international economy. This recognition has been an important driver of telecommunications market liberalization in Tonga."

3. Impact of Competition on Mobile Services

Within a year of introducing competition for mobile services, the tariff for almost all services dropped by more than 20% and the numbers of mobile subscribers and Internet users both doubled.

4. Tonfon Enters the Market

Tonfon: "The objective of the company in involving itself in the telecommunications sector is to establish, a technologically competitive communications infrastructure that will offer for the people of Tonga, a wide range of quality telephony and value-added communications services. Moreover, the company will provide these services at the most competitive rates whilst assuring financial balance for its shareholders" Quoted from the Tonfon website.

Call Rates

Tonfon rates are as follows:

TYPE OF CALL	$ PRICE (PER MINUTE)
Local Tongatapu	0.04
Local - interisland	0.10
International	0.70

Mobile Services

Tonfon offers the best mobile services at the lowest rates anywhere in the South Pacific.

Package Plans

Recognising that customers have different demands, Tonfon offers packages that cater for all customers.

Our current package deals:

CELLULAR PHONES	$ PRICE	INCLUDES:	INCLUDES:
Motorola Full	295.00	20 Phone Card	SIM Card
School Kids Motorola Special	95.00	20 Phone card	SIM Card
Buy 1 Get 1 Free Special	190.00	2*20 phone card	SIM Card
Buy in Threes Special	240.00	3*20 phone card	SIM Card

Value-Added Services include: Caller non-ID, Caller ID, Voice Mail, Balance Update
With a Tonfon Mobile you can check your account balance 24 hours a day by simply ringing 875-2222. This function allows all Tonfon users to know their balances anytime, anywhere.
Call Divert, Call Waiting Text Messaging Call Rates.

Tonfon Mobile Services rates:

TYPE OF CALL	$ PRICE (PER MINUTE)
Domestic	0.10
International	0.70

Tonfon's International Calling Card

Tonfon International Calling Cards enables customers to make calls from New Zealand, Australia and the USA to families and friends in Tonga.

Cost Savings

Calls from the USA to TONGA are as cheap as $0.25 cents per minute, any time of the day.

- Calls from AUSTRALIA and NEW ZEALAND are $0.65 cents per minute, any time of the day.

International Calling Cards denominations are as follows:		
Australia	New Zealand	USA
$ 10.00	$ 10.00	$ 10.00
$ 20.00	$ 20.00	$ 20.00
$ 50.00	$ 50.00	$ 50.00

International Telephone Calls

(Rate based on 60 seconds per timing block)

SERVICES/FROM TONGA	TO	PEAK TIME	OFF-PEAK TIME
International Subscriber Dialing (ISD), U-Call and Pre-paid Card Services	USA, Australia, NZ and Pacific Islands (Band 1)	$0.80 per minute	$0.75 per minute
	Asia/Europe and rest of the World (Band 2)	$1.00 per minute	$0.80 per minute

(Off peak time for international calls - 2300 hrs until 0800 hrs next morning every day)

TCC's Local and National Network Calls

FROM	TO	PEAK TIME	OFF-PEAK TIME
TCC Fixed Line	TCC Fixed Line Local	$0.06	$0.04
TCC Fixed Line	TCC Fixed Line National	$0.26	$0.24
TCC Fixed Line	U-Call (Local)	$0.18	$0.15
TCC Fixed Line	U-Call (National)	$0.38	$0.35
TCC Fixed Line	TonFon Cellular Ntwork (Local)	$0.18	$0.15
TCC Fixed Line	TonFon Cellular Ntwork (National)	$0.38	$0.35
TCC Pre-Paid Card	TCC Fixed Line (Local)	$0.07	$0.05
TCC Pre-Paid Card	TCC Fixed Line (National)	$0.30	$0.25
TCC Pre-Paid Card	U-Call (Local)	$0.25	$0.20
TCC Pre-Paid Card	U-Call (National)	$0.45	$0.40
TCC Pre-Paid Card	Tonfon Cellular Network (Local)	$0.25	$0.20
TCC Pre-Paid Card	Tonfon Cellular Ntwork (National)	$0.45	$0.40
TCC U-Call Cellular	Fixed Line (Local)	$0.18	$0.15
TCC U-Call Cellular	Fixed Line (National)	$0.38	$0.35
TCC U-Call Cellular	U-Call (Local)	$0.18	$0.15
TCC U-Call Cellular	U-Call (National)	$0.38	$0.35
TCC U-Call Cellular	Tonfon Cellular Network (Local)	$0.18	$0.15
TCC U-Call Cellular	Tonfon Cellular Ntwork (National)	$0.38	$0.35
TCC Fixed Wireless Network	Fixed Line (Local)	$0.06	$0.04
TCC Fixed Wireless Network	Fixed Line (National)	$0.26	$0.24
TCC Fixed Wireless Network	U-Call (Local)	$0.18	$0.15
TCC Fixed Wireless Network	U-Call (National)	$0.38	$0.35
TCC Fixed Wireless Network	Tofon Cellular Network (Local)	$0.18	$0.15
TCC Fixed Wireless Network	Tonfon Cellualr Ntwork (National)	$0.38	$0.35

(Off Peak Time for local and National calls - 1901 hrs – 0700 hrs the next morning everyday.)

Internet Plans and Competition

Kalianet provides two plans for the dialup customers as shown below. For a new account a

setup fee of $30 must be paid plus your chosen plan.

Unlimited Access Plan:

- $40/Calender Month. You will be given an Internet connection and a Kalianet Email address.
- This plan is suitable for Internet access. You can use the Internet/email for as long as you like for that paid month.

Limited Access Plan:

- $20/2hours/Month. Access usage over 2hrs will be charged for $10/hr. You will be given an Internet connection and a Kalianet email address.
- This plan is suitable for email use.

The Tonga experience with deregulation clearly demonstrates that substantial economic benefits can be gained from introducing competition into the telecommunications market of a small Pacific Islands country. The same type of economics benefits for consumers could also be achieved in other Pacific Island countries if they take the necessary steps to open their markets to competition.

B. Samoa Case Study

Samoa has been selected as a case study because it has commenced the process of liberalisation. Table 5 shows that Samoa had 13,278 fixed-line telephone customers in 2003 and an annual revenue of US$15.3 million. In Samoa, the introduction of competing ISPs in 2003, resulted in a price reduction of 50% in the incumbent ISP and an increase in Internet traffic of over 100%.

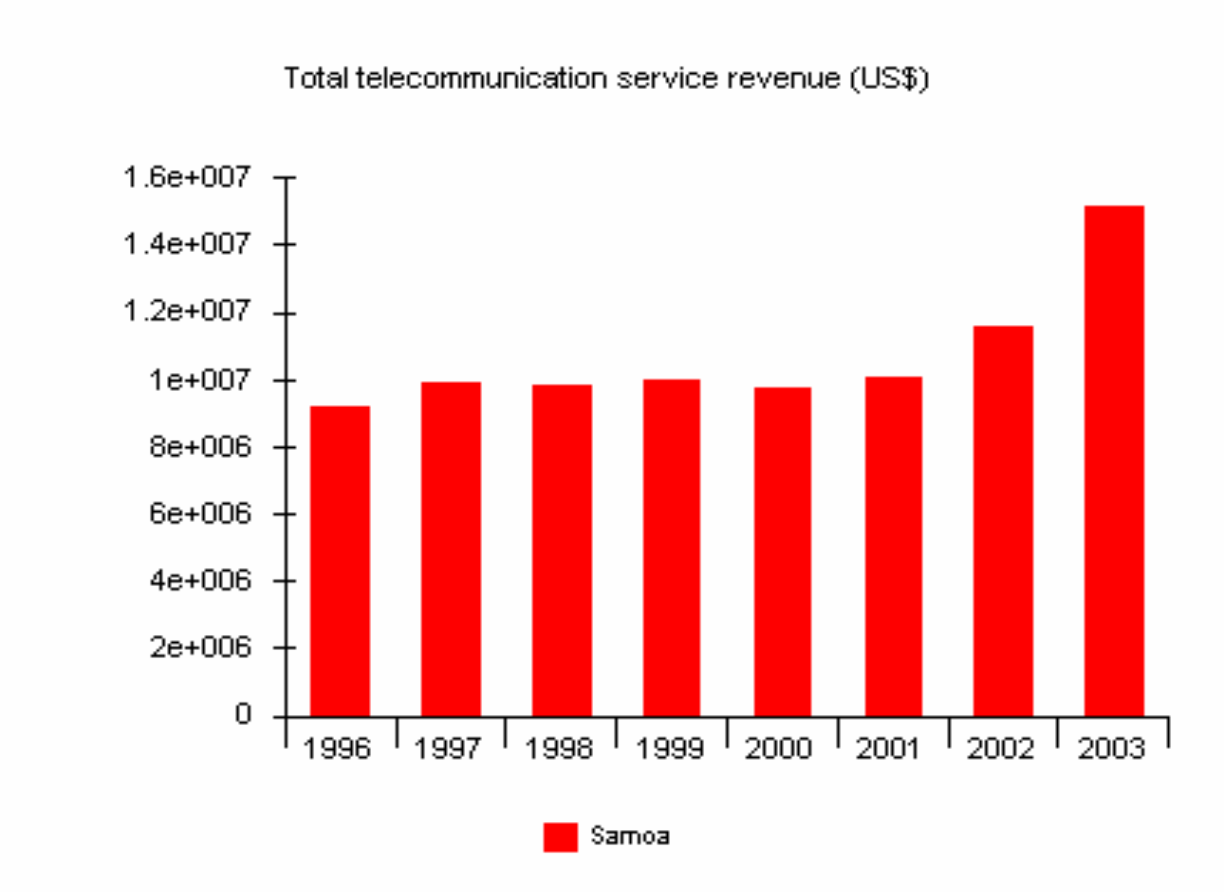
1. Internet Competition

ICT development in Samoa is growing. There are currently 3 Internet Service Providers in Samoa and all are located in Apia. The Ministry of Communications and Information Technology, recently granted approval for a further ISP to be established in Savaii, to serve the limited, although growing, customers of the island. The total of Internet cafes has also increased over the last year. Notwithstanding the fact that these facilities tend to be concentrated around the urban area of Apia, there is indication that the public now not only has better access to, but a wider choice of which Internet/email services to use. With the World Bank reform project underway and the commitment of the present Government towards strengthening and improving the telecommunications sector.

Table 5: Samoan Telecommunications Data

SAMOA	2000	2001	2002	2003
Total telecommunication service revenue (US$)	9726444	10057471	11568047	15151515
Cellular - cost of 3 minute local call (peak) (US$)	..	0.258621	0.266272	..
Cellular mobile telephone subscribers (Total)	2500	2500	2700	10500
Cost of a local 3 minute call (peak rate) (US$)	0.033435	0.031609	0.032544	0.037037
International outgoing telephone traffic (minutes)	12000000	13745617	7297975	7430381
International incoming telephone traffic (minutes)	..	12907841	19030486	19708750
Internet subscribers	300	1000	1320	..
Internet users per 100 inhabitants	0.565457	1.679731	2.217295	..
Main telephone lines in operation	8520	9670	11786	13287
Main telephone lines per 100 inhabitants	4.817697	5.414334	6.533259	7.292255
Annual investment for telephone service (US$)	..	..	3488166	3367003
Business telephone connection charge (US$)	25.83587	24.42529	25.14793	28.61953
Business telephone monthly subscription (US$)	3.039514	4.310345	4.43787	5.050505
Cellular connection charge (US$)	37.99392	35.91954	36.98225	..
Cellular monthly subscription (US$)	9.118541	8.620689	8.87574	..
Number of local telephone (minutes)	..	..	7149346	8200856
Residential monthly telephone subscription (US$)	4.55927	2.873563	2.95858	3.367003
Residential telephone connection charge (US$)	18.23708	17.24138	17.75148	20.20202

Source: International Telecommunications Union (ITU) Database (http://www.itu.int).



Source: International Telecommunications Union (ITU) Database (http://www.itu.int).

Country Profile

Capital	Apia	**Waiting List for Telephone Lines**	5,100
Area	2,934 sq. m.	**Cellular Subscribers**	8,513
Population	176,848	**Prepaid**	6,036
Currency	Tala	**Post-paid**	2,477
Urban Population	20%	**Internet Subscribers**	3,000 approx.
GDP	ST$733 million	**Total International Outgoing Traffic**	17,985,926 minutes
GDP per Capita	ST$5,406	**Total International Incoming Traffic**	17,924,958 minutes
Telephone Density:		**Network Digitisation:**	
Overall	7.8	**Switching**	100%
Rural	2.2	**Transmission**	All international circuits
Main Telephone lines:			All Inter-Exchange links
Urban	10,039		
Rural	3,896		

Government Department Responsible for Telecommunications

Ministry	Ministry of Communications and Information Technology
Address	1st Floor, CA & CT Plaza Savalalo, Private Bag, Apia, SAMOA
Telephone	(+685) 24 117
Facsimile	(+685) 24 671
E-mail	palu@samoa.ws
Minister	Hon Palusalue Faapo II

Source: APT Yearbook 2004 SAMOA.

In Samoa, mobile technology has been effective in helping the incumbent operator, SamoaTel, meet its universal service obligation. SamoaTel may not provide mobile services, (an exclusive license has been awarded to Telecom Samoa Cellular), but the company has used GSM technology to create wireless local loop networks in remote villages. People are able to use wireless handsets to make calls from within the village, but the handsets will not work outside of the village. Although the use of this technology is currently being disputed by Telecom Samoa Cellular, which believes this to be a contravention of its exclusive license, it has proved to be a cost effective way of extending basic services to these communities.

The Samoa case clearly demonstrates that even in small island countries, the introduction of competition between Internet service providers can result is significant economic benefits to consumers.

C. New Zealand Case Study

New Zealand's (NZ) experience with liberalisation provides solid evidence of the substantial benefits to be gained from competition. The information in this case study is taken from the website of the NZ Ministry for Economic Development.

“Up until 1988 the New Zealand Post Office had a statutory monopoly in the provision of public telecommunications services in New Zealand. The New Zealand Government comprehensively reformed the telecommunications regulatory environment over the period 1987-89. The aim of the reform was to improve the industry's economic performance and increase consumer benefits by creating competitive, open entry telecommunications markets supported by general competition law.

On 1 April 1987 a new State-owned Enterprise (SOE), Telecom Corporation of New Zealand Ltd was formed, by the separation of the telecommunications element of the Post Office from its postal and banking arms. The regulatory and policy advice functions of the former Post Office were transferred to the Department of Trade & Industry (now the Ministry of Commerce). Between 1 October 1987 and 1 April 1989 the supply of customer premises equipment was progressively deregulated. On 1 April 1989, all legal restrictions on telecommunications services market entry were removed. Telecom was privatised in September 1990, and competition in telecommunications services developed from 1991 with the signing of the first interconnection agreement.

Key benefits of telecommunications deregulation have been:

- Substantial price reductions for telecommunications consumers;
- Improved service availability, in terms of access to new services, fault service response, and new service installation times;
- Ongoing investment in the New Zealand telecommunications market. Particularly from BCL, Clear, Global One, Saturn, TeamTalk, Telecom NZ, Telstra NZ, Vodafone (formerly BellSouth NZ) and WorldxChange;
- The development of competition in the provision of leased circuits and data services, cellular service, long distance calls and freephone service;
- The development of competition for business telephone services in metropolitan business centres and in 1998 for residential telephone service in the Wellington area.

In the late 1970s and early 1980s New Zealand's economic performance declined significantly. A significant period of economic reform followed focusing on the removal of protection and the development of competitive markets. As part of this reform process in the 1980s, it was clear that export diversification and import substitution alone would not be enough to restore the New Zealand economy to its former strength. In particular, it was recognised that the so-called non-(internationally) traded goods sector, was not subject to significant economic pressures to perform. A number of studies highlighted the need for improved efficiency in such areas to assist economic recovery.

The New Zealand Post Office was a key public enterprise in the mid 1980s and included telecommunications, banking and postal operations. In 1984, it was New Zealand's largest single employer, with 41,000 staff. A review in 1985 (the Mason/Morris report) highlighted the inadequacies of the existing organisational structure, recommending that the Post Office be re-organised into specific business units. In the telecommunications area, opening up enhanced services and the customer premises equipment markets to competition were recommended.

Telecom commenced business as a separate corporation on 1 April 1987 with 26,500 staff. Regulatory and policy advice functions and management of the radio frequency spectrum were transferred to the Department of Trade & Industry (now the Ministry of Commerce).

In 1987, the Touche Ross report, commissioned by the Government, identified a need for considerable improvement in Telecom's operations. For example, the report highlighted that the corporation was engineering rather than market-driven, did not achieve a level of efficiency comparable to the best practice of overseas telephone companies, and Telecom's management systems were inadequate.

The report identified large cross-subsidies between long distance call charges and access (i.e. line rental) charges, meaning that price reductions for toll call services could increase local access charges substantially.

The report concluded that competition in network services was sustainable, provided satisfactory interconnection arrangements could be made. In July 1989, the Chairman of Telecom gave an undertaking that Telecom would ensure that interconnection would be provided to competitors on a fair and reasonable basis.

In September 1990, the Government sold Telecom to a consortium led by Ameritech of Chicago and Bell Atlantic of Philadelphia for New Zealand dollars (NZ$)4.25 billion. The proceeds were used to retire public debt.

Since the telecommunications sector was liberalised, successive governments have taken the view that a market-driven, light-handed telecommunications regulatory framework is an effective means of achieving consumer benefits and efficient economic outcomes.

To maintain conditions of effective competition, the Government placed primary reliance on general competition law, the Commerce Act 1986, in particular those parts of the legislation which deal with misuse of a dominant position in the market and prohibition of business acquisitions which create or strengthen market dominance.

Government policy statements on telecommunications competition have spelt out the general policy, along with a reserved position that, if it proves to be necessary the Government would consider the introduction of other statutory measures or regulation.

Consumers' rights in the supply of telecommunications services are covered by the Fair Trading Act 1986, which prohibits certain conduct and practices in trade and provides for the disclosure of consumer information relating to the supply of goods and services."

Source New Zealand Ministry of Economic Development website.

TELECOM'S RESPONSE TO THE COMMERCE COMMISSION'S ISSUES PAPER 30 MAY 2003 [PUBLIC VERSION]

Internet and Broadband Infrastructures in New Zealand

Dial-Up Internet infrastructures

203. New Zealand has a record of being one of the heaviest-investing countries in Information Communications technologies ("**ICTs**") in the OECD. From 1996 onwards, New Zealand has recorded the highest percentage of GDP spent on ICTs in the OECD.[22] This high relative spend is reflected in very high levels of investment in all technologies. Much of this investment is evident in the current state of the telecommunications infrastructure relative to other OECD countries. In 1993, New Zealand with 95% led the OECD in the proportion of the fixed telephony network comprised of digital lines.[23] New Zealand became the fourth country in the OECD to have a fully digital network (after France, Luxembourg and Iceland) in 1997. Australia did not reach this milestone until 1999, at which stage the US level had reached only 94%.[24] The current high quality levels and wide availability of dial-up and broadband telecommunications networks in New Zealand are a reflection of the levels of investment that have occurred. Whilst it is acknowledged that service quality and availability are in some instances restricted by geographical factors, given New Zealand's challenging topography and its low population density relative to many other OECD countries,[25] New Zealanders on average have access to state-of-the-art telecommunications infrastructure.

204. New Zealand was one of the earliest OECD countries to have widespread commercial access to the Internet. Academic access to NZGate commenced in 1989 and became fully commercially available in 1992.[26] A highly competitive ISP market emerged. This led to an early adoption of dial-up access by both commercial and residential users.[27] In [22] OECD Science and Technology database.

[23] This compares to Australia with 40%, the UK 75% and the US 85% at the same date.

[24] OECD 2001a, *Communications Outlook*, Paris, Organisation for Economic Co-operation and Development Information Society, <http://www.oecd.org>.

[25] Alger, Dan, and Leung, Joanne, *The Relative Costs of Local Telephony Across Five Countries*, ISCR Research Paper, 1999, <http://www.iscr.org.nz/research/>.

[26] Brownlee, Nevil, 1997, *Internet Pricing in Practice*, in McKnight, Lee W.; and Bailey, Joseph P. (eds), *Internet Economics* (Cambridge, Massachusetts: Massachusetts Institute of Technology).

[27] Enright, Christina, *Strategic Behaviour of Internet Service Providers in New Zealand*, Wellington: ISCR, 2000, <http://www.iscr.org.nz/research/>.

Table 6: New Zealand Telecommunications Data

NEW ZEALAND	2000	2001	2002	2003
Total telecommunication service revenue (US$)	1.8E+09	1.75E+09	1.99E+09	3.16E+09
Cellular - cost of 3 minute local call (off-peak) (US$)	0.272727	0.617647	0.680556	0.854651
Cellular - cost of 3 minute local call (peak) (US$)	2.454545	1.62605	1.791667	2.25
Cellular mobile telephone subscribers (Total)	1542000	2288000	2449000	2599000
Cost of a local 3 minute call (off-peak rate) (US$)	..	..	..	..
Cost of a local 3 minute call (peak rate) (US$)	0	0	0	0
Coverage of population (%)	97	97	97	98
International outgoing telephone traffic (minutes)	8.15E+08	6.28E+08	6.24E+08	5.62E+08
International incoming telephone traffic (minutes)	6.11E+08	6.92E+08	9.14E+08	8.29E+08
Internet subscribers	500000	660000	700000	781818
Internet users per 100 inhabitants	39.27109	45.40652	48.43746	52.62895
Main telephone lines in operation	1831000	1823000	1765000	1798000
Main telephone lines per 100 inhabitants	47.46228	46.97848	44.80719	44.84685
Mobile communication revenue (US$)	4.91E+08	5.9E+08	7.06E+08	9.53E+08

Source: International Telecommunications Union (ITU) Database (http://www.itu.int).

D. Eastern Caribbean Case Study

The experience of the Eastern Caribbean states (ECS) (Commonwealth of Dominica, Grenada, Saint Christopher and Nevis, Saint Lucia, Saint Vincent and the Grenadines) provides a very relevant case study for the PICs. In the early 1990s the Eastern Caribbean states were in a similar situation to the Pacific Islands today. At the time, the provision of telecommunications services was undertaken by Cable and Wireless that had a monopoly with an exclusive licence in each country. The ECS governments realised the importance on efficient and cost effective telecommunications and the likely impact that liberalization would have on lowering telecommunications tariff levels and improving the quality of services. They also were aware that to gain the most out of telecommunications deregulation they would have to work together as a group of countries under a regional organisation. In May 2000 they formed the Eastern Caribbean Telecommunications Authority (ECTEL).

> "As the first regional telecommunications authority in the world it is designed to promote liberalization and fair competition, harmonization of regulations and policies across member states, universal service, fair pricing, access to advanced services, and overall sector development."
>
> Source: World Bank – Report on Diagnostic Review October 2001,Meritec Limited 40

The Pacific Island countries should consider the benefits from adopting a similar regional approach to telecommunications liberalisation.

The World Bank provides support to ECTEL. Although the member countries will retain their sovereign power over licensing and regulation, ECTEL will provide technical expertise, advice and support for the creation of coordinated national regulations at the country level. It will promote the introduction and development of harmonized, transparent and objective regulation of telecommunications in the region, working in tandem with new telecommunications bills that will establish a National Telecommunications Commission as the regulatory mechanism for each country.

ECTEL's powers and responsibilities under the treaty include:

- Advising and coordinating with the contracting states and with other states and international bodies regarding telecommunications;

- Recommending regional policies on issues including universal service, interconnection, numbering and pricing, forms and areas of licensing and frequency authorization, methods of standardizing applications procedures, cost-based pricing regimes;
- Recommending license terms and conditions, systems of frequency authorization management, license fee structures, technical standards and procedures for approval of equipment, management systems for and operation of universal service funds;
- Designing and operating open tender proceedings for individual licenses;
- Reviewing all individual license applications made in contracting states;
- Maintaining a harmonized regional radio spectrum plan and managing radio spectrum and frequency authorization;
- Mediating or issuing opinions on disputes between licensees; and
- Monitoring, in collaboration with states, the effectiveness of the service"

Source: World Bank – Report on Diagnostic Review October 2001; Meritec Limited 40

1. Eastern Caribbean Telecommunications Authority (www.ectel.int)

The paragraphs below contain information from the Eastern Caribbean Telecommunications Authority (ECTEL) website:

"ECTEL - The Eastern Caribbean Telecommunications Authority was established by the Governments of five Eastern Caribbean states to promote market liberalization and competition in telecommunications of the contracting states.

ECTEL is regional agency that provides advice and makes recommendations on telecommunications matters and helps to manage the sector in its member states. The organization's headquarters is located in Castries, Saint Lucia.

It is supported at the national level in each member state by a National Telecommunications Regulatory Commission (NTRC) that interfaces with users and providers and helps to manage the licensing process.

Its website provides a useful resource for understanding the structure, management and operations of the telecommunications in the ECTEL Member States. Its pages contain links to the NTRCs, copies of legislation and regulations governing the sector, procedures and guidelines for applications and licensing, information on spectrum management and numbering, and answers to frequently asked questions.

In the 1990s the countries of the Organisation of Eastern Caribbean States (OECS) were not earning as much as they needed from their traditional sources of revenue –agricultural exports, light manufacturing and, to a lesser extent, tourism. They needed to diversify their economies into areas that were compatible with their resource base, while at the same time not heavily dependent on subsidies or preferential market access. A natural choice was to expand trade in services, including tourism, telecommunications and entertainment, which at the time were the fastest growing industries worldwide and which promised even better growth in the future. However, the governments realised that there were several factors inhibiting the growth of the service sector in the islands and many of these were linked to telecommunications – limited access to infrastructure, high costs of telecommunications services and a shortage of trained personnel in the field.

At that time, the provision of telecommunications services was the sole preserve of Cable & Wireless, which held exclusive licenses in all of the OECS. These licenses would expire at different times – as early as 2001 in St. Lucia, and as late as 2024 in St. Kitts and Nevis. Once they understood the economic potential of telecommunications and the benefits for their countries, the next step for the governments was getting sound advice on how to go about

changing the environment in which the leading, and in most of the countries, sole provider of services operated. Licence agreements and telecommunications laws had to be changed and improved to enable the governments to achieve their goals, particularly that of opening up their respective sectors to new companies to compete with the existing company that had been operating alone for a very long time -- in some cases 125 years.

2. Preparing for Liberalisation

In preparation for liberalisation the five OECS states would obtain a loan of US$6 million from the World Bank (and chipped in with a further US$4 million of their own money) to pay for the expert advice and support services required to change the laws, licences, agreements and tariffs; organise discussions with individuals, groups and institutions that would be affected by the changes; and set up new bodies to regulate the new environment and ensure that one competing provider did not gain an unfair advantage over the other. That careful process of preparation became known as the OECS Telecommunications Reform Project (TRP) and it commenced in 1998.

Very early, the OECS governments knew that if they were to get the most out of telecommunications liberalization they would have to work together. At a meeting in Dominica on May 28, 1999, Ministers Responsible for Telecommunications approved a policy document promising that, "they (member countries) will cooperate and work together on a regional basis to achieve the aims." One of the issues common to the member countries was getting the appropriate regulation right, so that old and new investors in the sector would not be in a position to take advantage of the governments (by playing one against the other),

the customers would not have to experience high prices and poor service, and that companies would not deliberately depress tariffs and prices to ruin each other (anti-competition). Therefore, the Ministers also agreed that, "an independent regional regulatory body will be created to coordinate, advise and harmonise broad policy directives for the region, which will then be implemented by a regulatory unit in each member country."

The regional body envisaged by the governments came to be known as ECTEL, established by a treaty on May 4, 2000. One can say that the process of telecommunications liberalisation in the OECS began with the establishment of ECTEL, which ended the (TRP). ECTEL gave a formal structure to the process, led by the Council of Ministers and advised by a Board of Directors. The Treaty binds "contracting states" together through a regulatory body that advises on broad issues, such as licence application and tender procedures, setting of fees, tariffs, assessment of technical matters, and mediation of disputes. The liberalisation model chosen by the OECS has assured the participation of all stakeholders – politicians, dominant company, policy-makers, new investors and the public. Consultation and negotiation have lessened the use of courts-of-law, which can be very costly in terms of time and money, in the settlement of disputes over licences and regulation."

Source: Eastern Caribbean Telecommunications Authority website www.ectel.int

IV. COST/BENEFIT ASSESSMENT OF TELECOMS LIBERALIZATION FOR FICS

A. Quantifying the Economic Benefits to Consumers

This study applies a cost benefit analysis approach to identify the economic impacts of the introduction of competition in the telecommunication markets of FICs. Our approach involves assessing the likely impact of competition on the telecommunications market in each FIC. The analysis is based on two scenarios. The first scenario assumes that the telecommunications markets remain as a monopoly with the current tariff structure prevailing over the next five

years. The second scenario assumes that the markets have been opened up and new competitors have rapidly entered the market and engaged in strong price competition with the former monopoly provider. Based on the case studies reviewed in section III of this report, we predict that the international telephone call charges will fall by 50% and international mobile charges will also fall by 50%.

The benefits to consumers come from the lower call charges for each call that they make. If call charges drop by 50% then the consumer has saved 50% on making each telephone call. This is a real economic benefit to the consumer and can be measured in dollar terms. Following a reduction in call charges, consumers will be motivated to spend more time on calls and to make more calls now that they are cheaper. Economists have developed a method of measuring in dollar terms the economic benefits that result from a decline in the price of telephone calls. The measure is called consumer surplus and the amount of consumer surplus is affected by the responsiveness of consumers to price changes called the price elasticity of demand. The main economic benefit to consumers from deregulation is the consumer surplus they would receive from tariff reductions for international calls. Our analysis assumes that competition would lead to an average of 50% reduction in all international ICT activities in all countries except Tonga and Samoa. In Samoa, the partly deregulated ICT market has already had a positive impact. In Samoa the introduction of competition between the three competing Internet service providers resulted in a price reduction of 50% by the incumbent ISP and an increase of over 100% in Internet usage. We predict the international ICT charges would decline by a further 20% in Samoa compared to 50% in the other FICs.

1. Method of Calculating Benefits to Consumers from Deregulation

The following eight steps or procedures were applied to calculate the economic benefits to consumers:

1. Step 1 involves developing two scenarios.

   Scenario No1 assumes the telecommunication markets remain in the current monopoly status.

   Scenario No 2 Assumes the markets are fully deregulated. The assumptions of each scenario are specified and defined.

2. Step 2 involves extracting data from the International Telecommunication Union and annual reports of telecoms on total telecommunications revenue, convert it to United States dollars and in some cases make estimates based on projections from historical trends to bring the data to the year 2004. Table 7 below shows the total telecommunications revenue for each FIC. Where data was not complete the consultant made a forecast based on earlier year's data and supplemented by information contained the annual reports of the telecoms in Fiji Islands and Solomon Islands.

Table 7: Total Telecommunications Revenue
(US$ millions)

TOTAL TELECOMMUNICATION SERVICE REVENUE	1999	2000	2001	2002	2003	2004
Fiji Islands	70.05	87.56	88.16	104.00	116.23	120.70
Kiribati	4.91	4.28	4.15	4.20	4.30	4.40
Marshall Islands	5.60	6.10	5.97	6.66	6.40	6.60
Micronesia (Fed. States of)	10.60	10.95	11.00	12.00	11.00	12.00
Nauru	..	..	..	..	..	1.50
Palau	..	..	..	..	..	8.01
Papua New Guinea	72.98	79.15	..87.01	95.77	105.34	115.88
Samoa	9.97	9.73	10.06	11.57	15.15	16.00
Solomon Islands	14.05	11.99	12.09	..	8.34	11.57
Tonga	4.32	4.73	5.20	5.72	6.20	6.92
Tuvalu	1.17	1.12	1.20	*..1.30*	*1.40*	1.50
Vanuatu	11.82	11.79	12.24	*12.74*	*13.24*	*13.74*

Source: International Telecommunications Union (ITU) Database (http://www.itu.int) and consultant estimates.

3. The third step involves estimating the amount consumers spent in 2004 on international fixed line and mobile telephone calls and Internet expenses. Because no data is available from each individual country, it was necessary to make an estimate of the likely level of international revenue for each country based on the Fiji Islands ratio of international revenue to total telecommunications revenue. More publicly available financial data is available about the Fiji Islands telecommunications market than other FICs. It is contained in the annual reports of Amalgamated Telecom Holdings Limited (ATH), a publicly listed company on the South Pacific Stock Exchange and in the annual reports of FINTEL. The Fiji Islands ratio of 29% was applied to other countries to derive an estimate of consumer spending on international telecommunications services. Estimating the amount of consumer spending on international telecommunications is also made complex by the systems used by telecoms for sharing revenue for incoming and outgoing telephone calls by sending and receiving telecoms. In all FIC s, the number and volume of incoming international telephone calls greatly exceeds the number and volume (measured in minutes) of outgoing calls. In most FICs international incoming traffic is more than double international outgoing traffic. The telecoms earn considerable fees from incoming traffic although the amount of income derived from outgoing traffic exceeds that derived from incoming traffic. The difference between outgoing and incoming telephone traffic is illustrated for Fiji Islands and the Solomon Islands in the Tables 8 and 9 below.

Table 8: Fiji Islands, Outgoing and Incoming Telephone Traffic
(minutes)

FIJI ISLANDS	2000	2001	2002
International outgoing telephone traffic	15025000	19700000	23165038
International incoming telephone traffic	40385000	57000000	67959344

Table 9: Solomon Islands, Outgoing and Incoming Telephone Traffic
(minutes)

SOLOMON ISLANDS	1999	2000	2001
International outgoing telephone traffic	1912000	2996647	5907270
International incoming telephone traffic	3646556	6648912	..

In the case of Fiji Islands, our calculation of the consumer surplus is based on the tariffs that prevailed in January 2005 before the announced tariff rebalancing exercise that is being contested in the courts by FINTEL. Our estimate of the consumer surplus is close to the consumer surplus that will result from the full implementation of the new Commerce Commission Tariffs (see Appendix 4). In Fiji Islands the international calls reduction recommended by the Commerce Commission will reduce international tariffs by an average of 55% compared to the 50% that we apply in our analysis. The Commerce Commissions 55% reduction of international calls was recommended after extensive study and it supports to 50% figure that we have applied to FICs in this study.

Table 10: Total Telecommunications Service Revenue

TOTAL TELECOMMUNICATION SERVICE REVENUE (US$ MILLIONS)	2003	2004	INTERNATIONAL EXPENDITURE	CONSUMER'S SURPLUS
Fiji Islands	116.23	120.70	35.00	26.25
Kiribati	4.30	4.40	1.27	0.95
Marshall Islands	6.40	6.60	1.91	1.43
Micronesia (Fed. States of)	11.00	12.00	3.48	2.61
Nauru		1.50	0.43	0.32
Palau		8.01	2.32	1.74
Papua New Guinea	105.34	115.88	33.60	25.20
Samoa	15.15	16.00	4.64	1.39
Solomon Islands	8.34	11.57	3.35	2.51
Tonga	6.20	6.92	2.00	0.00
Tuvalu	1.40	1.50	0.43	0.32
Vanuatu	13.24	*13.74*	3.98	2.98

4. Step 4 involves calculating the likely impact of competition on tariff level reduction. This study estimates that cost of international telephone calls is likely to decline by at least 50%. This estimate is based on the experience of Samoa and Tonga. It is also based on the fact that all FICs telecoms charges for international calls are high by international standards. The only exception is Tonga where the cost of international calls is now equivalent to comparator countries. This study expects the competition in international telecommunications in each of the Forum Island Countries will result in a sharp decline in tariffs as has occurred in the Kingdom of Tonga.

   It is important to note that our analysis assumes that all the new entrants to the national telecommunications market are required to make a contribution of 10% of their revenue to a government operated universal service fund.

5. Step five involves estimating the price elasticity of demand for international telecommunications. Once again the experience in Samoa has been used to estimate the price elasticity of demand. **Price elasticity of demand** is the degree of responsiveness of demand for a product or service due to a change in the price of that product. The price elasticity of demand can be elastic, inelastic or have unit elasticity. The total revenue received by the suppliers would remain unchanged if the elasticity of demand is unitary.

   Appendix 1 in this report contains a bibliography of research studies that have been published on the price elasticity of demand for telecommunication services. It is reproduced from an August 2003 report prepared for the New Zealand Commerce Commission entitled: ***Review of Price Elasticities of Demand for Fixed Line and Mobile Telecommunications Services***. This NZ report provides an excellent review of the research studies on price elasticity. Table 11 and 12 are reproduced from the NZ Commerce Commission report. Table 11 provides a summary of the range of price

elasticities for the different telecommunications services. It is interesting to note that for some services the range of elasticities is wide reflecting the different country demand factors. It shows international telephone call elasticities range from -0.3- to -1.54.

Table 12 is from the World Bank Telecommunications Regulatory Handbook (2000).

The World Bank developed these estimates of price elasticity of demand on the basis of Taylor's review of elasticity research studies (1980,1994) and other studies. The elasticity for international telephone calls of -0.9 (+ or – 0.30) is very close to the elasticity of unity that we used this study to calculate the consumer surplus.

There have been no published research studies on the price elasticity of demand for telecommunication services in the Pacific Islands. The Samoa case study shows that when Internet charges were reduced by 50% the usage doubled. This reflects a unitary price elasticity of demand. Total revenue to the providers would remain unchanged. In calculating the consumer surplus shown in Table 10, we have assumed a unitary level of price elasticity of demand for all international ICT expenditure by consumers, based on the World Bank Regulatory Handbook recommended elasticity and the Tonga and Samoa case studies information on price elasticity of demand discuss in section III.A. and III.B. We have calculated the consumer surplus resulting from a 50% reduction in international tariffs by applying the unitary price elasticity of demand to the price reduction.

Table 11: Summary of Results from Studies Reviewed[a]

PRICE ELASTICITY OF DEMAND	RANGE	
Fixed line connection charge	-0.02	-0.04
Fixed line monthly access charges[1]	-0.02	-0.10
Local calls[2]	-0.04	-0.11
Mobile subscriptions/access[3]	-0.06	-0.54
Mobile originated calls[4]	-0.09	-0.80
Fixed to Mobile	-0.11	-0.80
Mobile access and usage (combined)	-0.41	-0.80
Long distance national	-0.10	-1.55
Long distance international	-0.30	-1.54

[a] Generally excludes outliers and non-comparable studies
Source: NZ Commerce Commission Report: 2003.

Table12: Price Elasticity of Demand, World Bank Regulatory Handbook

TYPE OF DEMAND	CONNECTION	SUBSCRIPTION	LONG DISTANCE
Access	0.03(±0.01)	-0.10(±0.09)	
Local calls		-0.20(±0.05)	
Domestic long distance			
Shorter distance			-0.375(±0.125)
Medium distance			-0.65(±0.15)
Longer distance			-0.75(±0.20)
International Calls			-0.9(±0.30)

Source: World Bank Telecommunications Regulatory Handbook, 2000.

6. The sixth step involves calculating the increase in consumer surplus resulting from the 50% price reduction of international telecommunication services. **Consumer surplus** is defined as a difference between what a consumer is willing to pay for an additional unit of a good or service and the market price of the good. For the market as a whole, it is

the sum of all the individual consumer surpluses, or the area below the market demand curve and above the market price. The following example is used to illustrate the concept the consumer surplus. Assume the market price for an international telephone call is two dollars per minute and a consumer spends a thousand dollars per year on international telephone calls. Now we assume that the price of the international telephone calls declines from two dollars per minute to one dollar per minute. If the consumer spends the same amount of time as measured in minutes then the cost of making calls would reduce from one thousand dollars per year to five hundred dollars per year and the consumer would have save five hundred dollars. This is an economic benefit to the consumer. However, with the cheaper price for calls the consumer may decide to double the amount of time spent on international calls. The consumer in this case would spend the same amount on calls of one thousand dollars per year. The five hundred savings from the cheaper rate would be allocated by the consumer to making more calls. The consumer's expenditure on telephone calls would remain at one thousand dollars per year. The revenue going to the telecom from the cheaper prices would remain same but it would incur additional costs associated with the expansion in demand resulting from the 50% decline in the charge per minute. In this example the economic benefit to the consumer would be the five hundred dollars saved from the calls that he would have made at the higher price plus an additional two hundred and fifty dollars for the savings that the consumer makes on the additional calls. The value of the consumer surplus would be $750. The expenditure by the consumer would remain at $1000 per year. The consumer surplus is a measure of the economic benefit that the consumer receives. It is important to note the revenue ($1000) paid by the consumer to the telecom has not declined. Its costs however, would increase. In this situation, it is the marginal cost of providing expanded services that is relevant in undertaking any cost analysis of the impact on telecoms. Many of the costs of operating a telecom system are fixed costs that do not vary with the growth in output of services.

In calculating the consumer surplus in this study, the 50% reduction in price will result in a total consumer surplus of 75% of the total level of expenditure by consumers on international telecommunications.

7. This step involves aggregating the consumer surplus for each country to give a total consumer surplus for the pacific island countries. Also an estimate has been made of the present value of this level of consumer surplus for each country and for the region for a period of five years. The objective of giving this five-year figure is to give policy makers an indication of the magnitude of consumer benefits that could be achieved in the PICs by introducing competition and making markets contestable.

8. The final step is to undertake some sensitivity analysis on some of the key variables. A critical assumption in our analysis relates to the estimation of the total annual expenditure by residents and tourists on international telecommunications. In our first analysis we used 29% as the ratio of international expenditure by local residents. This is a conservative estimate based on Fiji Islands data. A second analysis is shown in Table 13 . This analysis is based on the assumption that consumer expenditure on international telecommunications accounts for 40% of total telecommunications revenue. In a World Bank study on Samoa, it was found that the total revenue from international operations was 65%-70% in year 1996, but this higher percentage is caused by the much higher level of incoming calls in relation to outgoing calls. An adjustment has to be made to the percentage to take this factor into account.

"Another aspect of the dependency on international settlements is evident in the proportion of total telecommunication revenues derived from the international segment. ***In 1996, some 65 to 70% of total telecommunication revenue was derived from the international segment of the business.*** *This high dependency on international revenue is due to a number of factors. First, the concentrated nature of the population and in-service lines in the capital, Apia, results in a limited amount of revenue being derived from domestic long distance service. Second, the low level of economic development results in a smaller portion of business customers and thereby lower fixed and usage revenue from the business segment. Third, the nature of the overall demographics, with some 100'000 Samoans residing outside the country, and retaining strong family ties with those residing in Samoa, coupled with both the relative difference in income levels and in outbound/inbound price differentials, produces substantial international calling on the inbound routes."*
Source: World Bank Samoa Telecommunications Project Appraisal Report , 1998.

The following quote from the World Bank Study reviews this issue.

> In most PIC, about 66% of the revenue from international calls comes from incoming calls and 34% from outgoing calls. Another complicating factor is that local consumers gain an economic benefit from receiving incoming calls. These calls are of value to them as illustrated by the fact that most consumers are often prepared to accept and pay for reverse charges calls because they value them. Cheaper incoming calls are a benefit to local residents and business firms. Overseas friends and family members residing in countries such as New Zealand and Australia are likely to call more frequently if the cost of incoming calls is reduced.

Table 13

TOTAL TELECOMMUNICATION, SERVICE REVENUE (US$ MILLIONS)	2003	2004	EXPENDITURE ON INTERNATIONAL CALLS, INTERNET	CONSUMER'S SURPLUS
Fiji Islands	116.23	120.70	48.28	36.21
Kiribati	4.30	4.40	1.76	1.32
Marshall Islands	6.40	6.60	2.64	1.98
Micronesia (Fed. States of)	11.00	12.00	4.80	3.60
Nauru	..	1.50	0.60	0.45
Palau	..	8.01	3.20	2.40
Papua New Guinea	105.34	115.88	46.35	34.76
Samoa # 20% price reduction	15.15	16.00	6.40	1.92
Solomon Islands	8.34	11.57	4.62	3.46
Tonga #Nil price reduction	6.20	6.92	00	00
Tuvalu	*1.40*	1.50	0.60	0.45
Vanuatu	*13.24*	*13.74*	5.49	4.11
Total consumer surplus				**90.66**

2. Price Regulation versus Competition

There is clear evidence that the Pacific telecoms have used their market power as monopolists to charge prices for international telephone calls in excess of the level that would prevail if the

markets were open for competition and the monopoly status was transformed into a competitive market status. The problems of monopoly have been recognised for many years and many governments around the world have attempted to apply price regulation to prevent monopolists from exploiting consumers. The Fiji Commerce Commission provides an interesting example of price regulation of the monopoly provision of services by Telecom Fiji, Vodaphone and FINTEL. Later in this report, the recent decision by the Commerce Commission to introduce a new structure of tariffs is discussed. It provides evidence of the degree to which Fiji Telecom's pricing structure required major rebalancing to reflect the costs associated with providing the different services. The Commerce Commission has recommended that the price of international calls be reduced by an average of 55%.

Other Pacific Island Countries could decide to implement a similar form of price control to bring down the cost to consumers of international phone calls.

3. Internal Competition versus External Competition

Competition in Pacific Island telecommunications markets can come from two sources. Firstly new firms could be allowed to establish business operations in the countries themselves. For example, setting up of a second mobile telephone service. This involves the firms' investing in infrastructure, gaining licenses, employing staff and paying local tax. The second form of competition is from outside the country. This form of competition is already present in most pacific island countries where consumers are using call back services or reverse charges calls. There has been a rapid increase in the number of firms offering call back services at much lower rates per minute for international calls. The local providers can also enter the pre-paid phone card market for international phone calls. For example, Tonfon has been very successful in selling telephone cards to Tongans resident in Australia and New Zealand. These overseas Tongans are able to call their family in Tonga using the Tonfon card and making considerable savings. Tonfon is making good revenue out of this telephone card system.

Competition from overseas call back services is deemed to be illegal in most pacific countries but few of them have made any effort to block or prevent the operation of call back service. Consumers can arrange a call back services via the Internet using a credit card to make payment. It may in fact prove very difficult for PICs to regulate the increasingly growing level of international calls using pre-paid phone cards.

Skype goes for the gold

Evan Hansen, Special to ZDNet
March 18, 2005
URL: http://www.zdnet.com.au/news/business/0,39023166,39185090,00.htm

Net phone phenomenon Skype is preparing to expand its menu of paid services, hastening efforts to evolve from a free provider of niche services into a profitable company that could give industry giants a run for their money.

The Luxembourg-based upstart has so far signed up 29 million registered users for its free Net phone calling software -- a unique version of voice over Internet Protocol, or VoIP -- making it one of the fastest-growing services on the Net. Now it's aiming to milk profits from the swelling ranks of freeloaders with paid services that promise to make its Net-only product significantly more useful to consumers -- and potentially more lethal to traditional phone providers.

Last July, Skype launched a paid service called SkypeOut that lets subscribers make calls from the Net to the traditional phone network. It has signed up 1 million customers so far, the company said last week.

Also last week, Skype quietly unveiled test versions of two new paid products -- voice mail and a service dubbed SkypeIn that lets subscribers obtain ordinary telephone numbers. SkypeIn represents a potential watershed, since it will enable Skype subscribers for the first time to receive incoming calls from the hundreds of millions of people who still use traditional phone services.

Finally, Skype is working with equipment makers to develop hardware that will connect conventional phones to its free software and paid services. German phone maker Siemens, for one, has already released a Skype adapter for cordless phones in Europe. New devices are expected soon in the US from companies including Vtech and iMate that will let people make Skype calls using an ordinary handset, rather than a PC.

Analysts said Skype's efforts to bridge the Net and the traditional phone network could pose a major headache for traditional phone companies and other VoIP upstarts alike -- if it can continue to undercut rivals on price.

"Skype is going from a glorified (instant messaging) client that led VoIP to something that has broader implications, especially when you can do things like get a phone number assigned," said Jupiter Research analyst Michael Gartenberg. "A lot depends on how lean they can keep it, and how low they can keep prices as they expand."

Skype and host of rivals are turning the telecom industry on its head using Internet technology to offer more calling features for less.

In this topsy-turvy world, Skype represents the competitive extreme, wielding a weapon that few others are willing or able to match: Using peer-to-peer architecture, it claims it can offer its software service for free to tens of millions of people, and still make boatloads of profits by upselling only a fraction of its users on premium services.

B. Short- to Medium-term Impact on Tariffs and Consumers

The Kingdom of Tonga provides a relevant case study of the likely impact of opening Pacific Island telecommunications markets to competition. Tonga has the lowest telecommunication charges and rates in the Pacific. Strong competition provided by the new entrant, Tonfon resulted in a 20% reduction in mobile telephone charge and a doubling of the number of subscribers. The Tonga case study clearly demonstrates the benefits to consumers. There is no third degree price discrimination in call charges. Residential and business consumers pay the same rate for calls. Competition has led to innovative new services being introduced. Tonfon now offers a wireless home phone and television broadcast services.

The economic and social benefits of telecommunications deregulation for the Pacific Islands are summarized as follows.

- International telephone call charges will decline rapidly to about 35 US cents per minute.
- Tariff rebalancing will lead to an increase in the cost of fixed line monthly rentals to about an average of US$10 per month.
- In most PICs, a second mobile operator will enter the market and drive mobile call charges down significantly to a similar level as now prevails in Tonga.
- The prepaid mobile phone markets will continue to grow rapidly stimulated by the significantly lower call charges. Based on current growth trends, the number of mobile phone subscribers will exceed the number of fixed line subscribers in most FICs in the next five years
- Total telecommunications expenditure by all consumer groups will continue to grow reflecting a positive price elasticity of demand for telecommunication services and an expansion of services to remote areas.
- International experience demonstrates that service quality will increase significantly and quality improvement will be the major benefit from deregulation as reported in New Zealand.
- Business international telecommunication costs will decline by as much as 50% or more in most PICs.
- Competition will accelerate the adoption of new technology and wireless services will grow faster than the expansion of fixed line services.
- Prepaid international call cards will be marketed by Pacific telecom operators to Pacific Islanders resident in Australia, New Zealand and USA.
- Pacific island telecoms will continue to face strong price competition from off-shore call back operators and Voice over Internet providers that are now used by Pacific Island clients even though these operations are deemed to be illegal in most PICs. Internet cafes are already offering very cheap voice over Internet international telephone calls.
- Competition will reduce the ability of national telecoms to cross subsidize the roll out of new connections to rural consumers located in areas that are uneconomic to service. Most countries will be required to establish universal service funds and require new operators to contribute to the funds.
- The main beneficiaries of deregulation will be urban consumers, private sector businesses, schools and hospitals and government departments and public utilities.
- Deregulation is unlikely to lead to a substantial reduction in the total number of employees in the telecom sectors. The telecom deregulation experience in Australia and New Zealand has shown that total employment has remained static in the years following deregulation. The number of employees in the formerly government owned monopoly reduced following deregulation however the number of staff employed by the new operators was about the same as the number no longer employed by the monopoly.

C. Fiji Islands

The year 2005 represents a major turning point in history of telecommunications in Fiji Islands. The newly established Commerce Commission which is responsible for regulating telecommunications industry has made a ruling on pricing of telecommunication services. The new pricing structure that comes into effect on the June 1st represents a major rebalancing of telecommunication tariffs (see appendix 4 for details of the tariffs). The major changes are a sharp increase in telephone line rentals which will particularly affect low income households who make a very small number of telephone calls as the line rental is a fixed monthly charge. Most consumers will benefit greatly from the new tariff structure. International telephone call charges will be reduced significantly. Fiji Telecom has estimated that the new tariff will reduce its profit by about $10 million per year. Fiji Telecom is already examining ways to reduce its operating costs. It has indicated that it aims to cut its labour force of 1500 workers by offering redundancy packages to 500 workers. The initial offer has been rejected by the trade union. Fiji Telecom is also aware that the reduced call charges may substantially expand the demand for services compensating for the reduction in call charge rate. How consumers respond to the lower charges depends on the price elasticity of demand for local, regional and international telephone calls. There is some evidence that demand is unitary and that the total revenue coming to the providers will remain about the same level as prices reduce. Consumers will spent telecom call savings on additional and longer calls.

Over the past three years, consumer groups have been pressuring the government to break the telecom government monopoly and to allow new firms to come into the market and to compete with Telecom. The comparatively high international call charges and Internet charges have attracted the attention of the media. This concern was constantly in the media especially when a foreign firm TELPAC attempted to enter market with a call back telephone service which substantially under cut the Telecom charges.

The telecommunications by market segment in 2002 was as follows:

Total Market Revenue = Fiji dollars (F$)227 million (US$104 million)

Telecom = 56%

FINTEL = 29%

Vodafone = 15%

Table 14 shows the ITU telecommunications data for Fiji Islands.

Table 14: Fiji Islands Telecommunications Data

	2000	2001	2002	2003
Total telecommunication service revenue (US$)	87558688	88157896	70776256	..
Cellular - cost of 3 minute local call (off-peak) (US$)	0.84507	0.289474	0.30137	..
Cellular - cost of 3 minute local call (peak) (US$)	0.84507	0.289474	0.30137	..
Cellular mobile telephone subscribers (Total)	55057	80933	89900	109882
Cost of a local 3 minute call (peak rate) (US$)	0.056338	0.052632	0.054795	0.063158
Coverage of population (%)	40	49.5	55	55
International outgoing telephone traffic (minutes)	15025000	19700000	23165038	..
International incoming telephone traffic (minutes)	40385000	57000000	67959344	..
Internet subscribers	3500	5500	7600	9000
Internet users per 100 inhabitants	1.48075	1.844111	6.100537	6.659829
Main telephone lines in operation	86400	92222	97515	102023
Main telephone lines per 100 inhabitants	10.6614	11.33784	11.89788	12.35374
Mobile communication revenue (US$)	12380115	16515480	24204392	..
Business telephone connection charge (US$)	134.2488	125.4167	130.5708	150.5
Business telephone monthly subscription (US$)	2.150235	1.824561	1.899543	2.189474
Cellular connection charge (US$)	51.64319	0	0	..
Cellular monthly subscription (US$)	20.65728	14.47368	15.06849	..
Main telephone lines in largest city	..	18000	..	..
Mobile communication investment (US$)	2796512	3600933	2239410	..
Number of national long distance telephone (minutes)	42470268	39500000	39500000	..
Number of local telephone (minutes)	2.58E+08	89300000	89300000	..
Residential monthly telephone subscription (US$)	1.464789	1.245614	1.296804	1.494737
Residential telephone connection charge (US$)	39.68075	37.07018	38.59361	45.5
Telephone faults per 100 main lines	135	117	9.25	..

Source: International Telecommunications Union (ITU) Database (http://www.itu.int).

1. FINTEL

Fiji International Telecommunications (FINTEL) was formed in December 1976 as the operator of all international services. It is 51% owned by the Government of Fiji and 49% owned by Cable and Wireless of the United Kingdom. FINTEL has an exclusive license for international services until 2014. FINTEL has been profitable organisation and it has strongly objected to the new pricing structure that has been set by the Commerce Commission for introduction of June 1st 2005. It lodged an appeal with the High Court. It argues that the decision is unfair as its business planning has been based on its license. FINTEL made a decision to invest millions in the Southern Cross cable which provides high speed fiber-optic broadband excess to Australia and United States via the under sea cable.

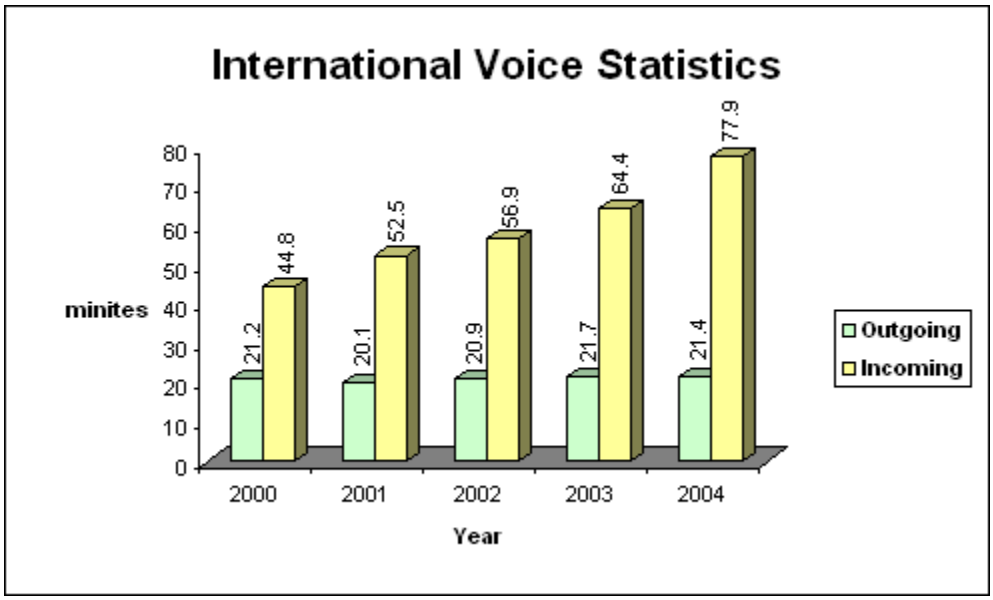
FINTEL has a revenue sharing agreement with Telecom Fiji for international calls. The charts that follow illustrate FINTEL International Voice Statistics, dividends per share, turnover and profit before taxation. They come from the annual report of FINTEL for 2004.

"FINTEL recorded a profit after tax of $12.9 million for the year ended 31 March 2004, a 5.1% decline when compared to 2003 year. The decline in financial results is directly attributed to reduced earnings from voice revenues largely due to bypass operation that continue to exist in the Fiji market.

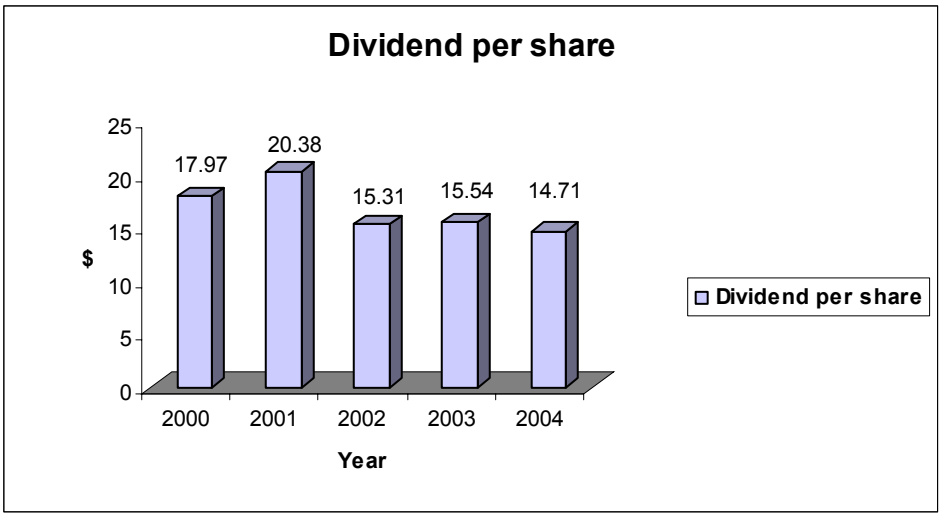
Total turnover for the year is reported at $50.1 million, compared to last year's $55.6 million. The $50.1 million turnover consists of $27.2 million earnings from international business relations, which accounted for 54.3% of the total turnover and the remaining $22.9 million (45.7% of the total turnover) represented earnings from the domestic market.

Voice service maintained its dominance as the premier revenue stream with a contribution of $45.3 million, or 90.4% of the overall earnings. However, earnings from voice service showed a decline of 11.2% and this is mainly attributed to reduced revenue collection due to the various factors and elements discussed above. The data leased services, comprising private leased circuits, frame relay, Internet and capacity leases collectively contributed $4.5 million or 9% to the overall earnings, a 3.5% increase from the previous year. This growth was achieved due to the increased demand for the bandwidth upgrade from existing customers and service implementation for some new customers that came on board during the year."

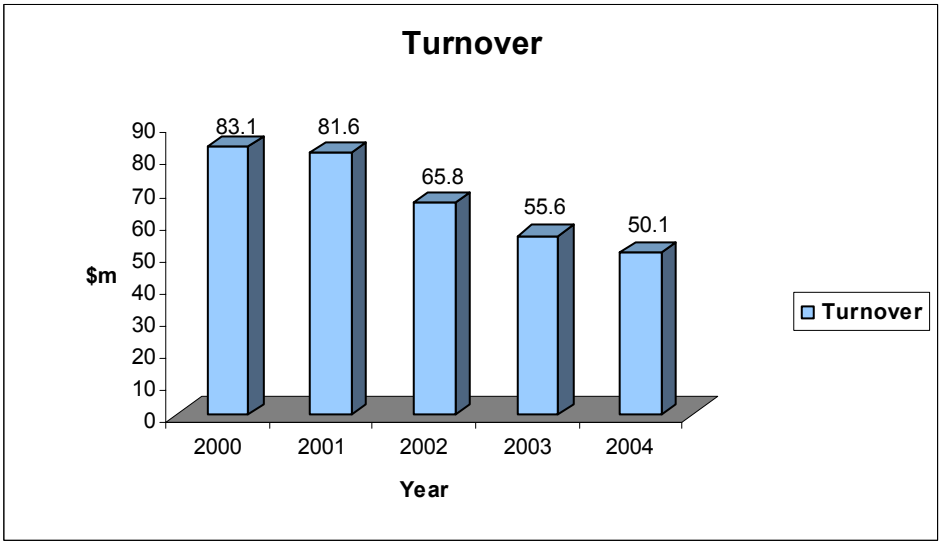
FINTEL Annual Report



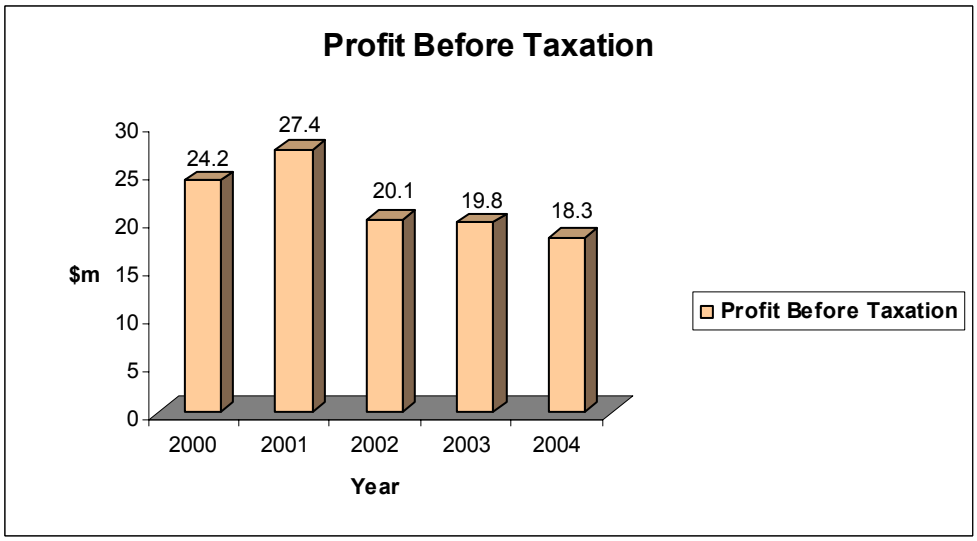
Source: FINTEL 2004 Annual Report.



Source: FINTEL 2004 Annual Report.



Source: FINTEL 2004 annual Report.



Source: FINTEL 2004 annual Report

2. Callback and Voice over Internet Calls

Fiji Island's high international call charges have made it a target for new technology ways of undertaking cheap telephone calls. Many urban consumers in Fiji Islands are now aware of the substantial savings to be made from using Internet telephony where calls to Europe can be as cheap as 4 cents a minute. This Voice over Internet approach is easy for consumers with Internet access to adopt. It involves purchasing of headset with microphones to attach to personal computers, making credit card payment to overseas based company operating in places like Australia, gaining an account number and with a pin number, making calls and drawing down account balance. The quality of the calls in terms of clarity is high because of the Southern Cross cable transmission. FINTEL is very aware that the consumers are bypassing its telephone system but regulators are not taking any action to stop consumers from using this Voice over Internet approach. It is deemed to be illegal to use voice over the Internet in Fiji Islands. These practices will continue to have a serious financial impact on FINTEL. The chart from FINTEL's 2004 annual report clearly illustrates the downward trend in its turnover.

It is claimed that the call back operator, TELPAC was offering calls at 44% less than the FINTEL rate. It was forced out of the market by Telecom Fiji.

3. Mobile Services by Vodafone

Vodafone Fiji is the only mobile service operator in Fiji Islands. The company is 49% owned by Vodafone, the UK international mobile operator and 51% by ATH. Vodafone Fiji launched its services in July 1994. The company had 104 staff in March 2003. Since 1999 Vodafone's mobile telephone subscribers have increased from 23,380 in 1999 to 109,882 in 2003. The mobile users of Fiji Islands have elected to use prepaid card services over the post paid approach with a total of 100,806 subscribers using the cellular prepaid system. Over the years 2000 to 2003 there was a very strong marketing campaign on the national television channel Fiji TV advertising mobile phones sold by the major retailers. As the result of the strong growth, the number of mobile phones now exceeds the number of fixed line telephones. In 2003 there were 102,023 line telephones compared to 109,882 mobile phones.

The ATH Annual Report for 2004 states that cellular mobile connections reached 113,719 in 2004, an increase of 25.3% from 2003. Vodafone also recorded a 21% increase in revenue and a 26% increase in net profit after tax in 2004. Its net profit after tax is reported to be $24 million.

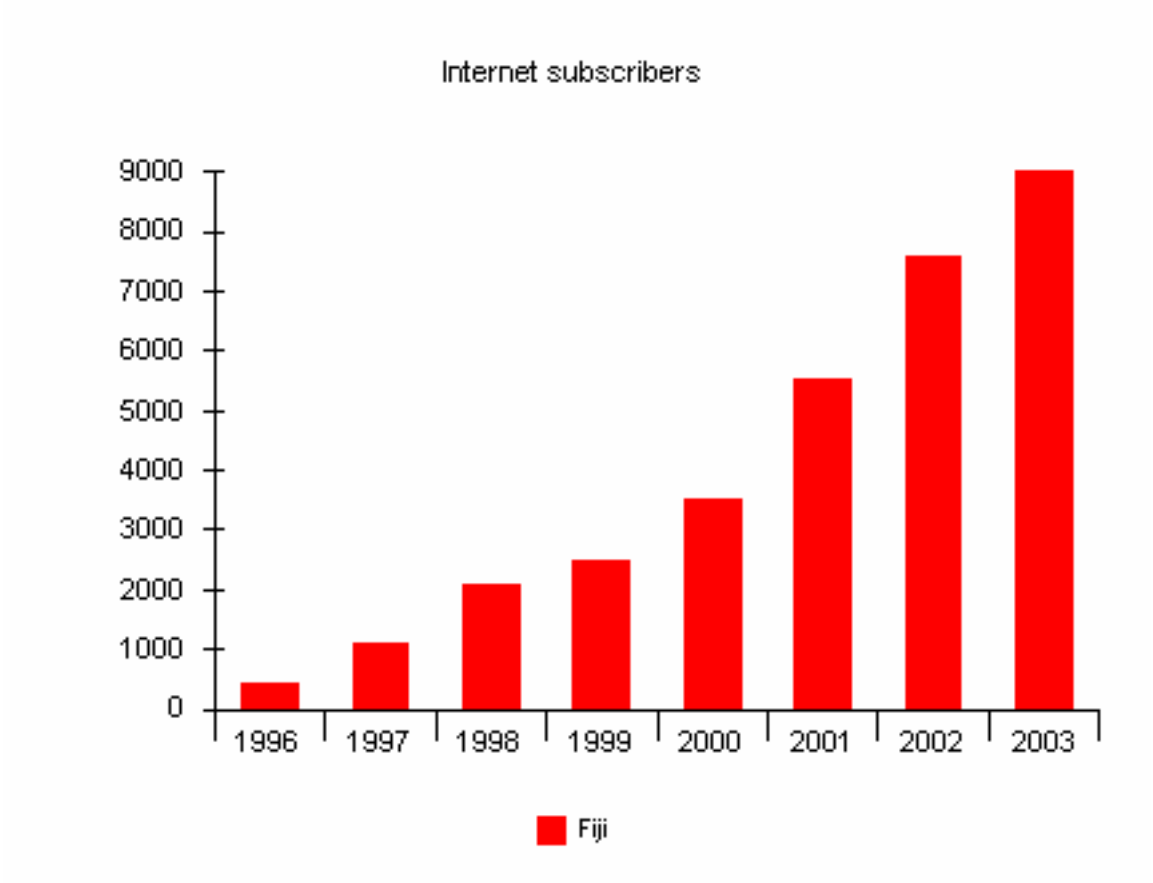
Prepaid voice calls provide the bulk of its revenue. However the 2004 Annual Report notes that there was a phenomenal 300% growth in Short Message Service (SMS) during 2004. In 2005 SMS cost the consumer 20 cents for each message. SMS can now be sent to over 200 countries in the network. (Source: Vadafone advertisement in the Fiji Times Sunday 26 June 2005).

International tourists are able to use their mobiles in Fiji Islands and international roaming accounts for 15% of revenues. Vodafone's rapid growth in Fiji Islands is an indication that consumers value its service and are willing to pay for calls at the current rates. The Vodafone off-peak rate and compares favourably with off-peak rates in other developed countries. If the market was open for competition it is likely that Vodafone would be involved in a price war with new entrant. It has a very dominant position in the market and has invested a lot of resources in developing its coverage in Fiji Islands. It is likely that any new entrants may find it difficult to compete with Vodafone given its market dominance and excellent international reputation. It is the second largest mobile company in the world and operates in many countries.

4. Internet

Internet services in Fiji Islands are provided by Connect, a subsidiary of Telecom Fiji which has

an exclusive license for domestic telecoms through to 2014. Connect has an arrangement for using Telecom Fiji's network. The government has issued eight Internet services provider licenses but none have commenced operations due to their difficulty in gaining a suitable arrangement with Telecom Fiji for using their network. In May 2005 a new company has indicated it is about to start a wireless Internet service bypassing Telecom Fiji's network. This service involves consumers buying a $500 modem and signing up to wireless broadband services for unlimited use at about $70 per month. This pricing structure is cheaper than Connect. Competition from this new firm is likely to drive down prices quickly. Most business firms will be strongly attracted to sign up to the new provider. The Connect service has been criticized by consumers for its pricing structure and the quality of the dial-up service. Connect has introduced a new broadband service in June 2005.



Source: International Telecommunications Union (ITU) Database (http://www.itu.int).

Commerce Commission Price Determination

The following quote is the press release by Joe Mar and James Raman on 22 April 2005. It contains information on the ATH assessment of the likely impacts of the new tariff structure onn ATH.

"*Telecom Fiji Limited has worked cooperatively with the Commerce Commission and we are*

pleased to have reached the present price determination.

We welcome the reduction in tariffs and we regard this as only the first step to bringing competitive prices to Fiji. The biggest winners out of this determination are the consumers of Fiji and they deserve it. Regional local calls will get decreases from 70% to 90%.

International calls reduction will reduce by an average of 55%. These will in fact bring down the cost of doing business in our country and therefore stimulate economic activity for the benefit of all.

We appreciate the work being done by the Commission as it is a very complex industry.

Although our initial analysis shows TFL may lose some $10M or more in earnings before tax we believe that the restructure and reforms currently being undertaken in TFL and the efficiency and productivity drive that is now taking place will help deliver savings to bridge some of these losses. We also believe that reduced tariffs will increase volume which will benefit the companies.

We will now move expeditiously to putting our systems in place to effect these changes by the first of June.

We are also pleased that the uncertainty surrounding the determination is now over and we can get on with the business of improving the network and our services for our customers.

One thing we assure the customers and the market that the new management in TFL is already looking to grow the business by offering new and innovative services and products to the market. For instance, two major innovations are currently being piloted and will be released as soon as possible."

22 April 2005 MEDIA RELEASE

Joe Mar, Managing Director TFL Group ,James Raman,Chairman, TFL Board of Directors

5. Impact of Deregulation on the Telecom Market in Fiji Islands

To a large extent the recent tariff rebalancing exercise undertaken by the Fiji Commerce Commission has simulated what would have occurred if the market had been open to competition. Clearly new competitors would have driven down the prices of international telephone calls by more than half. This is reflected in the decisions of the Commerce Commission to substantially reduce international telephone call charges by 55%. Clearly there is a long way to go with reducing international telephone call charges. A relatively small but growing number of consumers are taking advantage of voice over Internet for making international calls that are of high quality and at very low cost. (Skype is an example). Some calls can be made for as low as 4 cents per minute. The news about of voice of Internet is likely

to spread rapidly amongst the members of the business community and the educated workforce who have Internet services at work or at home. Peak-rate mobile call charges are also likely to decline with competition. New competitors coming into the Internet market will drive down Internet charges considerably and improve the quality of services to consumers by offering high speed broadband wireless Internet.

FIJI: Court Challenge of Phone Charges on Hold

Friday: June 10, 2005

A legal challenge to a controversial plan to raise line rentals and drop call charges has been put on hold - with talks now in progress that could possibly see the charges reviewed.

The Commerce Commission and Fiji International Telecommunications Limited (FINTEL) agreed to out-of-court talks aimed at allowing FINTEL to have its say over the new telecommunications pricing structure.

FINTEL's lawyer, Richard Naidu, said court proceedings had been adjourned to allow both parties to try to resolve the issue out of court.

FINTEL filed an injunction in the High Court two weeks ago seeking judicial review of the commission's new prices on telecommunication services. The injunction saw the commission put a three-month hold on plans to increase line rentals and drop international and regional call charges.

"We challenged the Commerce Commission's decision on the new pricing structure because they didn't consult us," Naidu said.

"When we sued them (Commerce Commission), they agreed to consult us further on the subject."

He said consultations had begun to decide on a new process through which FINTEL's views would be heard. – *Fiji Times/Pacnews*

FIJI: Phone Rate Hike on Hold

Wednesday: May 25, 2005

A court injunction by Fintel will delay the proposed change in telecommunication charges which had been due to take effect next Wednesday.

The national competition regulator, Commerce Commission, will issue a statement this week to announce the delay.

Commission chairman Thomas Raju told Fijilive that FINTEL filed an injunction for a stay order in the High Court in Suva and wanted a judicial review of the Commission's new price determination on telecommunication services.

Associated telecommunication providers, Telecom and Vodafone, have agreed to the commission's proposed new rates, however, since their pricing structure is interlinked with FINTEL, the implementation will be on hold.

According to Raju, the new rates would have seen local business calls charged at 10.91 cents a minute during peak times (between 9 am and midday, Monday to Friday). At other times, the charge would be 10.91 cents for every five minutes.

This introduces a time charge for such calls, when before they were at a flat rate per call

The new call charges determined by the Commission have drawn criticism from telecommunication carriers and consumers.

"The 10 cents per minute for local calls is nothing short of daylight robbery," says Fiji Retailers Association Vice President, Sudhir Dewa.

"The manner in which we are being levied the extra charge for line fees, the local rates should be zero. New Zealand and Australia also operate on a zero charge for calls.

"The Fiji public has once again been sold by the whims of the Commerce Commission and other monopolistic giants in Fiji." - Fijilive/Pacnews

Our analysis of the likely impact of full-scale competition in the Fiji Islands telecommunication market is shown in Table 1 of this report. The economic benefits to consumers are estimated to be US$26 million per year.

D. Papua New Guinea

The telecommunications market in PNG is relatively small in relations to its large population size of about 5.6 million persons and 1.2 million households. In 2002, there were only 62,000 main line telephones in operation. The number of telephones per 100 inhabitants was only 1.13 in 2002. There were 15,000 cellular mobile subscribers in 2002. The Asia Pacific Telephony (APT) year book for 2004 reports the following information about PNG telecommunication market.

The private sector accounts for about 46% of fix line telephone connections, while government and residential consumers account for 20% and 30% respectively. It notes that there is an enormously potential for market development and growth. Mobile telephone use has experienced strong growth and demand in line with international growth trends. Table 15 shows the ITU data for PNG.

Table 15: Papua New Guinea Telecommunications Data

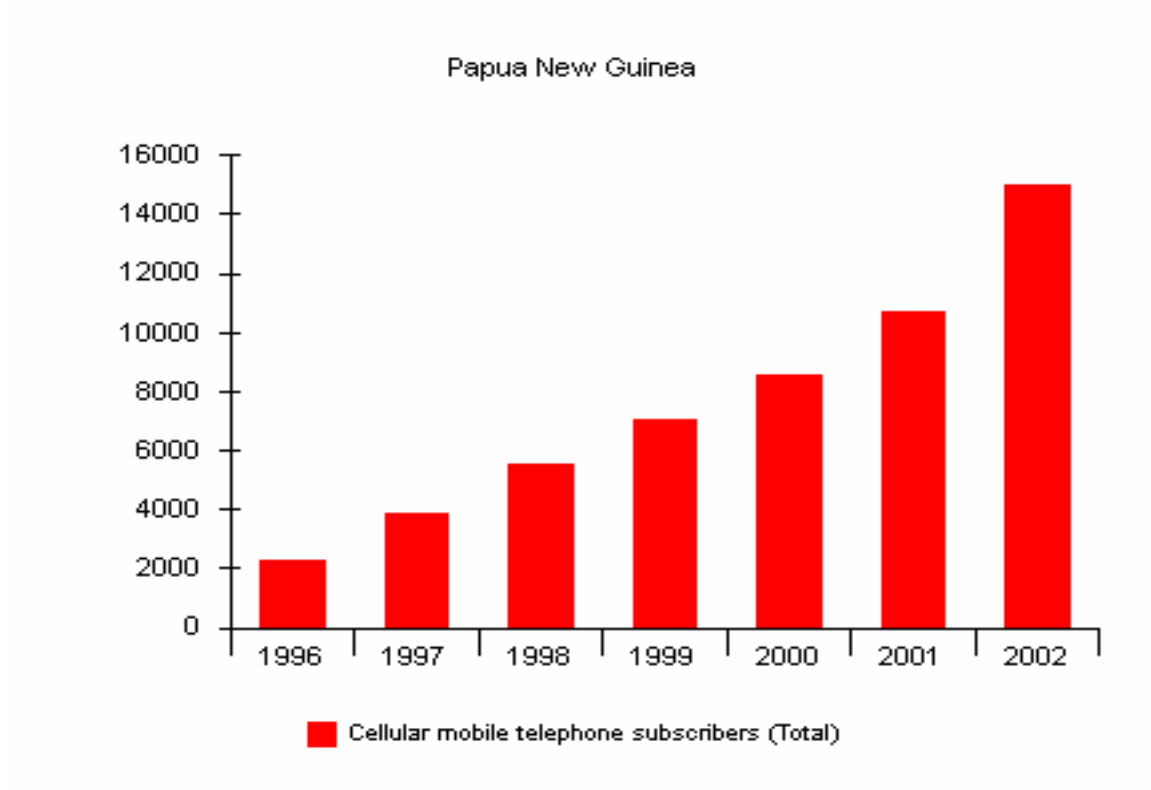
PAPUA NEW GUINEA	1999	2000	2001	2002
Total telecommunication service revenue (US$)	72979224	79150048	..	..
Cellular - cost of 3 minute local call (off-peak) (US$)	0.700389	0.809353	0.663717	0.576923
Cellular - cost of 3 minute local call (peak) (US$)	0.700389	0.809353	0.663717	0.576923
Cellular mobile telephone subscribers (Total)	7059	8560	10700	15000
Cost of a local 3 minute call (off-peak rate) (US$)	..	..	..	..
Cost of a local 3 minute call (peak rate) (US$)	0.311284	0.359712	0.064897	0.076923
Coverage of population (%)	..	..	..	..
International outgoing telephone traffic (minutes)	25200000	23739964	24900000	..
International incoming telephone traffic (minutes)	19576326	19209144	..	..
Internet subscribers	..	27000	..	..
Internet users per 100 inhabitants	0.703716	0.877131	0.944287	1.372621
Main telephone lines in operation	59773	64835	62000	62000
Main telephone lines per 100 inhabitants	1.201806	1.26375	1.170916	1.1347
Mobile communication revenue (US$)	3881869	4190803	..	..
Annual investment for telephone service (US$)	..	..	..	..
Business telephone connection charge (US$)	217.8988	201.4388	14.74926	12.82051
Business telephone monthly subscription (US$)	4.163424	3.852518	3.159292	5.128205
Cellular connection charge (US$)	466.9261	431.6547	26.54867	23.07692
Cellular monthly subscription (US$)	77.82101	89.92805	11.79941	10.25641
Main telephone lines in largest city	29107	29107	..	..
Number of local telephone (minutes)	26000000	31950000	..	..
Residential monthly telephone subscription (US$)	1.167315	1.079137	1.179941	1.794872
Residential telephone connection charge (US$)	46.69261	43.16547	14.74926	12.82051

Source: International Telecommunications Union (ITU) Database (http://www.itu.int).

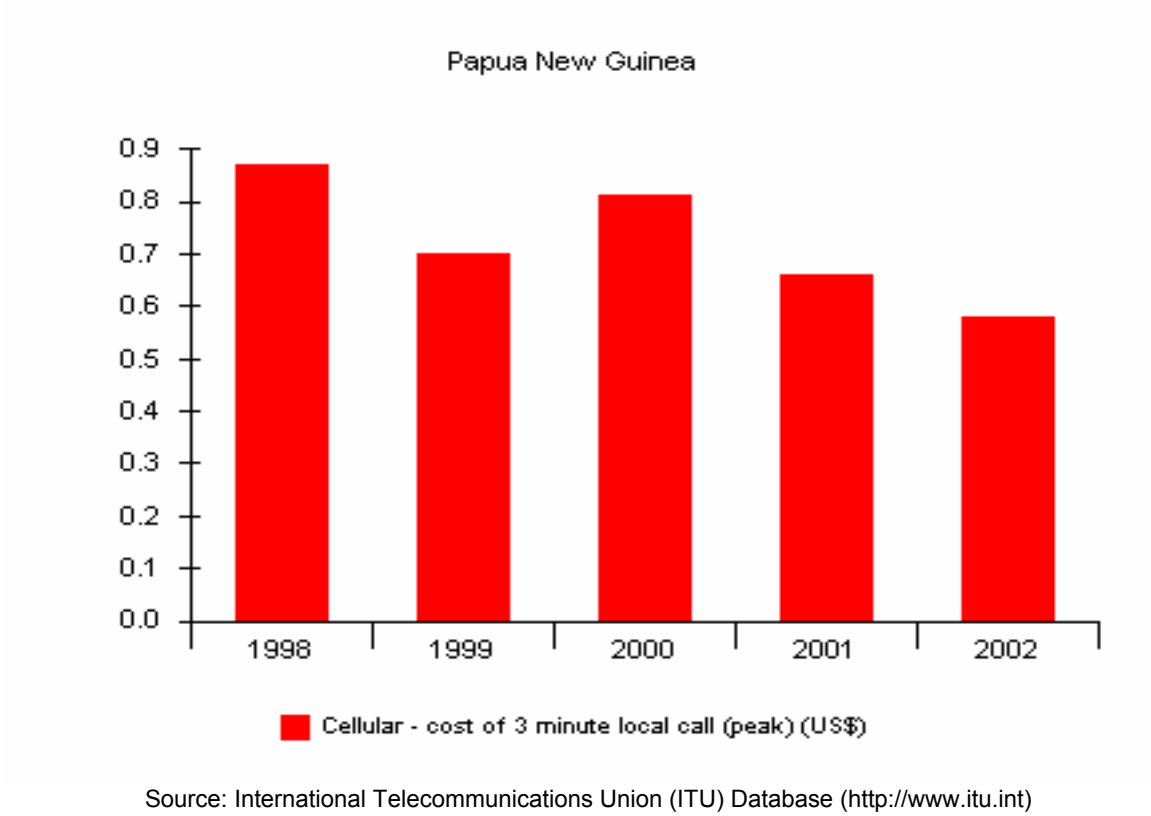
1. Mobile Communication in PNG

The Pacific Mobile Communications (PMC), a wholly owned subsidiary of Telikom PNG, provides mobile network services with a GSM network. The GSM services are available in Port Moresby and other major cities and towns.

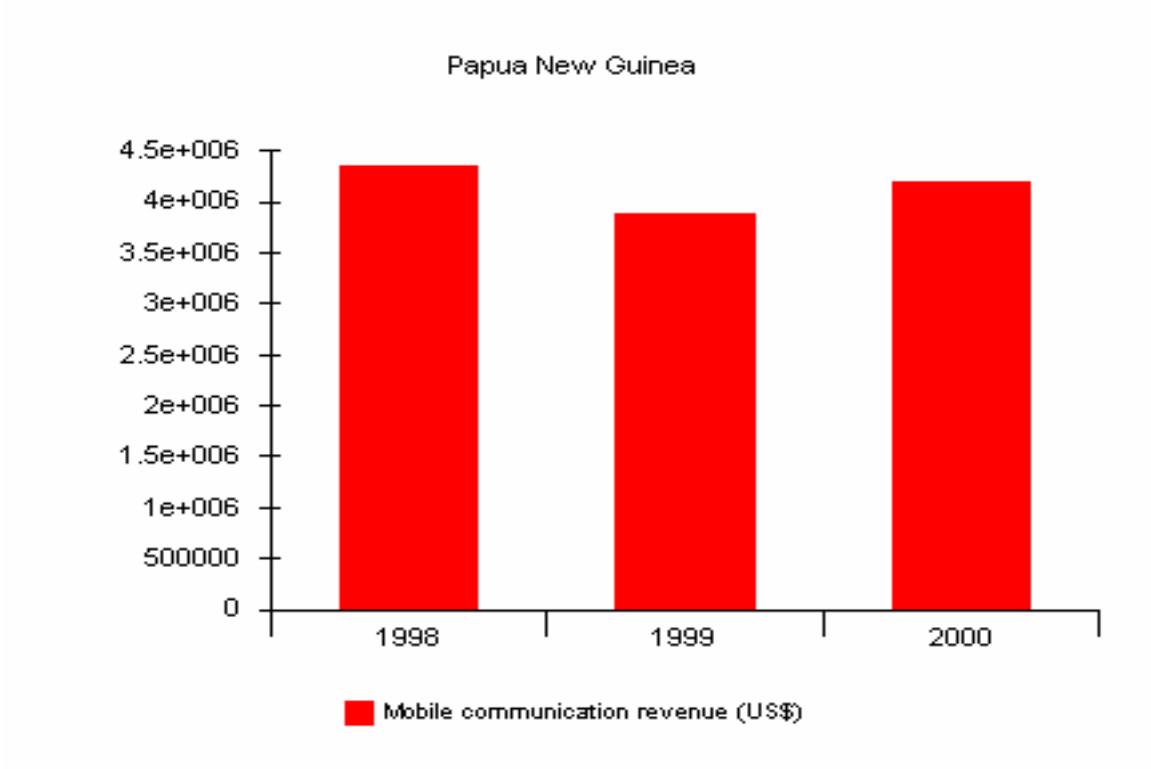
The graph below shows the number of mobile telephone subscribers. There has been a rapid growth in mobile subscribers and in 2002 there were 15,000 mobile subscribers.



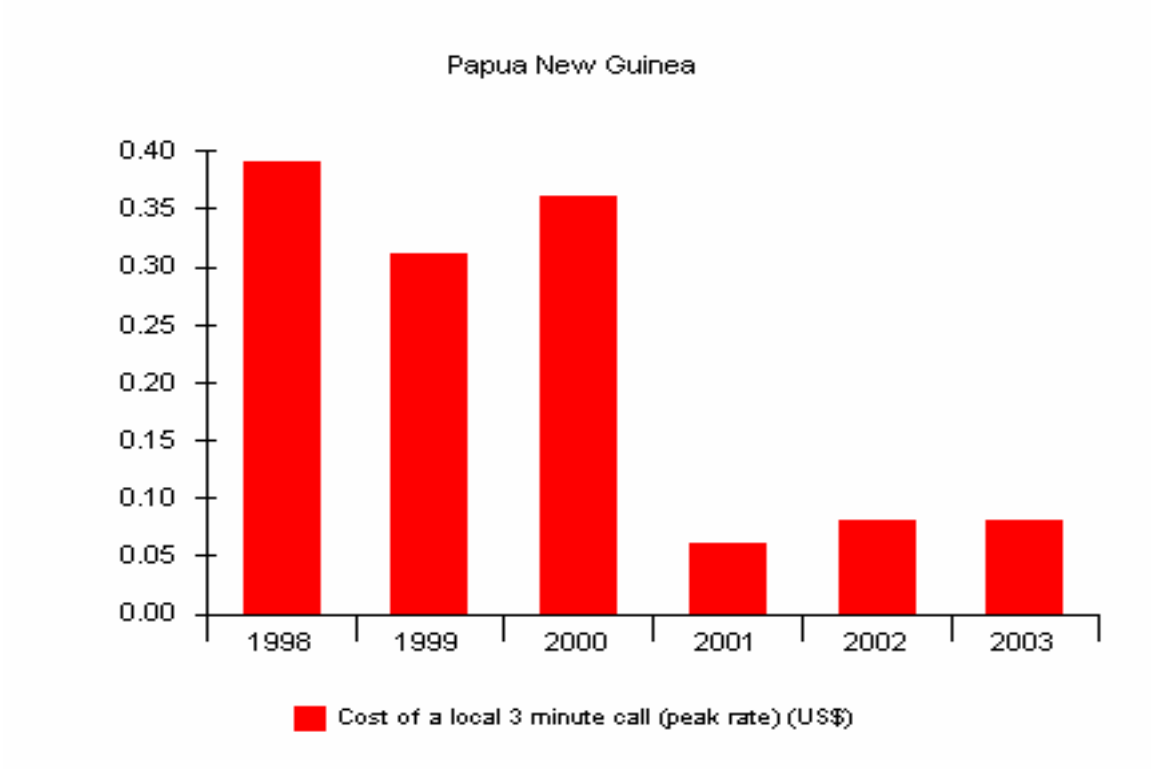
Source: International Telecommunications Union (ITU) Database (http://www.itu.int)



Source: International Telecommunications Union (ITU) Database (http://www.itu.int)



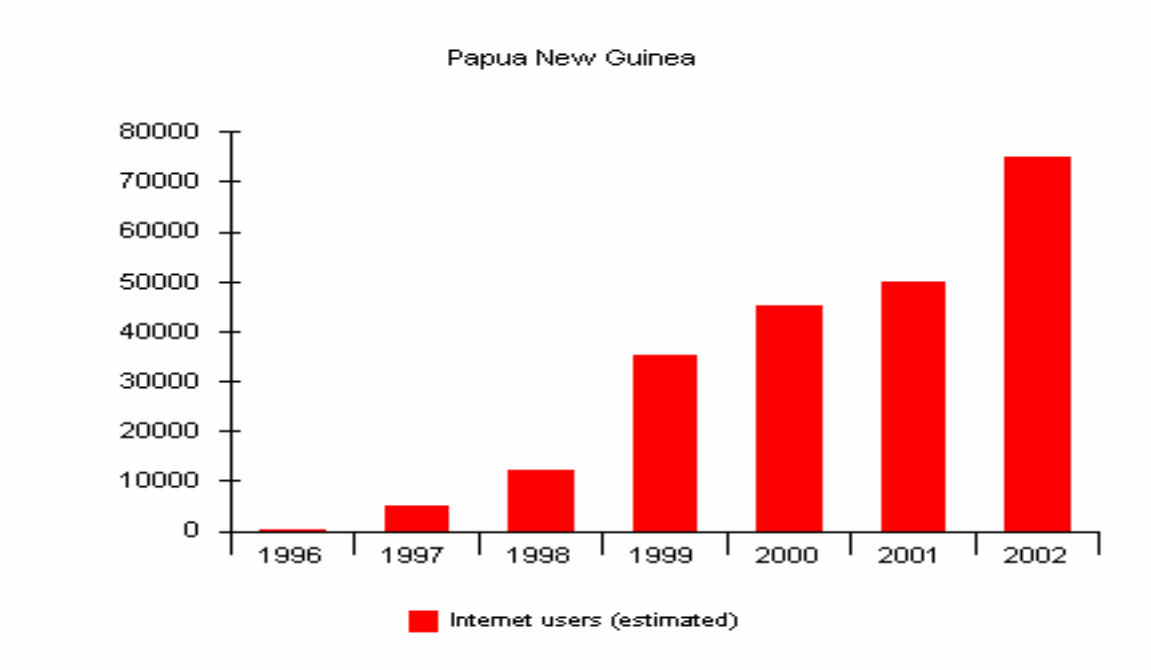
Source: International Telecommunications Union (ITU) Database (http://www.itu.int)



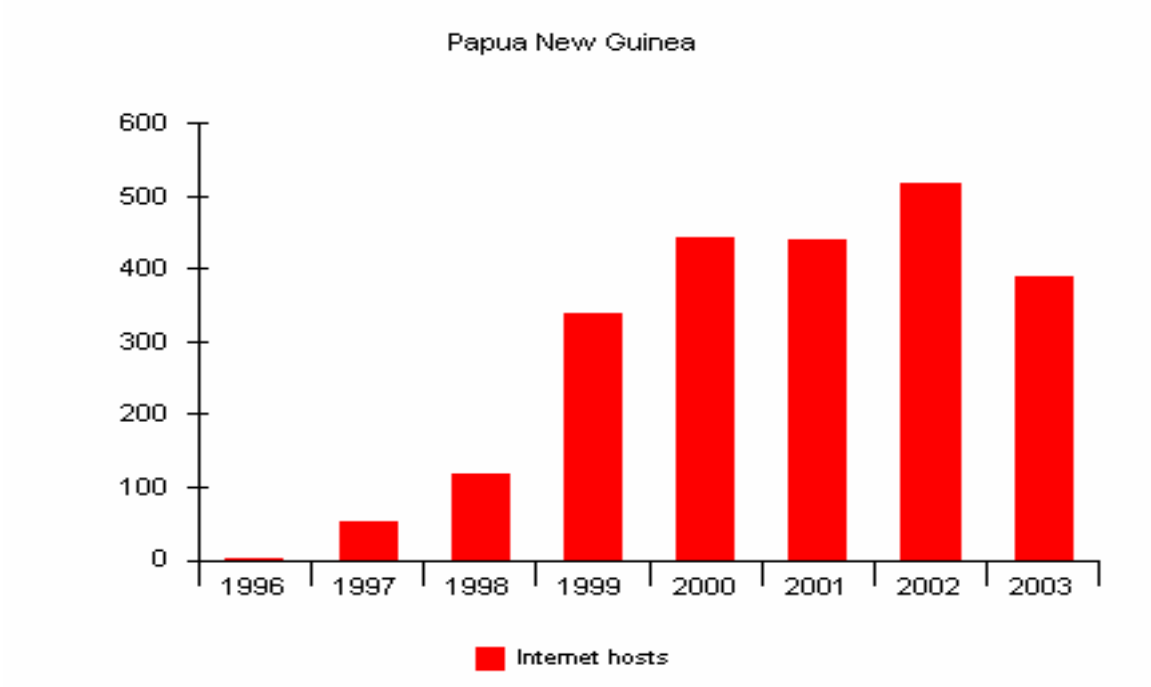
Source: International Telecommunications Union (ITU) Database (http://www.itu.int).

2. Internet

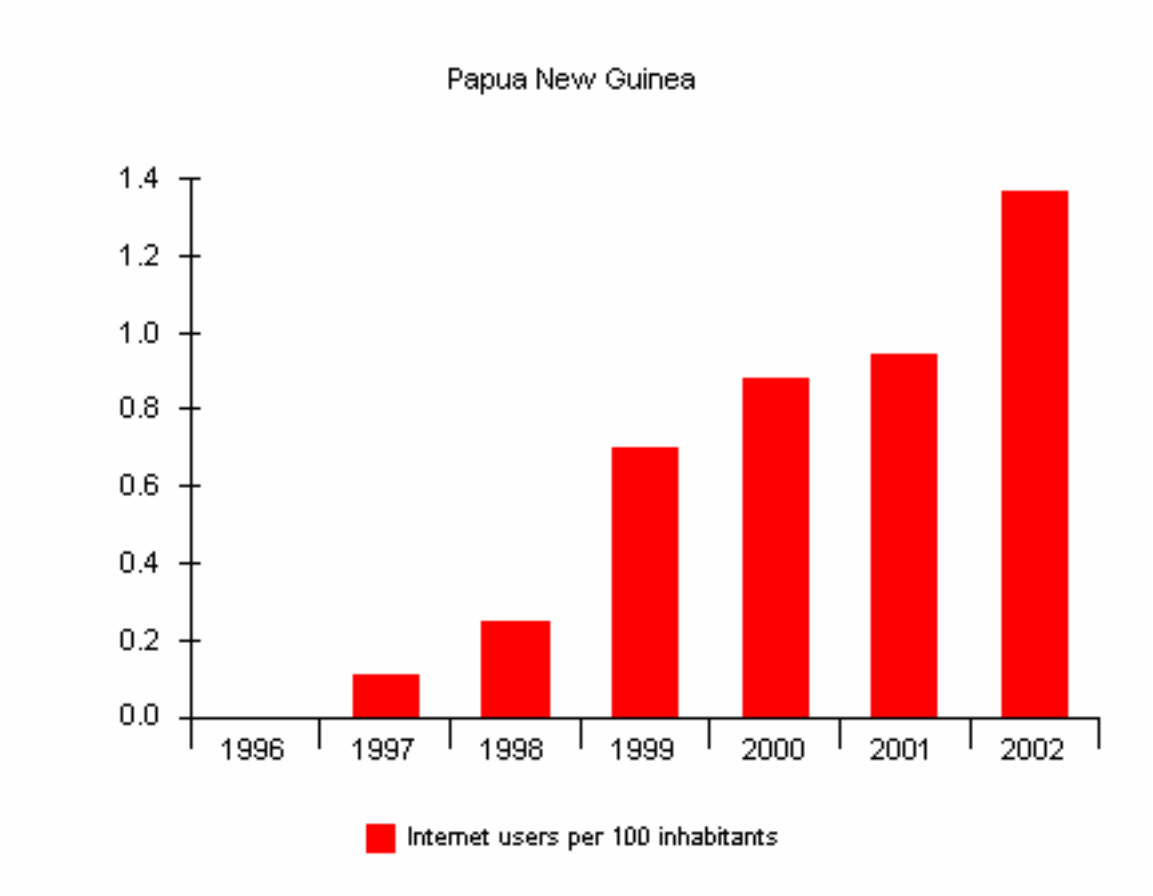
The Pacific Mobile Communications (PMC) also operates the Internet gateway and resells to five local Internet service providers namely Datanet, Daltron Electronics, Datec, DG Computers and Global Technologies. PMC has increased international bandwidth from 265 kbit/s to 2Mbit/s. The International Telecommunications Union reports that there are 75,000 Internet users in 2002.



Source: International Telecommunications Union (ITU) Database (http://www.itu.int).



Source: International Telecommunications Union (ITU) Database (http://www.itu.int)



Source: International Telecommunications Union (ITU) Database (http://www.itu.int)

3. Size of Telecommunication Market

The International Telecommunication Union annually collects information on total telecommunications services revenue, telephone service revenue and mobile revenue. Unfortunately, Telekom PNG has not provided the ITU with revenue data for the past four years. The most recent information available is for the year 2000. Total telecommunication revenue was 220 million kina, telephone service revenue was 183 million kina, and mobile communications revenue was 12 million kina.

4. National Policy, Privatisation and Competition

The current government is pursuing a policy of privatization of its telecommunication businesses particularly Telikom Limited. The objective of this policy is to ensure that telecommunications sector is stimulant rather than a bottleneck to economic development. The aim is to sell Telikom PNG to a strategic partner who is capable of rapidly developing the network through new investment in infrastructure. The government has put in place a regulatory framework. The government has established an economic regulator, the Consumer and Competition Commission, whose functions include licensing of telecommunication carriers, regulating pricing, and inter-connection. These responsibilities were previously undertaken by Telikom PNG. The privatisation process is currently on hold. The government has called for submissions and at one stage Telecom Fiji Limited was considering investing in Telikom PNG Limited. The government has experienced some difficulty in finding an appropriate partner. One of the issues the potential investors were particularly concern about was requirements and

capital costs of expanding services to new subscribers in uneconomic areas. The universal services obligations need to be clearly defined and new entrance into the market should be required to contribute to a universal services fund.

The PNG business environment is not particularly attractive to foreign investors because of the high cost of doing business and the uncertainty of the future business environment. With regard to telecommunications services, extending the network into rural areas is a complicated and expensive exercise due to the nature of the terrain and difficulty in collecting revenue from customers located in rural villages in isolated locations. Prepaid wireless services are likely to be cost effective in some locations. It is unlikely that another telephone company would be interested in providing fixed line telecommunications services in the rural areas and outer islands. The national transition network comprises a mixed analogy and digital microwave radio systems, domestic satellite network and small capacity transmission systems. High frequency radio systems are also used for subscribers that are beyond the reach of the microwave radio systems.

5. Impact of Deregulation of a Telecommunication Sector

This section speculates on the likely impact of deregulating the PNG telecommunication sector. There is already competition in the Internet sector with five different ISP competing for clients. It is likely that the mobile telephone market segment would be the most attractive to potential foreign investors. The mobile market has been growing rapidly and is concentrated in Port Moresby and the other main towns. Competition in the mobile market is likely to drive prices downwards by up to 50%. Consumers will benefit through lower mobile call charges for both local and international calls. The decline in call charges to result in a substantial increase in mobile usage and the price elasticity of demand is likely to be close to 1 or unity.

The main benefit of competition is likely to be a rapid decline in the price of international telephone calls. Private business enterprises, that represent 46% of telephone connections, will be the main beneficiary of the decline in international calls charges. There is no public information available on the total amount of telecom income that is derived from international calls, however, based on the Fiji Islands ratio it is estimated that 29% of total telephone revenue is for international calls. Given international experience, it is expected that competition will lead to international call charges declining by an average of 50%. The economic benefit to consumers (consumer surplus) of the decline in international telephones charges by 50% is estimated to be about US$25 million for the first year. Over a five-year period the total consumer benefit (consumer surplus) from international call charges reduction is estimated to be US$109 million.

According to our analysis, there would be significant economic benefits to consumers and private sector businesses in deregulating the telecommunications market in Papua New Guinea and making it open to competition. The possibility of new firms entering the market would motivate Telikom PNG to benchmark its prices for international telephone calls against international comparators. It is most worthwhile to make the market constable so that the current monopoly provider, Telikom PNG, knows that if it continues to exploits its monopoly power and makes supernormal profits, then it will attract the attention of investors who may enter the market to capture some of the excess profit. The threat of potential competition may motivate Telikom PNG to charge more moderate prices for international calls.

E. Solomon Islands

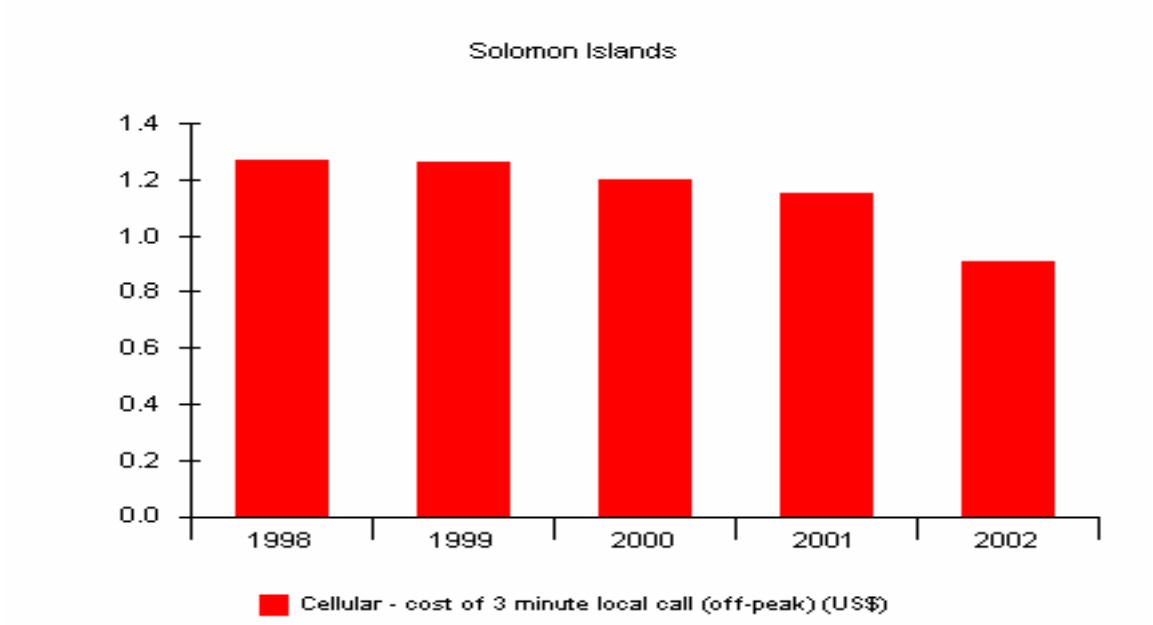
The Solomon Telikom Company Limited has been very well managed during the period of ethnic tension that bought the economy to a standstill. It remains one of the most successful companies in the Solomon Islands, employing some 212 staff as at March 2004. The number of

subscribers connected to the system as of March 2004 was 7,943 compared with 8,132 in March 2000. The number of Internet subscribers was 981 in March 2004. There were 333 public telephones in March 2004. The mobile telephone subscribers for the cellular GSM system was 981 in 2004. Almost half of the telephone subscribers are located in the capital of Honiara where there were 3,766 fixed line subscribers in 2004. The company made a profit before tax of Solomon Islands dollars (SI$)17.4 million in 2004 and the cash generated from the more profitable operations was largely use in capital expenditure of SI$28 million for 2004 financial year, an increase of 65% from 2003. The company is committed to developing and expanding its services and the General Manager records in the 2004 Annual Report that Telikom's decision to reinvest in new and replacement infrastructure was largely due to the signing of the new 15-year exclusive license. The Solomon Islands economy began to recover from the destructive period of ethnic tension after the arrival in July 2003 of the Regional Assistance Mission to the Solomon Islands (RAMIS). RAMIS rapidly restored law and order in the Solomons, which was facing bankruptcy and total collapse.

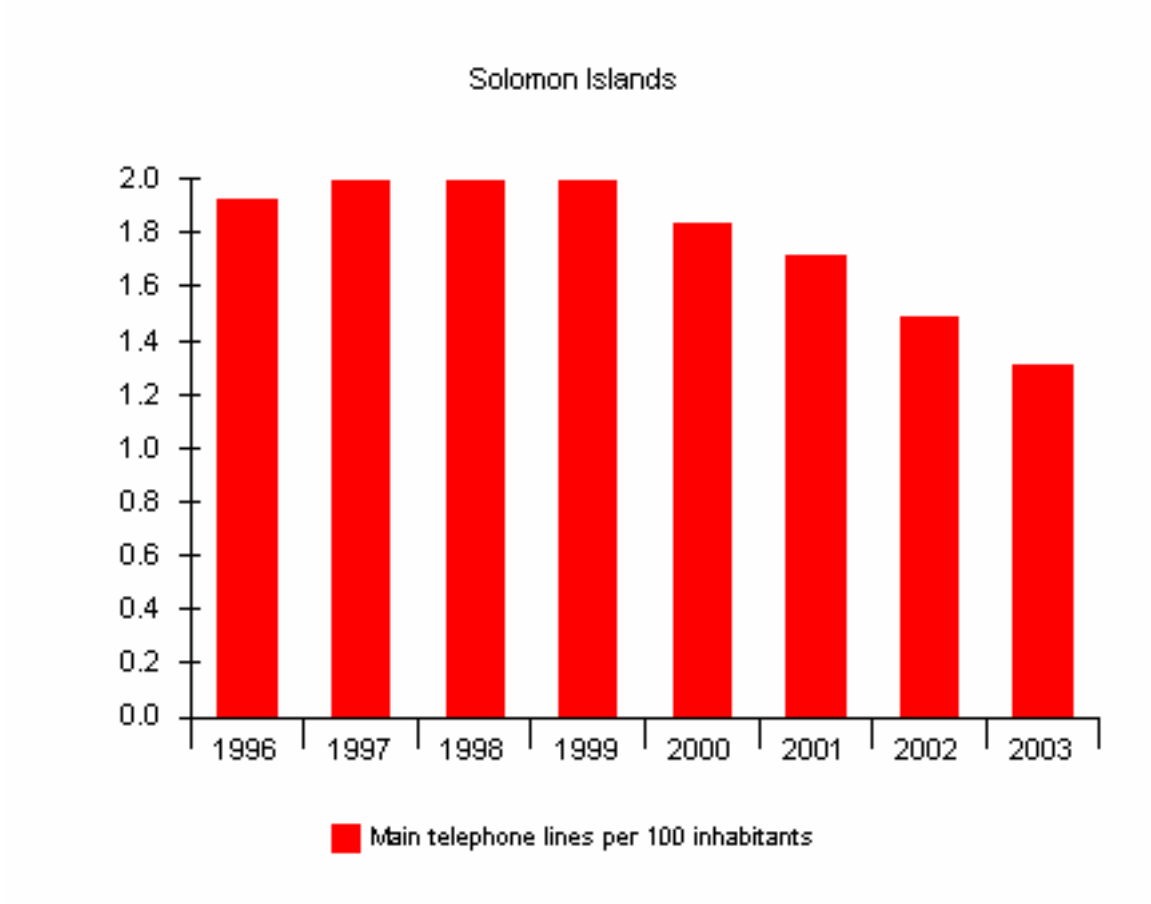
Table 16: Solomon Islands Telecommunications Data

SOLOMON ISLANDS	1999	2000	2001	2002	2003
Total telecommunication service revenue (US$)	14049587	11994106	12092453	..	..
Cellular - cost of 3 minute local call (off-peak) (US$)	1.264463	1.202358	1.154717	0.906667	..
Cellular - cost of 3 minute local call (peak) (US$)	1.264463	1.202358	1.154717	0.906667	..
Cellular mobile telephone subscribers (Total)	1093	1151	967	999	1488
Cost of a local 3 minute call (off-peak rate) (US$)	..	..	..	..	..
Cost of a local 3 minute call (peak rate) (US$)	0.095041	0.090373	0.086792	0.068148	0.061252
Coverage of population (%)	25	35	..	..	..
International outgoing telephone traffic (minutes)	1912000	2996647	5907270	..	..
International incoming telephone traffic (minutes)	3646556	6648912	..	..	..
Internet subscribers	1000	1150	906	988	1000
Internet users per 100 inhabitants	0.488947	0.47563	0.462675	0.49508	0.524109
Main telephone lines in operation	8132	7689	7389	6601	6238
Main telephone lines per 100 inhabitants	1.98806	1.828559	1.709352	1.485464	1.307757

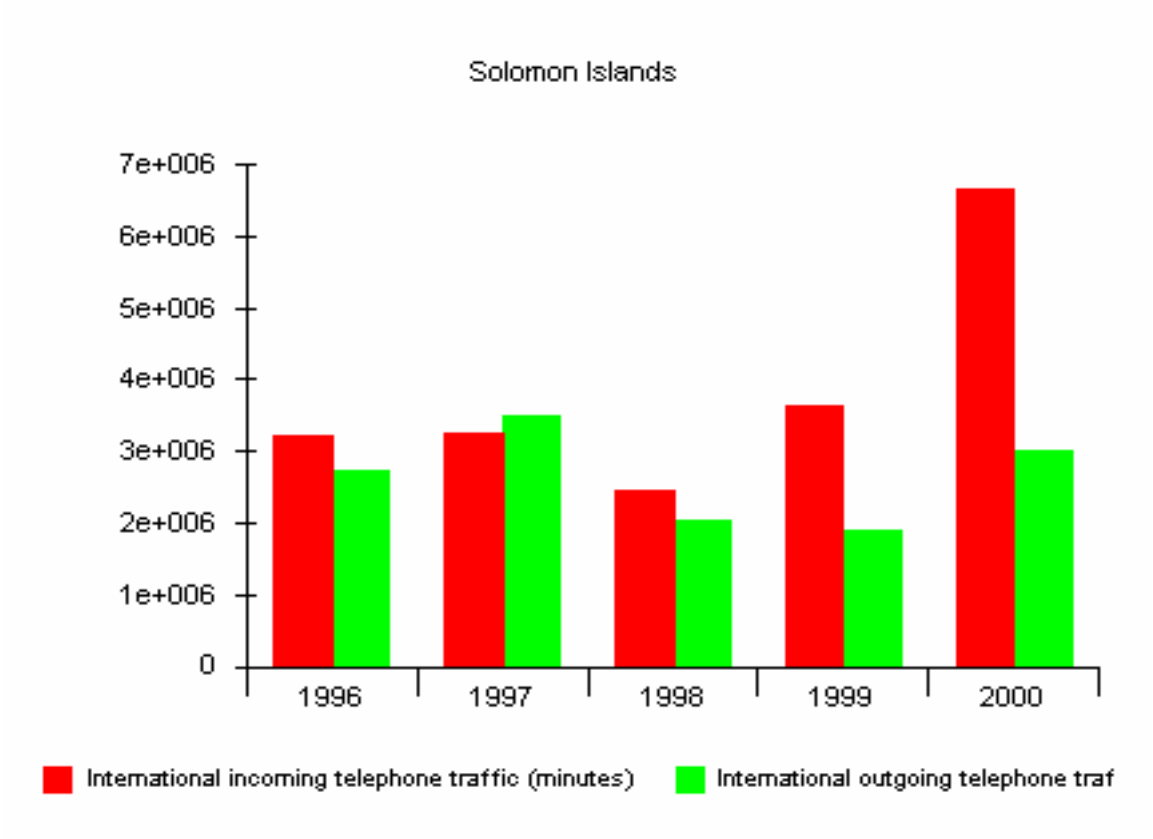
Source: International Telecommunications Union (ITU) Database (http://www.itu.int).



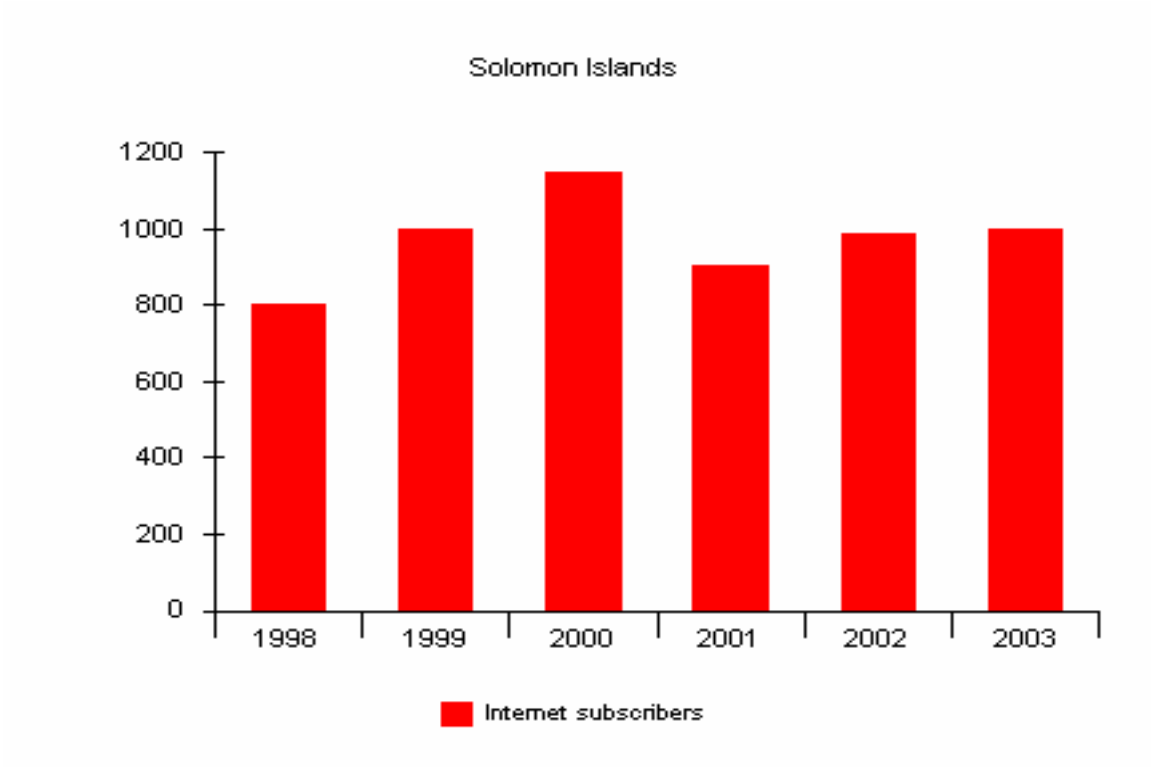
Source: International Telecommunications Union (ITU) Database (http://www.itu.int)



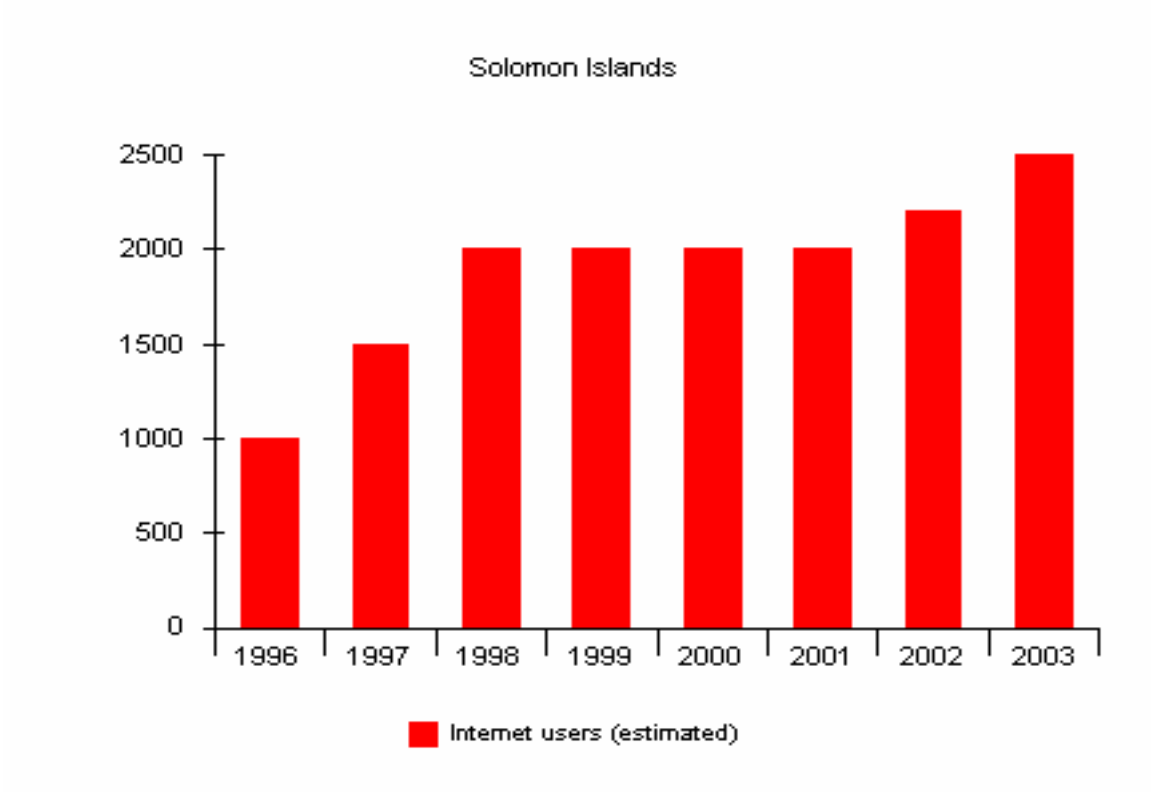
Source: International Telecommunications Union (ITU) Database, 2005 (http://www.itu.int).



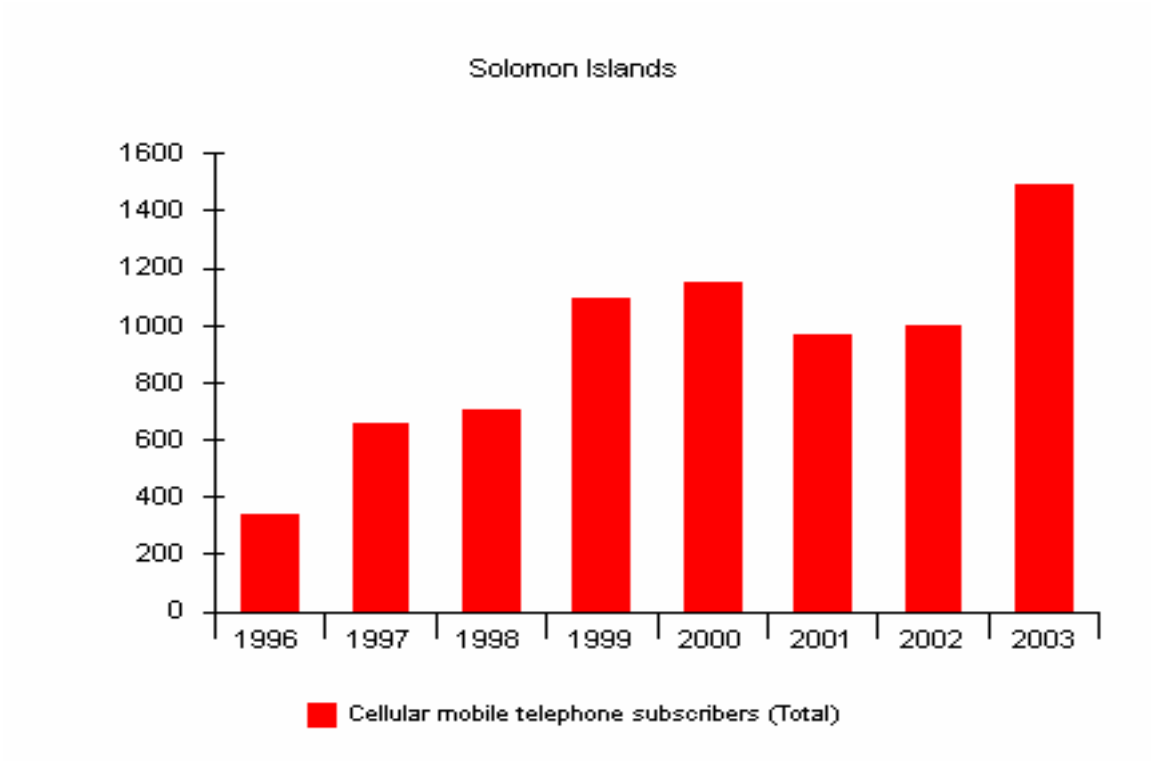
Source: International Telecommunications Union (ITU) Database, 2005 (http://www.itu.int).



Source: International Telecommunications Union (ITU) Database, 2005 (http://www.itu.int).



Source: International Telecommunications Union (ITU) Database, 2005 (http://www.itu.int).



Source: International Telecommunications Union (ITU) Database, 2005 (http://www.itu.int).

1. Likely impact of Deregulation and Competition

Clearly the Solomon Islands government has decided that Solomon Telikom Company will maintain it monopoly status. It signed a new 15-year license with the company in 2004 ending many years of speculation. This has given the company some certainty about its future revenue stream and capacity to fund the investment in the much-needed new infrastructure to extend services to new customers outside the capital of Honiara.

Telikom in partnership with Solomon Islands Government is implementing a new initiative to provide telephony and ICT to 14 new rural sites.

This section postulates: what might occur if the Solomon Islands telecommunication market was fully opened to competition from new entrance. It asked the questions, would international companies be interested in investing in the Solomon Islands telecommunication market? What new technology might be introduced by new competitors? How might competition affect the price of services?

The Solomon Islands is a particularly difficulty market for foreign investors. The telecommunication market is very small and most of it is located in Honiara, which its self is a small town. Many of the rural areas and isolated islands are keen to have telecommunication services but the capacity of subsistence villagers to pay for the services is very limited. A major challenge is the provision of telecom services to isolated areas, many of which are not serviced with electricity.

Clearly there are not big profits to be made from investing in the Solomon Islands telecommunication market. Solomon Telikom carries a heavy responsibility for providing services to remote island communities. Many of these services are unprofitable and they are cross subsidies by the profits made from international telephone calls. International telephone call charges are high and these charges impact on the cost for the private sector of doing business.

2. Who would Benefit from Deregulation?

The main beneficiaries from deregulation would be private sector firms located in Honiara, especially those who are involved in international communications and transactions. It is likely that competition would lead to 50% decline in international telephone call charges. Estimating the likely consumer benefits is made difficulty because there is no information available on the total amount of revenue gained from international telephone calls. The 2004 Annual Report of Solomon Telikom shows in the Profit and Loss Statement that turnover for the year ending 31 March 2004 was SI$85.2 million. The operating Profit before Income Tax was SI$17.4 million in 2004.

The Internet market is so tiny with only 981 subscribers that it is unlikely to attract new entrants to come into such a small market. Also the mobile phone market with about 1,500 subscribers is currently not large enough to attract another mobile phone company due to the lack of economies of scale and the high fixed costs of establishing a second mobile service.

The only segment of the market which is likely to attract a new competitor is the international telephone call market. Some local firms are already likely to be using call-back services from Australia and New Zealand or the USA to gain the advantages of much lower prices. Also some firms may be using voice over Internet services.

In our scenario (based on the assumption of full deregulation of the whole telecommunications market) we predict that new entrants would enter the international telephone market using wireless technology and that the price of international calls would fall by an average of 50%. Consumers would save 50% of the cost of their current level of calls. It is assumed that the

government would require all new entrants to the international call market to pay a levy into a universal service fund may be as much as 10% of the average current international telephone call charge. The 50% reduced call fee assumes that the new entrants pay a 10% universal call fee levy and that without the levy the call fees would reduce by 60%.

Our analysis of the likely impact of full-scale competition in the Solomon Islands telecommunication market is shown in Table 1 of this report. The economic benefits to consumers are estimated to be US$2.5 million per year.

F. Nauru

Telecom Nauru operates a very small system with 600 subscribers located on the one island of Nauru, which consist of 21 sq km with a population of 11,845. Nauru uses the Australian currency. Overall telephone density is 18%, there are 300 persons on the waiting list for telephone lines. There are about 5,000 international outgoing calls per year. The government ministry responsibility for telecommunications services is the Telecommunication Department, Directorate of Telecommunication. Nauru is using Intelligent Document Recognition (IDR) satellite services for international communication and Demand Assigned Multiple Access (DAMA) for regional services. Nauru has digitized its telecommunication network and developed a direct international service. Nauruans are able to dial any country in the world direct, with fewer delays and clearer connections. Mobile cellular services have been extended to the business community and the customers via an Advanced Mobile Phone System (AMPS) cellular switch. Internet customers and digital switch subscribers use a copper cable network. Optical fiber cable and digital wireless loop technologies are being explored for future expansion of the network infrastructure.

Currently, Nauruans are experiencing sever financial constraints due to the lack of income from the extraction of phosphate which was the nation's main source of income. Family incomes have declined from a high per capita income of about US$3,000 to a low weekly income of government workers of less than a Australian dollars (A$)100 per week. With the greatly restricted family budgets it is to be expected that expenditure on telephone calls will remain low for at least the next ten years. It is very unlikely that deregulating the telecommunications market would attract foreign firms to set up new business in the country. Some companies may be willing to get up call back international card systems and no doubt Nauruans will look to saying income by using voice over the Internet services for international calls. We therefore conclude that the benefits of deregulations in the case of Nauru are likely to be small.

G. Niue

Niue has a population of only 1,650. The Communications Act 1989 established Telecom Niue to operate the domestic and international Postal and Telecommunications services. Telecom Niue was also given control and management of the frequency spectrum. New legislation is proposed for the continuing liberalisation process by the corporatisation of Telecom Niue.

H. Palau

The Republic of Palau is a sovereign nation that has a population of 19,129 at the last census in July 2000. It is an island chain consisting of several main populated islands and hundreds of smaller mainly uninhabited islands. The Palau National Communication Corporation (PNCC) is the Republic of Palau's national telecommunications carrier for local and international call services. It has about 7,000 subscribers, and an annual revenue of over US$8 million. The PNCC has been granted rights and authorization as the sole monopoly telecommunications provider. It has been corporatised and aims to be a self-sufficient business enterprise. It has secured a $39 million long-term loan from the USA to enable it to modernize it telecommunications infrastructure. The USA Rural Utilities (RUS) is providing financial,

technical and management assistance to it modernise. It uses varies digital satellite circuits with seven international carriers. International direct dialing was implemented in 1993 and PNCC also uses debit and credit card systems for international calls. Email services were introduces in 1997 and consumers have access to broadband Internet. ISDN technology is providing remote schools and medical clinics with distance learning and telemedicine services.

A special feature of PNCC is the assistance it receives from the United States, RUS service which has assisted it to complete rebuild and modernize the telecommunication infrastructure, according to stringent specifications and standards established by RUS.

1. Impact of Deregulation in Palau

Given the small size of the market and substantial technical and financial assistance provided by RUS, it is unlikely that new competitors would be attracted to set up businesses in competition with the PNCC. Deregulation or the threat of entry of a new competitor may, however, motivate PNCC to benchmark its prices for international telephone calls against international comparators. There are likely to be benefits from deregulating the telecommunications market to make it constable so that the current monopoly provide knows that it exploits it monopoly power and makes supernormal profits it will attract the attention of investors who then might enter the market to capture some of the excess profit. The threat of potential competition may motivate PNCC to charge more moderate prices for international calls. Our analysis of the likely impact of full-scale competition in the Palau telecommunication market is shown in Table 1 of this report. The economic benefits to consumers are estimated to be US$1.74 million per year.

I. Kiribati

1. Telikom Services Kiribati Limited (KSTL)

"Telecommunication Services of Kiribati Ltd (TSKL) was established in 1990 as a Joint Venture between the Government of Kiribati and Telstra Australia. It is the only national telecommunications supplier and offers a full range of services to the people of Kiribati. Employing 130 full time staff and approximately 25 casual staff it is one of the largest businesses in Kiribati. TSKL has experienced a high annual growth rate of approximately 10% over the last few years.

TSKL operates a wireless phone system, which is analogue and not compatible with GSM. TSKL also operates an ISP present in Tarawa and in Kirimati Island. Links with the rest of the world is achieved with Intelsat satellite and with equipment provided under a Forum Secretariat initiative. As the national ISP, TSKL also offers customer assistance in e-commerce and related subjects.

The regulator of the Kiribati ICT sector is the Ministry of Transport and Communications. New investment by TSKL includes four DRCS (Digital Radio Concentrate Systems) that have recently been supplied by Telstra, for the introduction of communication to the Outer Islands. These systems will provide voice, data and Internet at 9600 bps and will eventually be used for Telehealth and Tele-learning on the remote atolls".

Source: World Bank – Report on Diagnostic Review October 2001; Meritec Limited 13.

2. Impact of Deregulation in Kiribati

Given the small size of the market, it is unlikely that new competitors would be attracted to set up businesses in competition with the TSKL. However, deregulation and the threat of entry of a new competitor may motivate TSKL to benchmark its prices for international telephone calls against international comparators. There are likely to be benefits from deregulating the

telecommunications market to make it constable so that the current monopoly provide knows that it exploits it monopoly power and makes supernormal profits it will attract the attention of investors who then might enter the market to capture some of the excess profit. The threat of potential competition may motivate TSKL to charge more moderate prices for international calls.

Table 17: Kiribati Telecommunication Data

KIRIBATI	2000	2001	2002	2003
Total telecommunication service revenue (US$)	4284884	4145078	..	..
Cellular - cost of 3 minute local call (off-peak) (US$)	1.046512	0.932642	0.978261	1.168831
Cellular - cost of 3 minute local call (peak) (US$)	1.046512	0.932642	0.978261	1.168831
Cellular mobile telephone subscribers (Total)	300	395	495	526
Cost of a local 3 minute call (off-peak rate) (US$)	..	..	..	..
Cost of a local 3 minute call (peak rate) (US$)	0.104651	0.093264	0.097826	0.116883
International outgoing telephone traffic (minutes)	474423	645750	..	..
International incoming telephone traffic (minutes)	..	1595965	..	..
Internet subscribers	500	548	758	..
Internet users per 100 inhabitants	1.771416	2.322395	2.2842	..
Main telephone lines in operation	3353	3628	4474	..
Main telephone lines per 100 inhabitants	3.959706	4.212824	5.109756	..
Business telephone connection charge (US$)	40.69767	36.26943	38.04348	45.45454
Business telephone monthly subscription (US$)	8.139535	7.253886	7.608696	9.090909
Cellular connection charge (US$)	40.69767	36.26943	38.04348	45.45454
Cellular monthly subscription (US$)	17.44186	15.54404	16.30435	19.48052
Residential monthly telephone subscription (US$)	4.651163	4.145078	4.347826	5.194805
Residential telephone connection charge (US$)	40.69767	36.26943	38.04348	45.45454

Source: International Telecommunications Union (ITU) Database, 2005 (http://www.itu.int).

Our analysis of the likely impact of full-scale competition in the Kiribati telecommunication market is shown in Table 1 of this report. The economic benefits to consumers are estimated to be US$0.95 million per year.

J. Marshall Islands

The Marshall Islands National Telecommunications Authority is a private corporation with significant ownership by the National Government that was established in 1987. It is the authorized provider of all telecommunications services for the people of the Marshall Islands, who number about 54,000.

Marshall Islands National Telecommunications Authority (NTA) has a monopoly on the provision of all telecom services in the Republic of the Marshall Islands (RMI). Until mid-2003 there was no local ISP, so Internet access was provided through a satellite link to IT&E Overseas on Guam. A digital TDMA-800 cellular service launched during 2000, replacing the island's original AMPS system. This system includes both fixed and mobile services and provides telephone service to some of the other islands in the Kwajalein Atoll where no fixed-line service is available.

Table 18: Marshall Islands Telecommunication Data

MARSHALL ISLANDS	2000	2001	2002	2003
Total telecommunication service revenue (US$)	6100000	5970000	6660000	6400000
Cellular - cost of 3 minute local call (off-peak) (US$)	0.3	0.3	0.3	0.3
Cellular - cost of 3 minute local call (peak) (US$)	0.3	0.3	0.3	0.3
Cellular mobile telephone subscribers (Total)	447	489	552	598
International outgoing telephone traffic (minutes)	1150045	1019282	679959	839769
International incoming telephone traffic (minutes)	2410229	2818361	2271966	3673358
Internet subscribers	409	472	654	695
Internet users per 100 inhabitants	1.550297	1.718311	2.351304	2.594514
Main telephone lines in operation	3999	4186	4379	4461
Main telephone lines per 100 inhabitants	7.749549	7.992058	8.237086	8.267235
Mobile communication revenue (US$)	2900000	1500000	..	..
Business telephone connection charge (US$)	35	35	35	35
Business telephone monthly subscription (US$)	30	30	30	30
Cellular connection charge (US$)	35	35	35	35
Cellular monthly subscription (US$)	25	25	25	25
Main telephone lines in largest city	2752	2872	..	..
Residential monthly telephone subscription (US$)	12	12	12	12
Residential telephone connection charge (US$)	30	35	35	35
Total telecommunication service revenue (US$)	6,100,000	5,970,000	6,660,000	6,400,000
Cellular mobile telephone subscribers (Total)	447	489	552	598
International outgoing telephone traffic (minutes)	1,150,045	1,019,282	679,959	839,769
International incoming telephone traffic (minutes)	2,410,229	2,818,361	2,271,966	3,673,358
Internet subscribers	409	472	654	695
Internet users per 100 inhabitants	2	2	2	3
Main telephone lines in operation	3,999	4,186	4,379	4,461
Main telephone lines per 100 inhabitants	8	8	8	8
Mobile communication revenue (US$)	2,900,000	1,500,000	..	..

Source: International Telecommunications Union (ITU) Database, 2005 (http://www.itu.int).

Our analysis of the likely impact of full-scale competition in the Marshall Islands telecommunication market is shown in Table 1 of this report. The economic benefits to consumers are estimated to be US$1.43 million per year.

K. Samoa

Information on the telecommunications sector development is covered in xx of this report. This part addresses the likely impact of any further deregulation that may occur in Samoa. Samoa is already enjoying the benefits of deregulation with strong price competition keeping call rates down.

Source: International Telecommunications Union 2005.

Table 19: Samoa Telecommunication Data

SAMOA	2000	2001	2002	2003
Total telecommunication service revenue (US$)	9726444	10057471	11568047	15151515
Cellular - cost of 3 minute local call (peak) (US$)	..	0.258621	0.266272	..
Cellular mobile telephone subscribers (Total)	2500	2500	2700	10500
Cost of a local 3 minute call (peak rate) (US$)	0.033435	0.031609	0.032544	0.037037
International outgoing telephone traffic (minutes)	12000000	13745617	7297975	7430381
International incoming telephone traffic (minutes)	..	12907841	19030486	19708750
Internet subscribers	300	1000	1320	..
Internet users per 100 inhabitants	0.565457	1.679731	2.217295	..
Main telephone lines in operation	8520	9670	11786	13287
Main telephone lines per 100 inhabitants	4.817697	5.414334	6.533259	7.292255

Source: International Telecommunications Union (ITU) Database, 2005 (http://www.itu.int).

Our analysis of the likely impact of full-scale competition in the Samoan telecommunication market is shown in Table 1 of this report. The economic benefits to consumers are estimated to be US$1.39 million per year.

L. Tonga

Information on the telecommunications sector development is covered in xx of this report. This part addresses the likely impact of any further deregulation that may occur in Samoa.

Tonga is already enjoying the benefits of deregulation with strong price competition keeping call rates down to the lowest in the Pacific Islands. The rates are comparable with New Zealand.

Table 20: Tonga Telecommunications Data

TONGA	1999	2000	2001	2002	2003
Total telecommunication service revenue (US$)	4315419	..	..	..	..
Cellular - cost of 3 minute local call (off-peak) (US$)	..	..	0.212264	0.068182	..
Cellular - cost of 3 minute local call (peak) (US$)	..	..	0.254717	0.095455	..
Cellular mobile telephone subscribers (Total)	140	180	236	3354	..
Cost of a local 3 minute call (peak rate) (US$)	..	..	0.04717	0.054545	0.084112
Coverage of population (%)	..	..	85	95	..
International outgoing telephone traffic (minutes)	1573880	2490000	3070000	..	..
International incoming telephone traffic (minutes)	..	..	..	..	..
Internet subscribers	..	1206	1407	1893	..
Internet users per 100 inhabitants	1.017294	2.434077	2.831143	2.923387	..
Main telephone lines in operation	9100	9700	10800	11201	..
Main telephone lines per 100 inhabitants	9.257376	9.837729	10.92012	11.29133	..

Source: International Telecommunications Union (ITU) Database, 2005 (http://www.itu.int).

M. Tuvalu

Tuvalu Telecommunications Corporation was established under the Tuvalu Telecommunication Corporation Act 1993. The corporation is the sole provider of telecommunication services and has been given exclusive rights under the Act to install and provide all telecommunications services in Tuvalu. With a population of about 10,000, Tuvalu has a very small telephone system, comprising only 650 subscribers.

Table 21: Tuvalu Telecommunications Data

TUVALU	2000	2001	2002	2003
Total telecommunication service revenue (US$)	1116279	1196891	..	..
International outgoing telephone traffic (minutes)	821980	822450	..	..
Internet subscribers	120	200	250	310
Internet users per 100 inhabitants	5.291005	10.52632	13.07395	18.75
Main telephone lines in operation	660	650	..	..
Main telephone lines per 100 inhabitants	6.984127	6.842105	..	..

Source: International Telecommunications Union (ITU) Database, 2005 (http://www.itu.int).

1. Impact of Deregulation in Tuvalu

Given the small size of the market and the low capacity of consumers to pay for telephone services, it is unlikely that new competitors would be attracted to set up businesses in competition with the TTC. Deregulation or the threat of entry of a new competitor may, however, motivate TTC to benchmark its prices for international telephone calls against international comparators. There are likely to be benefits from deregulating the telecommunications market to make it constable so that the current monopoly provide knows that it exploits it monopoly power and makes supernormal profits it will attract the attention of investors who then might enter the market to capture some of the excess profit. The threat of potential competition may motivate TCC to charge more moderate prices for international calls.

Our analysis of the likely impact of degegulation in the Tuvalu telecommunication market is shown in Table 1 of this report. The economic benefits to consumers are estimated to be US$0.32 million per year.

N. Vanuatu

Vanuatu has a population of about 204,000. Telecom Vanuatu Limited (TVL) was established in 1992 and has an inclusive license to operate all the telecommunications operations until the year 2012. It is a joint-venture company between the Government of Vanuatu, the Cable and Wireless, and France Telecom. Since 1990, TVL has invested over 3 billion Vatus to upgrade the whole of the telecommunications network, which is nearly fully digitalised. It is continuing to develop rural communications. Since 2002, a mobile GSM service has been operating in Port Vila, Luganville on Santo Island & Norsup on Malekula Islands. It offers services such as web hosting, permanent lease line, frame relays, data communications and Internet. Table 22 shows the operating statistics for Telecom Vanuatu Limited. We expect that the opening of this market to competition will have a very positive result and will attract new entrants.

Table 22: Vanuatu Telecommunications Data

VANUATU	2000	2001	2002	2003
Total telecommunication service revenue (US$)	11793476	12237430	..	..
Cellular - cost of 3 minute local call (peak) (US$)	0.98082	0.929048	0.862069	0.982077
Cellular mobile telephone subscribers (Total)	365	350	4900	7800
Cost of a local 3 minute call (peak rate) (US$)	0.147123	0.206455	0.215517	0.245519
Coverage of population (%)	..	..	20	..
International outgoing telephone traffic (minutes)	3370000	2815735	..	..
Internet subscribers	1400	1849	1500	1500
Internet users per 100 inhabitants	2.086594	2.793296	3.461919	3.610977
Main telephone lines in operation	6640	6762	6611	6540
Main telephone lines per 100 inhabitants	3.463745	3.434231	3.269535	3.148772
Business telephone connection charge (US$)	..	61.93655	64.65517	73.65578
Business telephone monthly subscription (US$)	..	10.8389	11.31466	12.88976
Cellular connection charge (US$)	65.38797	61.93655	35.91954	40.91988
Cellular monthly subscription (US$)	35.96338	34.0651	0	0
Residential monthly telephone subscription (US$)	..	10.8389	11.31466	12.88976
Residential telephone connection charge (US$)	..	61.93655	64.65517	73.65578

Source: International Telecommunications Union (ITU) Database, 2005 (http://www.itu.int).

There would be significant economic benefits to consumers and private sector businesses in deregulating the telecommunications market in Vanuatu and making it open to competition. The possibility of new firms entering the market would motivate TVL to benchmark its prices for international telephone calls against international comparators. It is most worthwhile to make the market constable so that the current monopoly provider, TVL, knows that if it exploits its monopoly power and makes supernormal profits, then it will attract the attention of investors who may enter the market to capture some of the excess profit. The threat of potential competition may motivate TVL to charge more moderate prices for international calls.

Our analysis of the likely impact of full-scale competition in the Vanuatu telecommunication market is shown in Table 1 of this report. The economic benefits to consumers are estimated to be US$2.98 million per year.

O. Cook Islands

The Cook Islands has a population of about 19,000 persons. Telecom Cook Islands Limited (TCIL) was established in 1991 as a joint venture between the Government of Cook Islands and Telecom New Zealand. Telecom New Zealand owes 60% of the shares in the company and the Cook Islands Government owns 40%. The company is the sole provide of telecommunications in the Cook Islands. It offers public telephones, faxs, Internet & directory services, and employees approximately 100 staff.

1. Impact of Deregulation in the Cook Islands

Given the small size of the market, it is unlikely that new competitors would be attracted to set up businesses in competition with the TCIL. There would be some advantage in deregulating the market and making it open to competition. The possibility of a new firm entering the market would motivate TCIL to benchmark its prices for international telephone calls against international comparators. There are likely to be benefits from deregulating the telecommunications market to make it constable so that the current monopoly provide knows that it exploits it monopoly power and makes supernormal profits it will attract the attention of investors who then might enter the market to capture some of the excess profit. The threat of potential competition may motivate LCIL to charge more moderate prices for international calls.

Our analysis of the likely impact of allowing competition in the Cook Islands telecommunication market is shown in Table 1 of this report. The economic benefits to consumers are estimated to be US$0.32 million per year.

P. Federated States of Micronesia

The Federated States of Micronesia, with a population of about 112,000, consist of 607 islands spread across approximately a million square miles in the Western Pacific Ocean. Telecommunications are supplied by the FSM Telecommunications Corporation. There are 12,000 main telephone lines. The overall telephone density is 8.02, with the rural telephone density being only 1.5. The number of cellular subscribers is about 4,000 and there are about 2,000 Internet subscribers. 7% of the population resides in urban areas and per capita GDP is US$2,157. The United States Rural Utility (RUS) has assisted with rebuilding and expanding the network which commenced in the mid-1900s. The development of the network in the 1900s led to the number of subscribers doubling and connected the network to remote communities.

Table 23: Telecommunications Data of the Federated States of Micronesia

FEDERATED STATES OF MICRONESIA	2000	2001	2002	2003
Total telecommunication service revenue (US$)	10950000	11000000	12000000	11000000
Cellular - cost of 3 minute local call (off-peak) (US$)	0	0	1.2	1.2
Cellular - cost of 3 minute local call (peak) (US$)	0	0	1.8	1.8
Cellular mobile telephone subscribers (Total)	0	0	100	5869
Cost of a local 3 minute call (off-peak rate) (US$)	..	..	..	..
Cost of a local 3 minute call (peak rate) (US$)	0	0	0	0
Coverage of population (%)	0	..	..	..
International outgoing telephone traffic (minutes)	1941654	2538907	2478929	2387050
International incoming telephone traffic (minutes)	4722100	5768809	6737852	6395572
Internet subscribers	1482	1500	1695	1913
Internet users per 100 inhabitants	3.738038	4.659832	5.576208	9.26784
Main telephone lines in operation	9647	10078	10106	11144
Main telephone lines per 100 inhabitants	9.015214	9.392358	9.392193	10.32808
Mobile communication revenue (US$)	0	0	0	0
Annual investment for telephone service (US$)	..	1800000	2600000	2400000
Business telephone connection charge (US$)	24	24	24	24
Business telephone monthly subscription (US$)	16	16	16	16
Cellular connection charge (US$)	0	0	..	..
Cellular monthly subscription (US$)	0	0	0	0
Main telephone lines in largest city	..	..	..	..
Mobile communication investment (US$)	..	..	..	..
Number of national long distance telephone (minutes)	1207283	1024352	1454988	1356672
Number of local telephone (minutes)	..	..	42314720	42539852
Residential monthly telephone subscription (US$)	8	8	8	8
Residential telephone connection charge (US$)	24	24	24	24
Telephone faults per 100 main lines	66.12	48.1	48.1	48.1

Source: International Telecommunications Union (ITU) Database, 2005 (http://www.itu.int).

1. Cellular Network

The FSM Telecommunication Corporation (FSMTC) operates GSM cellular mobile network serving the states of Pohnpei, Kosrae, Yap and Chuuk. Also Internet services are provided through a dial-up connection in the four states. Satellite communication is costly for FSM and a link to the fiber optic network will have a large positive impact allowing easy access to broadband technology. Linkage to the international fiber connection is a high priority for the FSM Government.

2. Impact of Deregulation on FSM

FSM is in the similar situation to the Republic of Palau. It has the national telecommunications company has received substantial government financing and technical assistance from the RUS, in accordance with their high standards and specifications. Its assistance has greatly modernize the network by developing digital switches placing the majority of cable underground and replacing worn copper cables.

Due to the small size of the market it is unlikely that international investors will be attracted to enter the market. However, there would be some advantage in deregulating the market and making it open to competition. The possibility of a new firm entering the market would motivate FSMTC to benchmark its prices for international telephone calls against international comparators. There are likely to be benefits from deregulating the telecommunications market to make it constable so that the current monopoly provide knows that it exploits it monopoly power and makes supernormal profits it will attract the attention of investors who then might enter the market to capture some of the excess profit. The threat of potential competition may motivate FSMTC to charge more moderate prices for international calls and introduce new technology more rapidly.

Our analysis of the likely impact of allowing competition in the FSM telecommunication market is shown in Table 1 of this report. The economic benefits to consumers are estimated to be US$2.61 million per year.

Q. Longer-term Dynamic Impact on Economic Development

The long term dynamic impacts of deregulation are likely to be very positive and a stimulant to economic growth. This section of this report draws on research and publications the author has conducted with Professor Jan Nowak from the University of the South Pacific and Professor Charles Davis from the New Brunswick University (Davis, McMaster, Nowak)

1. Benefits of Telecommunications Deregulation for New Business Opportunities

Deregulation of telecommunications in the Pacific will substantially lower international communications costs of all businesses and open up new business opportunities. Many Australian and New Zealand enterprises are reducing their operating costs by outsourcing IT – enabled business functions to firms operating in low wage countries. Business process outsourcing (BPO) - outsourcing of information systems, data processing services, and other IT-enabled business services (ITEBS) - represents a development opportunity for some Pacific Island economies such as Fiji Islands, Samoa and Tonga. With deregulated and competitive telecommunication sectors, Fiji Islands, Tonga and Samoa could develop back-office industries employing an estimated 20,000 young ICT skilled workers over the next decade.

IT-enabled business services are increasingly footloose and could be attracted to some Pacific Island countries providing they offer significant cost advantages, and have in place the IT infrastructure, cyber laws and a market friendly investment environment.

Global trade in IT-enabled services (ITES) is expanding rapidly as connectivity decreases the transaction and communication costs among firms. Chief among these services are IT-enabled business services (ITEBS) – services that are used internally by firms to produce a final good or service for customers. Lower-skill ITEBS, such as keyboarding, text entry, transcription, data processing and contact centres can be located successfully in low-income countries, provided that infrastructure standards and other conditions of service quality are met. India is the undisputed leader in business process outsourcing, but other countries with major outsourcing capability include Canada, People's Republic of China (PRC), the Czech Republic, Hungary,

Ireland, Israel, Mexico, the Philippines, Poland, Russia, and South Africa. Belarus, Caribbean states, Egypt, Ukraine, Bangladesh, Cuba, Ghana, Senegal, and quite a few others, including Fiji Islands, are developing outsourcing capability or have announced their intention to do so (Rundell, 2003; UNCTAD, 2003). Highly knowledge-intensive business services (such as R&D and engineering, software development, content production, or highly reliable applications hosting) have been traditionally located in or near major metropolitan areas in developed countries, but they are increasingly footloose and now can be found in locations with pools of highly skilled workers and appropriate infrastructure and amenities.

Overall, global outsourcing of manufacturing and services doubled in value to approximately one trillion dollars between 1997 and 2000, with North America, Europe, and Asia accounting for 94% of the outsourcing market (Corbett, 2001a). The fastest growing areas of outsourcing are in business process or back office functions such as human resource administration, media management, information technology, customer care, and marketing (Corbett, 1999).

The Fiji Islands Government has recognised the potential for the development of the IT-enabled business services and is keen to quickly establish a niche in this rapidly expanding market. The Government considers that Australia and New Zealand are most likely to be the main markets of ITEBS because of their closeness to Fiji Islands. Since 2001 the Fiji Islands Trade and Investment Bureau (FTIB) has been lobbying the Fiji Islands Government to allocate resources to establish an information technology park and also to fund a more aggressive targeted marketing campaign to establish Fiji Islands as a new location for back offices IT services.

By November 2003 the results of a modestly funded FTIB marketing effort are bearing fruit. Several pioneering firms are now in operation in the banking and credit card services, insurance claims processing and airline industry voucher processing, as well as call centres for IT support services.

Quest Ltd, a subsidiary of the ANZ Bank Limited, has established an IT business centre in Suva that employed 53 full-time staff by October 2003 with expansion plans to double its employment during the coming year. It provides 24-hour on-line technical support services to 22 countries on IT systems support through its call centre in Suva. It also provides ANZ Visa Card support services and back office corporate services in finance and marketing to ANZ banks located in several of the other Pacific Island countries.

Affiliated Computer Services opened its doors on 29 October 2003, employing 60 trained staff to undertake airline voucher processing for Air New Zealand. It has rented two floors in the new Fijian Holding Limited office tower in central Suva. It also plans to expand rapidly to increase its workforce to over 120 persons within a year of commencing operations.

Computech Limited has also commenced operations in the software development industry employing more than a dozen IT professionals including skilled programmers with university IT degrees. It has a contract with a USA state government for software development work.

Other developments include Colonial Insurance that undertakes medical claims processing for Pacific Island clients, Telecom Fiji that operates a 29-seat call centre and the Westpac Bank that services its regional bank office IT network from its Suva-based IT operation. Apart from call centres, a project that has attracted a lot of attention in Fiji Islands is the proposed development of an audio-visual industry, for which the Fiji Audio Visual Commission (FAVC) has been established. As a starter, the “Studio City Zone” has been set up in Yaqara, on the northern shores of the main island of Viti Levu. The 2200-hectare Studio City is a tax free zone for business and individuals. It is designed to attract investors in filmmaking, tourist resorts, residential housing, retail, and audio-visual education fields (FAVC, undated).

IT-enabled business services can be classified into three kinds of activities: administrative,

customer services, and technical, and into three levels of skill- and knowledge-intensity – low, medium, and high (McMaster and McGregor, 1999).

Table 24

SKILL LEVEL AND KNOWLEDGE INTENSITY	ADMINISTRATIVE	CUSTOMER SERVICE	TECHNICAL
Low	Data entry; clerical	Call centre; routine queries; order taking; direct mail order processing	Transcription; indexing and abstracting
Intermediate	Secretarial; data capture and processing; mailing lists; credit card application processing	Account queries; after sales support; insurance claim processing, processing of warranty card and claims	Website design and management; medical records management; medical transcription
High	Accounting; payroll; electronic publishing; facilities management; management consultancy; legal services	Problem and dispute resolution	Software development; R&D; application hosting; technical writing; computer aided design; tele-medicine; engineering design; education; animation

Source: Adapted from McMaster and McGregor (1999).

The resulting taxonomy provides a view of the ranges of service activities that can be offered at the three levels of complexity. The simplest tasks are routine data entry, customer service, and clerical activities. Intermediate services include ones requiring some judgement or unscripted interaction on the part of workers: secretarial work, application or claim processing, management of records, transcription of specialised documents, and some kinds of website design and management. High-end ITEBS include remote delivery of professional services, dispute resolution, and complex technical or creative work such as software development, technical writing, animation, or remotely delivered educational or health services. Specialised markets are rapidly developing for low-skill services such as data processing and customer service delivery as well as for critical knowledge-intensive business service activities such as R&D and engineering design (Quinn, 2000). When business processes are of a strategic nature, firms prefer to outsource to “captive service farms” rather than to third-party service providers in an arm’s-length relationship (Aron and Singh, 2002).

Low-end IT-enabled business services have been targeted as a strategic priority by many developing countries or regions. ITEBS are increasingly footloose, and any country with an appropriate telecommunications infrastructure and suitably qualified labour can compete for them. Entry barriers are relatively low: investment requirements are not great, the services are labour-intensive, cycle times are short, and many kinds of ITEBS do not require high levels of technical expertise. Therefore competition is intense. Here we briefly review the factors that condition the ability of a country to supply ITEBS exports.

Migration of business services to low-income countries is driven first and foremost by the lower costs of critical human resource inputs. Labour is often the single largest cost component of a service activity, representing up to eighty percent of the cost of a contact centre, for example. The cost savings for professional services supplied from a low-income country can be substantial. Qualified accountants in India are paid $3,000 per annum compared to $35,000 in the United States. Western companies such as GE Capital Services, British Airways and American Express are reported to have saved 40-50% of operational costs by shifting their

customer interaction centres to India (Anonymous, 2001b). However, in addition to the cost savings that translate into shareholder value, executives of firms that outsource business processes or back office functions consider that outsourcing yields improved service quality and freedom to focus on core competencies (Management Trends in Outsourcing, 2001).

Linguistic ability is the second most important factor in the ability to compete as an ITEBS provider. Many customer services require knowledge of English. Countries that possess disciplined and literate workers able to work in or with English have a competitive advantage, at least in many of the lower-skilled service segments. This is one reason why certain Asian countries are best positioned to take advantage of the current outsourcing boom (Corbett, 1999).

Quality of telecommunications infrastructure and the connectivity speed and costs constitute the third most critical factor in developing successful ITEBS. As ITEBS are traded over long distance, they are very sensitive to the speed and costs of transacting and communicating. Access to high speed Internet connections and the costs of Internet services are of particular importance to ITEBS providers.

The fourth most important factor is the regulatory environment affecting the development of ITEBS. International rules of trade in services are sensitive to ongoing negotiations concerning movement of persons, definitions of subsidies, government procurement practices, taxes and regulations on electronic commerce, and market access. The elements of a national regulatory environment that affect the development of tradable ITEBS include “cyber laws” regarding digital signatures, information privacy, encryption, intellectual property; labour laws permitting contingent, twenty-four hour labour employment; regulations affecting the availability, cost, and quality of telecommunications services; taxation laws; and domestic, inward, and outward investment policies. Investors in ITEBS prefer to establish ventures in countries that offer:

- Transparent, consistent and predictable commercial laws and business environment,
- Sound macroeconomic management of the economy, with low inflation and relatively stable foreign exchange rates as well as easy repatriation of profits and capital,
- Safety and security of persons and property,
- Protection of property rights and enforcement of contracts, and
- Political and economic stability (Duncan et al., 1999).

Although demand for ITEBS is booming, several factors on the horizon could reduce or alter the composition of demand for these services. Since demand for cost efficiencies drives the development of many outsourced ITEBS, technological advances that substitute for low-skilled labour may reduce the need for some kinds of services. For example, smart products and optical recognition may reduce the need for data keyboarding, and voice recognition and artificial intelligence technologies may reduce the need for low-skilled customer service representatives. The differentiation of customer services along a scale from routine to high touch/high quality has led to the option of “near-sourcing” high grade customer contact services in Canada, where the labour force is literate, disciplined, and affordable (McCracken, 2003). Finally, the development of intelligent systems will allow firms to selectively route tasks on the basis of cost, opportunity, or skill, resulting in virtual service networks in which individual service providers can be located practically anywhere.

Taking the above research findings into consideration, how does Fiji Islands, Tonga and Samoa fare as a potential locale for placing outsourced IT-enabled business services?

Fiji Island’s economy is dominated by the services sector that accounts for 70% of employment and income. In the context of outsourcing ITEBS, it is also worth noting that Fiji Islands is located on a time zone 12 hours ahead of GMT, thus making the country’s location ideal for “overnight” processing of data sent from Europe and North America.

The lower wage cost is the major factor that makes Fiji Islands , Tonga and Samoa attractive choices for ITEBS firms. Table 1 presents comparative wage rates for semi-skilled IT workers in 5 countries, including Fiji Islands. Two of them, Australia and New Zealand, are primary target markets for outsourcing ITEBS from Fiji Islands, and the remaining three, Singapore, Fiji Islands and India, can be considered as competing providers of these outsourced services. Fiji Island's wage rates are around one-fifth of those in Australia and New Zealand. Both countries' IT-services firms can obtain substantial cost reductions by locating their services in Fiji Islands. At the same time, Fiji Island's wage rates are comparable to those of its main competitor - India - that has been successful in developing ITEBS exports.

Another key condition of attracting outsourced ITEBS pertains to the English language capabilities, education levels and requisite IT skills of the work force. Fiji Islands has both strengths and weaknesses in these areas. It has an English speaking, generally well-educated population, but at the same time it suffers from the lack of adequate IT-skills among students and graduates.

Table 25: Comparative Wage Rates for Semi-Skilled IT Workers

COUNTRY	*F$ PER HOUR*
Australia	15-20
New Zealand	10-15
Singapore	4-8
Fiji Islands	2-4
India	2-3

Source: TARPnz Strategic Methods Limited, 2001, p. 13.

English has become the official language in Fiji Islands for state transactions and inter-communal exchange, as well as for business. This is in spite of the fact that the 1997 Constitution recognises that Fiji Islands is a multilingual state with the main languages (Fijian, Hindi and English) being equal in terms of status, use and function. The reality is that in a multi-ethnic Fiji Islands, there is a need for a *lingua franca* and this need is perfectly filled by English (Fiji Islands Education Commission, 2000). English is also the language of education used at all the three levels of education - primary, secondary and tertiary[1].

Fiji Islands ranks favourably among its main potential competitors in ITEBS industries in terms of literacy levels of its population. Fiji Island's literacy rate of about 93 % is higher than that of India (57%), PRC (84%), Dominican Republic (84%) and Mexico (91%), and is only slightly lower than that of the Philippines (95%) (UNESCO, 2002). The country also ranks favourably when the education index, prepared for the UNDP Human Development Report, is used as a measure of educational attainments[2]. Of the 24 small nation states included in the UNDP Human Development Report (UNDP, 1999), Fiji Island's education index placed the country at the top of the group (6th place). Overall, the population of Fiji Islands achieved an educational attainment index of 0.88, which is higher than the average for the developing countries as a whole, and higher than the indices for South East Asia (0.67) and the Pacific (0.8). Based on the

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[1] **English is formally used as the instruction language from the fourth year of the primary school on. However, many primary schools use it as the instruction language from year one (Fiji Islands Education Commission, 2000).**

[2] **The index is calculated on the basis of a country's combined primary, secondary and tertiary education enrolment levels along with its literacy rates.**

above figures, one can conclude that Fiji Islands is better positioned than most of its main competitors in terms of the availability of well-educated employees required by ITEBS firms.

Although general education levels of Fiji Island's work force may be adequate, for IT-enabled business services such general levels, although indispensable, are often not sufficient. What is increasingly sought by IT firms is a computer-literate work force. In developed countries, major efforts are being made to fully computerise teaching and administration in secondary schools and to introduce computers extensively at primary education level. In developing countries, on the other hand, such efforts are rare, although there are noticeable exceptions. In Malaysia, for example, the "Smart Schools" initiative is aimed directly at producing a highly computer-literate generation of school leavers during this decade (TARPnz Strategic Methods Limited, 2001). In Fiji Islands, such initiatives are lacking, mostly due to a shortage of funds, equipment, qualified teaching staff, and materials. As a result, very few secondary school leavers are computer literate and therefore only a small minority of secondary school graduates are expected to attain tertiary-level computing-related qualifications.

The quality and costs of telecommunication services is the third most important factor conditioning the development of ITEBS in low-income countries. In this area, Fiji Islands has major weaknesses. A Discussion Paper published by the Pacific Islands Forum Secretariat in 2000 (Pacific Islands Forum Secretariat, 2000) points to high cost of Internet access in Fiji Islands, especially for high volume (business) users, as compared to the Internet costs in developed countries. Although the situation has improved since 2000, costs of Internet access in Fiji Islands are still considerably higher than in neighbouring developed countries; they are almost three times as high as the equivalent access costs in New Zealand and nearly two times as high as in Australia (ITU, 2003). However, in comparison to other Pacific Island countries, for which ITU has recently collected data, Fiji Island's rates are not high (see Table 2). Also, Fiji Islands has some of the better telecommunications infrastructure and educational facilities in the region.

Table 26

(US$)

COUNTRY	TOTAL INTERNET ACCESS PRICE INCLUDING TELEPHONE USAGE CHARGE, 20 HOURS OF USE
Fiji Islands	31.74
French Polynesia	69.29
Marshall Islands	20.00
New Caledonia	80.34
Papua New Guinea	20.00
Samoa	42.97
Solomon Islands	91.15
Tonga	45.45
Vanuatu	46.70
Average	49.74

Source: ITU (2003).

On the positive side, a mention should be made of the high bandwidth capacity of the Southern Cross fibre-optic cable, which was launched in November 2000. The cable, linking Fiji Islands directly to Australia, New Zealand and the U.S., has given Fiji Islands the fast and reliable connection to the Internet that ITEBS need. In practical terms, it provides the carrying capacity for much increased level of telecommunications traffic, needed, for example, for multiple call centres and high volume data transfers. The Southern Cross cable places Fiji Islands, at least potentially, on a par with any other competing location globally.

Generally speaking, Fiji Islands has a market friendly business environment, sound macroeconomic policies, low inflation, and a relatively stable foreign exchange rate. Fiji Islands also has a modern set of commercial contract laws that are enforced by the judiciary. It offers relative safety and security of persons and property, and enforcement of commercial contracts. In terms of foreign investment, Fiji Islands has mainly attracted investment from family owned companies from Australia and New Zealand. A recent survey by the Fiji Islands Trade and Investment Bureau (FTIB) has found that the majority of investors over the last decade have been owners/managers who are seeking a relaxed island lifestyle in an unpolluted, healthy environment with good quality schools, hospitals and a modern regional university with satellite network to 12 countries.

In its Web page, FTIB advertises the following advantages that Fiji Islands offers to potential investors:

- Easy repatriation of capital and profits.
- An adaptable, productive, industrially disciplined and English speaking labour force with low wage rates.
- An attractive package of financial and other incentive schemes.
- Reasonable air and sea links with overseas markets
- Sophisticated telecommunication links with the rest of the world
- A well developed infrastructure, including electricity, water supplies and internal communications
- Availability of factory land and buildings at reasonable rates.
- Well-developed banking and financing institutions providing full ongoing financial services.
- Under the Foreign Investment Act 1999, the FTIB issues business certificates to all new proposals within 15 days of receiving complete proposals.

In spite of this encouraging advertisement, foreign investors' impression of the real situation is far from being rosy. Notably, "red tape" and bureaucracy are rated highly among obstacles to doing business in Fiji Islands. Even if the FTIB issues a Foreign Investment Certificate promptly, a foreign investor is subsequently faced with a daunting task of obtaining numerous approvals from various authorities. Some of these approvals may take months or years to obtain. For example, it is reported that it typically takes about a year to obtain approvals from the Lands and Survey Department; some potential investors are reported to have gone bankrupt because of the delay (Asian Development Bank, 2000). Other obstacles pointed to by foreign investors include restrictive immigration requirements and procedures, a lack of clear accountability, responsibility and urgency among government agencies, and a low level of competence and efficiency among the staff handling foreign investment cases (TARPnz Strategic Methods Limited, 2001).

R. Impacts on Consumers, Producers and the Government

The table below summarises the likely impacts of deregulation on the various consumer and producer groups.

Table 27: Economic Benefits and Costs of ICT Deregulation in the Pacific Islands

GROUP	COSTS	BENEFITS
Urban Residential Consumers		• Reduced tariffs • Increased consumer surplus • Improvement in ICT service quality • Choice of providers
Rural Consumers	Slower roll out of fixed-line network to isolated locations that are uneconomic	• Reduced cost of some ICT services • Improved quality of services • Introduction of new wireless services
Private Businesses		• Reduced business ICT costs • Businesses more competitive globally • Expanded use of Internet of business functions • Opportunities for new Business Process Outsourcing
Government and other public utilities		• Reduced cost of ICT services for government departments and public enterprises • Improved Internet services and more rapid introduction of e-government • Increased government revenue from a more rapid growth of ICT total revenue
Regulator for ICT	Need to strengthen regulation to ensure strong competition on a level playing field	
Monopoly ICT Provider	• Loss of monopoly market power • Loss of opportunity to make supernormal profits • Pressure to reduce costs and to excess staff • Lower incentive to invest in long term capital infrastructure • Reduced capacity to repay loans for previous capital investment • Reduced market share • Strong price competition from new competitors • Need to improve productivity	
New ICT providers		• Opportunity to enter new profitable market • Opportunities to test new technology in small markets
Educational Institutions		• Reduced cost of Internet for e-learning

1. Measuring the Benefits to Consumers

The benefits to consumers are fully discusses in section II.D. of this report.

Consumers will be the main beneficiaries of increased competition. Tonga, Samoa and other country experience has shown that charges decline sharply following the entry of new providers

in the market. The price elasticity of demand for international telephone calls is likely to be unitary, -1.0 +or – 0.3. Total expenditure on international call by all consumer groups is likely to remain at the same level.

The new entrants to the markets will capture some percentage of the market share. Strong price competition is likely to occur between the providers. The government monopoly provider will face strong competition from the new entrants. It will be forced to lower its charges. The lower charges will lead to an expansion of demand. At the same time some of its customers will switch over to the new providers if they are not tied down by long-term contracts.

2. Impact on the Current Monopoly Providers

The impact on the current monopoly providers is difficult to estimate and will be affected by how rapidly they adjust to the new competitive environment. They will need to increase their productivity and in some cases cut operating costs. Some providers may reduce the size of their workforce. The experience of Tonga suggests that the price elasticity of demand is likely to be close to unitary or unit elasticity. If this is the case, then the total revenue received by telecommunications operators will remain about the same. A key issue is how to deal with the provision of uneconomic services to the remote rural areas and the expansion of the network to new remote areas. We recommend that each country establish a universal service fund and that they require all operation to contribute equitably to the fund. The Philippines has implemented such as system.

3. Impact on total Employment in the ICT Industry.

The introduction of competition and lowering of prices should result in an expansion of total employment in the industry as demand for services expand due to lower prices. New jobs will be created in the new telecommunication firms that enter the market. Lower telecommunications prices will have a positive impact across the whole on the private sector and government sector. It will also have benefits in promoting e-commerce and open up new employment opportunities as discussed in section IV.R.

S. Post-Liberalization Regulatory Arrangements

1. Regional and National level Regulatory arrangements to promote Competition

Effective regulation of the providers is essential to ensure that the full benefits of competition are realized. The cost of regulation is minimal and insignificant in comparison to the benefits of effective regulation. At the most it might cost 1% of total sector revenue. The important issue is not the economic cost of regulation but ensuring that the regulators have the technical and financial skills to ensure the enforcement of strong competition on a level playing field.

The importance of effective regulation is emphasised in a 2004 study on Telecommunications deregulation in the ASEAN countries. Quoting from the report:

"There is a positive and reinforcing connection between market liberalization and telecommunications development. Experience, including within ASEAN, shows that liberalization is associated with higher service quality, greater levels of teledensity, lower prices and improved customer choice.

However, liberalization and the introduction of competition are not sufficient to achieve these results, and in the absence of complementary measures there are some risks, including those of the capture of essential infrastructure and abuse of market power by incumbents.

Another consequence may be the withdrawal of services from relatively poor or isolated areas as competitive processes undermine the basis for the cross subsidies that currently fund those services."

Source: Liberalization and Harmonization of ASEAN Telecommunications, REPSF Project No. 02/009 The Asia Pacific School of Economics and Government, ANU, Society for the Advancement of Technology Management at the University of the Philippines, Thailand Development Research Institute, Final Main Report, July 2004

In most FICs there currently is a small group of 2-4 staff involved in regulatory activities in the appropriate ministry. The skills level of the current regulatory staff may need enhancing when the sector is opened for competition through the licensing of new entrants. It is important to ensure that there is a level playing field and that the former government monopoly provider does not use its power to block access of consumers to the new providers. In most FICs it would be cost effective to establish a single utilities regulator to regulate the energy and ICT sectors rather than have a separate regulator for each utility.

Our report recommends that the FICS should consider establishing a regional authority similar to the Eastern Caribbean Telecommunications Authority that was established by the Governments of five Eastern Caribbean states to promote market liberalization and competition in telecommunications of the contracting states. ECTEL is regional agency that provides advice and makes recommendations on telecommunications matters and helps to manage the sector in its member states. The organization's headquarters is located in Castries, Saint Lucia. It is supported at the national level in each member state by a National Telecommunications Regulatory Commission (NTRC) that interfaces with users and providers and helps to manage the licensing process.

V. CONCLUSIONS

A. Main Findings

1. International case studies of telecommunications deregulation undertaken by the International Telecommunication Union and other researchers clearly demonstrate the substantial economic benefits that result from opening monopoly government-dominated telecommunication markets to private sector competition by licensing new providers. The research shows that competition results in improved service quality and lower prices, a higher level of investment in new infrastructure, more rapid adoption of new technology, increased bandwidth and improved productivity and efficiency in the use of resources. Competitive telecommunications markets will generate substantial net economic benefits to the citizens of the Pacific Islands to all consumer groups including urban and rural residential subscribers, private sector business firms, schools and universities, public enterprises and government department and agencies. All consumers stand to gain and the costs of regulation are tiny.
2. The economic benefits to consumers in the Pacific islands from lower telecommunication charges for international calls, mobile calls and Internet usage are estimated to be

US$66 million a year for the Forum Island countries (FICs) as a whole, based on the assumption that the telecommunication markets are fully competitive with strong price competition among the providers operating on a level playing field. It is assumed that the regulator will ensure that new entrants have access to the fixed line network owned by the former monopoly provider at fair access rental rates. This economic benefit is in the form of consumer surplus.

3. Over a five-year period the total consumer surplus resulting from deregulation and competition in the FICs is estimated to have a present value of **US$285.9 million** at a 5% discount rate and **US$250.9** discounted at 10%. These estimates are based on revenue data drawn from the International Telecommunications Union (ITU) Database 2005 edition, on total telecommunications revenue for each ITU member country and a set of assumptions about the likely level of reduction of call charges following competition, the threat of competition in contestable markets, projections of market segment growth rates, the profitability of different market segments and the price elasticity of demand for services in the different countries. Almost all the consumer surplus is estimated to come from the sharp reduction in international telephone call rates and peak rate mobile phone rates and Internet costs.
4. The introduction of competition will also lead to improved service quality and a more rapid increase in bandwidth but no attempt has been made in this study to estimate the monetary value of quality improvement based on the willingness of consumers to pay. The New Zealand experience with telecommunication deregulation shows that the benefits of quality improvement may be greater than the benefits from call rate reductions. The benefits to New Zealand consumers were improved service availability, in terms of access to new services, fault service response, and new service installation times.
5. The longer-term dynamic impacts of deregulation and the development of competitive telecommunication markets will be most beneficial for private sector development, trade and investment promotion and will support the generation of an estimated 20,000 new jobs ICT-enabled businesses such as call centres and back office services.
6. International case studies demonstrate that the costs of providing high quality regulation of the telecommunications markets following the introduction of competition are minimal and usually less than 1% of industry total revenue.
7. It is important for FIC governments to allocate sufficient resources to strengthening national utilities regulatory authorities and to enact appropriate modern regulatory laws and regulations prior to deregulation to support the introduction of strong and fair competition.
8. International experience demonstrates that it is not necessary to maintain a public telecommunications monopoly in order to cross-subsidies the provision of telecommunications services to rural areas and remote island communities through profits by from international calls. The universal service objectives of expanding services to rural areas can be achieved by establishing a universal service fund and requiring all telecom providers to contribute to the fund. It may then be used to provide universal service obligations through contracting out these activities to providers.
9. There are likely to be substantial cost savings and economic benefits from all FICs enacting a common set of E-commerce laws. Most governments have recognized the need for new laws to support national ICT policy and ICT development plans. Fiji Islands, Cook Islands and Tonga have made good progress in drafting a set of modern

e-commerce laws benchmarked on international best practice. A regional approach to e-commerce laws has many advantages.

10. There may be a sound case for establishing a Pacific Islands regional telecommunication authority similar to the Eastern Caribbean Telecommunications Authority to promote liberalization and fair competition, harmonization of regulations and policies, universal service, fair pricing, access to advanced services, and overall sector development across the Pacific Islands. There are likely to be substantial economies of scale and other technical advantages from adopting a regional approach to industry regulation especially since the smaller FICs may not be able to attract professionally skilled ICT regulatory specialists to lead the national regulatory authorities.

B. Recommendations

1. All Pacific Island countries should deregulate their telecommunications markets and at the same time establish effective national regulatory authorities to ensure all new and existing operators play by the rules of fair competition. The regulator should ensure that not single operator can exploit a dominant market position to unfairly prevent competition or to establish barriers to entry. There should be a level playing field.
2. Governments should establish a telecommunications community service fund and require all operators to make contributions to the fund based on capacity to pay and an equity formula. The fund should be used to finance and subsidize the provision and expansion of services to consumers residing rural and remote areas.
3. A regional approach to the development of e-commerce cyber laws should be adopted to ensure all countries enact the same unified set of modern laws and regulations.
4. A regional approach should be adopted for the institutional strengthening and technical support for national utility regulatory authorities. The Forum Island Countries (FICs) should establish a Pacific Islands regional telecommunication authority similar to the Eastern Caribbean Telecommunications Authority to assist member countries deregulate their telecommunications sector.
5. A regional undersea cable project should be implemented under the leadership of Pacific Islands Forum Secretariat (PIFS) to link all FICs to the Southern Cross cable network. (see appendix 3 Undersea Cable Proposal by M. Robinson)

APPENDIX 1: INTERNATIONAL TELECOMMUNICATION UNION PACIFIC ISLAND COUNTRY DATA

PAPUA NEW GUINEA

National currency: Kina — Area: 462'840 km2

	Indicators		Unit	Year Ending 31.12									
				1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	DEMOGRAPHY, ECONOMY												
61	Population	1	10x3	4'129	4'259	4'393	4'532	4'674	4'822	4'974	5'130	5'295	5'464
62	Households	2	10x3	909	950	990	1'010	1'030	1'050	1'070	1'090	1'110	1'138
63	Gross domestic product (GDP)	3	10x6	4'867	5'381	5'888	6'881	7'064	7'789	8'781	11'088	...	...
652	Average annual exchange rate per US$	4		0.98	1.01	1.28	1.32	1.44	2.07	2.57	2.78	3.39	3.90
66_95	Consumer price index (1995=100)	5		83	85	100	112	116	132	151	175	191	214
	TELEPHONE NETWORK												
112	Main telephone lines in operation			39'321	40'017	43'648	46'796	54'087	56'938	59'773	64'835	62'000	62'000
91	Main telephone lines per 100 inhabitants			0.95	0.94	0.99	1.03	1.16	1.18	1.20	1.26	1.17	1.13
1142	% digital main lines		%	41.0	55.0	58.0	61.0	...	75.0	75.0	79.0	...	...
116	% residential main lines		%	20.0	27.0	...	...	...	...	...	...	...	...
1162	% main lines in urban areas			86	86	...	...	...	...	...	...	...	...
1112	Public payphones			480	477	456	...	...	750	800	810	...	...
117	Line capacity of local exchanges			52'268	52'292	61'190	65'300	69'700	74'400	79'500	85'000	90'865	...
123	Waiting list for main lines			152	277	...	...	...	500	455	200	...	...
	MOBILE SERVICES												
271	Cellular mobile telephone subscribers			—	—	—	2'285	3'857	5'558	7'059	8'560	10'700	15'000
911	Cellular subscribers per 100 inhabitants			—	—	—	0.05	0.08	0.12	0.14	0.17	0.20	0.27
	OTHER SERVICES												
412	Private leased circuits			123	123	...	...	...	...	...	...	...	...
	TRAFFIC												
1311m	Local telephone (minutes)		10x6	...	...	...	...	...	25	26	32	...	...
1311im	Dial-up Internet traffic (minutes)		10x6	...	...	...	...	...	5	6	8	...	...
132m	Int'l outgoing telephone (minutes)		10x6	22	21	24	27	23	25	25	24	25	...
132mi	Int'l incoming telephone (minutes)		10x6	...	...	...	...	...	21	20	19	...	...
	STAFF												
51	Full-time telecommunication staff			1'397	1'695	2'026	2'047	...	1'790	1'790	1'790	...	...
51f	- of which: female			...	...	...	...	...	340	340	340	...	...
	QUALITY OF SERVICE												
143	Faults per 100 main lines per year		%	...	...	10.1	...	...	...	...	...	...	...
	TARIFFS												
151	Residential teleph. connection charge			60	60	60	...	...	120	120	120	50	50
151b	Business teleph. connection charge			220	220	220	...	...	560	560	560	50	50
152	Residential teleph. monthly subscription			...	...	...	...	...	3	3	3	4	7
152b	Business teleph. monthly subscription			...	...	...	...	...	11	11	11	11	20
153	3-minute local call (peak rate)			0.17	0.17	0.17	...	...	0.80	0.80	1.00	0.22	0.30
153o	3-minute local call (off-peak rate)			...	...	...	...	...	0.50	0.50	0.70	0.22	0.30
151c	Cellular connection charge			—	—	—	...	...	1'200	1'200	1'200	90	90
152c	Cellular monthly subscription	6		—	—	—	...	...	200	200	250	40	40
153c	Cellular - 3-min. local call (peak rate)			—	—	—	...	...	1.80	1.80	2.25	2.25	2.25
153co	Cellular - 3-min. local call (off-peak rate)			—	—	—	...	...	1.80	1.80	2.25	2.25	2.25
	REVENUE AND EXPENSE												
75	Total telecom services revenue		10x6	138	142	140	150	...	184	188	220	...	...
71	- Telephone service revenue		10x6	...	...	...	...	...	157	159	183	...	...
741	- Mobile communication revenue		10x6	—	—	—	...	...	9	10	12	...	...
	CAPITAL EXPENDITURE												
81	Annual telecom. investment		10x6	...	...	...	...	...	161	165	182	...	...
	BROADCASTING												
965	Television receivers	7		11'000	12'200	15'000	16'500	18'000	20'000	60'000	100'000	110'000	...
965h	Television equipped households	8		...	...	135'000	135'000	14'000	15'000	50'000	85'000	90'000	...
965c	Cable TV subscribers	9		...	...	...	...	...	...	18'000	20'000	22'000	...
	INFORMATION TECHNOLOGY												
422	Personal computers			...	...	...	...	...	200'000	240'000	280'000	300'000	321'000
4213	Internet subscribers			...	...	...	...	...	...	...	27'000	...	...
4212	Estimated Internet users			...	...	...	100	5'000	12'000	35'000	45'000	50'000	75'000
4214	International Internet Bandwidth (Mbps)			—	—	—	—	...	2	3	3	6	6
99	Internet users per 100 inhabitants			...	...	...	—	0.11	0.25	0.70	0.88	0.94	1.37

Source: Telikom PNG.

(1) Source: UN; ITU estimate. 1990: Latest census. (2) ITU estimate. (3) Source: IMF. 2000: Bank of Hawaii. (4) Source: IMF. From 1998: Asian Development Bank. (5) Source: IMF. (6) From 2001: Cellnet. (7) 1994: Source: National Broadcasting Commission. ITU estimate. (8) ITU estimate. (9) 2001: ITU estimate.

FIJI

National currency: Dollar — Area: 18'332 km2

Indicators			Unit	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
				Year Ending 31.12									
DEMOGRAPHY, ECONOMY													
61	Population	1	10x3	752	759	768	774	788	797	806	810	813	820
62	Households	2	10x3	126	127	128	129	130	132	133	134	136	137
63	Gross domestic product (GDP)	3	10x6	2'565	2'673	2'800	2'962	3'060	3'283	3'588	3'505	3'836	2'089
652	Average annual exchange rate per US$	4		1.54	1.46	1.41	1.40	1.44	1.99	1.97	2.13	2.28	2.19
66_95	Consumer price index (1995=100)	5		97	98	100	103	107	113	115	116	121	122
TELEPHONE NETWORK													
112	Main telephone lines in operation	6		53'997	59'471	64'772	70'018	71'793	76'933	81'518	86'400	92'222	97'515
91	Main telephone lines per 100 inhabitants			7.18	7.84	8.43	9.05	9.12	9.66	10.11	10.66	11.34	11.90
1142	% digital main lines		%	84.3	85.6	85.6	84.0	99.3	99.7	99.8	100.0	98.0	99.8
116	% residential main lines		%	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	60.0
1162	% main lines in urban areas			44	44	44	44	44	80	...	...	44	44
1112	Public payphones			377	392	577	687	822	887	1'018	1'259	1'500	1'000
117	Line capacity of local exchanges			64'510	70'086	77'610	84'512	90'778	91'582	94'700	98'000	105'980	110'726
123	Waiting list for main lines			8'069	9'360	8'927	8'103	6'445	3'125	5'166	5'139	4'032	4'969
MOBILE SERVICES													
271	Cellular mobile telephone subscribers			—	1'100	2'200	3'700	5'200	8'000	23'380	55'057	80'933	89'900
2712	- Digital cellular subscribers			—	1'100	2'200	3'700	5'200	8'000	23'380	55'057	80'933	89'900
271p	- Cellular prepaid subscribers			...	...	...	...	...	—	—	...	...	81'812
271pop	Coverage of population (%)	7	%	...	...	...	...	...	...	...	40.0	49.5	55.0
911	Cellular subscribers per 100 inhabitants			—	0.14	0.29	0.48	0.66	1.00	2.90	6.79	9.95	10.97
OTHER SERVICES													
28	ISDN subscribers			—	—	—	—	—	—	—	—	20	...
28c	ISDN B channel equivalents	8		—	—	—	—	—	—	—	—	40	...
412	Private leased circuits			...	...	...	...	...	1'322	...	...	84	500
TRAFFIC													
1311m	- Local telephone (minutes)		10x3	...	...	...	...	...	...	...	258'118	89'300	89'300
1312m	- National trunk telephone (minutes)		10x3	...	...	...	...	...	...	...	42'470	39'500	39'500
132m	Int'l outgoing telephone (minutes)	9	10x3	13'249	14'289	15'148	16'000	17'155	17'985	18'800	15'025	19'700	23'165
132mi	Int'l incoming telephone (minutes)		10x3	21'948	24'000	27'112	30'000	34'231	34'998	...	40'385	57'000	67'959
133wm	Total mobile (minutes)		10x3	...	...	...	...	...	...	...	17'347	21'684	39'782
133sm	Mobile SMS sent		10x3	...	...	...	...	...	...	...	...	...	2'992
STAFF													
51	Full-time telecommunication staff			950	1'106	1'068	1'061	1'096	1'183	1'197	1'354	1'585	2'000
51f	- of which: female			...	...	...	...	...	920	...	...	...	600
QUALITY OF SERVICE													
141	% teleph. faults cleared by next day		%	...	...	...	...	...	...	...	60	90	75
143	Faults per 100 main lines per year		%	210.0	190.0	180.0	167.0	194.0	153.0	128.0	135.0	117.0	9.3
TARIFFS													
151	Residential teleph. connection charge			114.00	114.00	114.32	84.52	84.52	84.52	84.52	84.52	84.52	84.52
151b	Business teleph. connection charge			286.00	286.00	285.98	285.95	285.95	285.95	285.95	285.95	285.95	285.95
152	Residential teleph. monthly subscription			5.32	5.32	5.32	5.32	5.32	5.32	5.32	3.12	2.84	2.84
152b	Business teleph. monthly subscription			6.78	6.78	6.78	6.78	6.78	6.78	6.78	4.58	4.16	4.16
153	3-minute local call (peak rate)	10		0.11	0.11	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
153o	3-minute local call (off-peak rate)			0.11	0.11	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
151c	Cellular connection charge			—	110	110	110	110	110	110	110	—	—
152c	Cellular monthly subscription			—	44	44	44	44	44	44	44	33	33
153c	Cellular - 3-min. local call (peak rate)			—	0.60	1.80	1.80	1.80	1.80	1.80	1.80	0.66	0.66
153co	Cellular - 3-min. local call (off-peak rate)			—	0.60	1.80	1.80	1.80	1.80	1.80	1.80	0.66	0.66
REVENUE AND EXPENSE													
75	Total telecom services revenue		10x6	76.14	93.00	97.40	106.70	111.90	123.00	138.00	186.50	201.00	155.00
71	- Telephone service revenue		10x6	60.77	72.00	79.00	92.80	90.50	100.30	100.50	149.50	148.00	88.00
741	- Mobile communication revenue		10x6	—	0.80	1.30	2.20	3.40	4.70	26.00	26.37	37.66	53.01
CAPITAL EXPENDITURE													
81	Annual telecom. investment		10x6	18.70	10.30	23.30	34.00	39.00	21.50	32.00	32.65	42.00	83.00
841m	- Mobile communication investment		10x6	...	...	...	...	...	...	...	5.96	8.21	4.90
BROADCASTING													
965	Television receivers	11		40'000	50'000	70'000	75'000	78'000	80'000	88'908	92'000	95'100	96'000
965h	Television equipped households			...	45'000	63'000	67'500	70'200	72'000	80'017	82'800	85'590	87'000
965s	Home satellite antennas			25	70	190	...	...	...	139	105	111	113
INFORMATION TECHNOLOGY													
422	Personal computers	12		...	...	...	...	...	32'000	34'000	36'000	38'000	40'000
4213	Internet subscribers			50	60	60	407	1'080	2'061	2'500	3'500	5'500	7'600
4212	Estimated Internet users			50	60	70	500	1'750	5'000	7'500	12'000	15'000	50'000
4214	International Internet Bandwidth (Mbps)			—	—	...	...	...	...	1	4	...	8
99	Internet users per 100 inhabitants			0.01	0.01	0.01	0.06	0.22	0.63	0.93	1.48	1.84	6.10
423	Public Internet access facilities			...	...	...	...	...	...	...	...	11	15

Source: Telecom Fiji.

(1) Source: Telecom Fiji. Since 1989: Fiji Islands Statistics Bureau. (2) Source: 1976: UN. Telecom Fiji. ITU estimate. (3) Source: IMF. Since 2000: Reserve Bank of Fiji. (4) Source: IMF. (5) Source: IMF. (6) 2000: ITU estimate. (7) Vodacom Fiji. (8) ITU estimate. (9) 2000: ITU estimate. (10) Flat rate. (11) Source: Ministry of Information, Broadcasting and Telecommunications. (12) ITU estimate.

SOLOMON ISLANDS

Area: 29'790 km2

National currency: Dollar

	Indicators		Unit	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
				Year Beginning 01.04									
	DEMOGRAPHY, ECONOMY												
61	Population	1	10x3	346	356	366	376	387	398	409	420	432	444
62	Households	2	10x3	52	54	55	57	59	60	62	64	65	67
63	Gross domestic product (GDP)	3	10x6	755	897	1'059	1'226	1'391	1'449	1'376	1'239	1'399	...
652	Average annual exchange rate per US$	4		3.19	3.29	3.41	3.57	3.72	4.82	4.84	5.09	5.30	6.75
66_95	Consumer price index (1995=100)	5		81	91	100	112	121	136	147	...	...	...
	TELEPHONE NETWORK												
112	Main telephone lines in operation	6		5'460	6'020	6'502	7'210	7'695	7'907	8'132	7'689	7'389	6'601
91	Main telephone lines per 100 inhabitants			1.58	1.69	1.78	1.92	1.99	1.99	1.99	1.83	1.71	1.49
1142	% digital main lines		%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
116	% residential main lines		%	...	...	...	...	...	40.0	50.0	65.0	...	...
1162	% main lines in urban areas			...	...	...	...	...	45	50	...	...	...
1112	Public payphones			64	78	108	134	153	184	179	254	...	...
117	Line capacity of local exchanges			5'460	5'876	6'502	...	...	10'000	20'000	30'000	...	...
123	Waiting list for main lines	7		223	163	184	36	37	44	42	36	...	...
	MOBILE SERVICES												
271	Cellular mobile telephone subscribers			—	144	230	337	658	702	1'093	1'151	967	999
271pop	Coverage of population (%)		%	...	...	...	...	...	...	25.0	35.0	...	...
911	Cellular subscribers per 100 inhabitants			—	0.04	0.06	0.09	0.17	0.18	0.27	0.27	0.22	0.22
	TRAFFIC												
132m	Int'l outgoing telephone (minutes)	8	10x3	1'806	2'064	2'979	2'741	3'499	2'025	1'912	2'997	5'907	...
132mi	Int'l incoming telephone (minutes)		10x3	...	...	2'050	3'202	3'248	2'443	3'647	6'649	...	...
	STAFF												
51	Full-time telecommunication staff	9		262	267	276	278	277	272	254	151	151	...
51f	- of which: female			...	...	...	...	...	38	36	22	...	...
51w	- Mobile communications staff			...	...	...	...	...	12	...	...	...	...
	QUALITY OF SERVICE												
141	% teleph. faults cleared by next day		%	...	...	...	...	...	88	87	...	...	...
143	Faults per 100 main lines per year		%	...	...	...	...	...	5.0	5.0	...	...	...
	TARIFFS												
151	Residential teleph. connection charge			...	...	...	200.00	200.00	200.00	200.00	250.00	200.98	200.98
151b	Business teleph. connection charge			...	...	...	240.00	240.00	240.00	240.00	227.91	227.91	227.91
152	Residential teleph. monthly subscription			...	...	...	36.00	38.40	38.40	38.40	38.40	32.00	32.00
152b	Business teleph. monthly subscription			...	...	...	40.00	40.00	40.00	40.00	48.00	48.00	48.00
153	3-minute local call (peak rate)			...	0.37	...	0.46	0.46	0.46	0.46	0.46	0.46	0.46
153o	3-minute local call (off-peak rate)			...	...	...	...	0.46	0.46	0.46	0.46	0.46	0.46
151c	Cellular connection charge			—	...	...	...	...	150	190	190	190	190
152c	Cellular monthly subscription			—	...	...	...	...	45	45	45	45	45
153c	Cellular - 3-min. local call (peak rate)			—	...	...	...	...	6.12	6.12	6.12	6.12	6.12
153co	Cellular - 3-min. local call (off-peak rate)			—	...	...	...	...	6.12	6.12	6.12	6.12	6.12
	REVENUE AND EXPENSE												
75	Total telecom services revenue		10x6	30.06	38.24	47.18	51.98	66.44	67.60	68.00	61.05	64.09	...
	CAPITAL EXPENDITURE												
81	Annual telecom. investment		10x6	5.34	14.98	11.62	10.30	17.62	25.54	114.00	112.00	...	...
	BROADCASTING												
965	Television receivers	10		2'000	2'000	2'500	3'000	4'000	5'000	5'000	5'000	5'000	5'000
965h	Television equipped households	11		...	...	1'000	1'500	2'000	2'000	2'400	2'600	2'800	2'800
965s	Home satellite antennas			18	20	500	600	750	645	540	750	...	...
	INFORMATION TECHNOLOGY												
422	Personal computers	12		...	...	...	...	9'000	10'000	14'000	16'000	17'000	18'000
4213	Internet subscribers	13		...	...	...	...	...	800	1'000	1'150	906	988
4213ds	- DSL Internet subscribers			...	...	...	...	...	...	—	—	—	108
4212	Estimated Internet users			...	...	90	1'000	1'500	2'000	2'000	2'000	2'000	2'200
4214	International Internet Bandwidth (Mbps)	14		—	—	—	...	...	...	0.3	0.3	0.5	0.5
99	Internet users per 100 inhabitants			...	...	0.02	0.27	0.39	0.50	0.49	0.48	0.46	0.50

Source: Cable & Wireless Solomon Islands Ltd.

(1) Source: 1986 and 1999 census. Other years:UN and ITU estimate. (2) 1970, 1976, 1986, 2000: UN. Other years: ITU estimate. (3) Source: IMF. 1983-2000: Asian Development Bank. 2001: World Bank. (4) Source: IMF. From 1998: Asian Development Bank. (5) Source: IMF. (6) Billable lines. 1982-84,1988: ITU estimate. Between 2000-20003: The number of fixed lines declined due to civil war. (7) 1984: ITU estimate. (8) 1983: ITU estimate. (9) 1983-84: ITU estimate. (10) Source: Solomon Islands Broadcasting Corporation. Terrestrial TV broadcasting currently not available. Sets refer to video users or home satellite reception. 1992: UNESCO. (11) TV households. Source: Solomon Islands Broadcasting Corporation. (12) ITU estimate. (13) 2000-20002: The number of Internet subscribers declined due to civil war. (14) 2002: Pacific Islands Forum Secretariat. Pacific ICT Survey 2002.

SAMOA

National currency: Tala — Area: 2'841 km2

Indicators			Unit	Year Ending 31.12									
				1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
DEMOGRAPHY, ECONOMY													
61	Population	1		164'700	166'400	168'100	169'800	171'500	173'300	175'100	176'848	178'600	180'400
62	Households	2		21'960	22'187	22'413	22'640	22'867	23'107	23'347	23'580	23'800	24'000
63	Gross domestic product (GDP)	3	10x6	305	479	478	556	625	659	703	774	887	...
652	Average annual exchange rate per US$			2.57	2.54	2.47	2.46	2.56	2.95	3.01	3.29	3.48	3.38
66_95	Consumer price index (1995=100)			92	103	100	105	113	115	115	117	121	131
TELEPHONE NETWORK													
112	Main telephone lines in operation	4		7'100	7'400	7'800	8'251	8'451	8'480	8'500	8'520	9'670	11'786
91	Main telephone lines per 100 inhabitants			4.31	4.45	4.64	4.86	4.93	4.89	4.85	4.82	5.41	6.53
1111	% households with a telephone		%	...	...	69.0	...	82.0	86.0	...	...	...	...
1142	% digital main lines		%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
116	% residential main lines		%	75.0	80.0	80.0	82.0	85.0	89.0	90.0	...	...	57.0
1162	% main lines in urban areas			...	...	...	...	...	...	...	...	78	72
1163	Localities with telephone service			...	...	...	...	...	...	...	...	...	12
1112	Public payphones			...	88	100	100	150	150	150	...	...	15
117	Line capacity of local exchanges			9'000	9'000	9'000	9'000	9'000	9'000	...	...	...	14'500
123	Waiting list for main lines			600	500	800	1'200	1'500	2'500	3'500	...	3'623	7'586
MOBILE SERVICES													
271	Cellular mobile telephone subscribers	5		—	—	—	—	766	1'480	2'432	2'500	2'500	2'700
271pop	Coverage of population (%)		%	...	...	...	...	...	60.0	...	...	...	...
911	Cellular subscribers per 100 inhabitants			—	—	—	—	0.45	0.85	1.39	1.41	1.40	1.50
OTHER SERVICES													
28	ISDN subscribers			—	—	—	—	—	—	—	—	2	9
28c	ISDN B channel equivalents			—	—	—	—	—	—	—	—	4	396
412	Private leased circuits			...	...	...	...	...	...	...	...	...	75
TRAFFIC													
132m	Int'l outgoing telephone (minutes)	6	10x3	3'800	4'100	6'767	6'803	7'109	9'175	10'192	12'000	13'746	7'298
132mi	Int'l incoming telephone (minutes)		10x3	5'900	7'500	8'500	9'800	8'208	10'395	11'814	...	12'908	19'030
133wm	Total mobile (minutes)		10x3	...	...	...	...	...	3'100	...	...	...	...
STAFF													
51	Full-time telecommunication staff	7		195	174	167	200	250	260	210	200	185	252
51f	- of which: female			...	...	...	...	...	...	...	...	...	97
51w	- Mobile communications staff			...	...	...	...	5	5	...	...	...	...
QUALITY OF SERVICE													
141	% teleph. faults cleared by next day		%	...	...	...	...	...	...	...	...	...	20
143	Faults per 100 main lines per year		%	...	...	45.0	40.0	36.0	29.0	22.0	...	...	...
TARIFFS													
151	Residential teleph. connection charge			50	50	50	50	50	50	50	60	60	60
151b	Business teleph. connection charge			50	50	50	50	50	50	50	85	85	85
152	Residential teleph. monthly subscription			10	10	10	10	10	10	10	15	15	15
152b	Business teleph. monthly subscription			15	15	15	15	15	15	15	10	10	10
153	3-minute local call (peak rate)			0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.11	0.11	0.11
153o	3-minute local call (off-peak rate)			0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.11	0.11	0.11
151c	Cellular connection charge			—	—	—	...	...	125	125	125	125	125
152c	Cellular monthly subscription			—	—	—	...	30	30	30	30	30	30
153c	Cellular - 3-min. local call (peak rate)			—	—	—	...	...	...	...	...	0.90	0.90
REVENUE AND EXPENSE													
75	Total telecom services revenue		10x6	15.10	17.00	19.99	22.65	25.27	29.00	30.00	32.00	35.00	39.10
CAPITAL EXPENDITURE													
81	Annual telecom. investment		10x3	...	...	2'800	2'800	2'500	3'000	4'000	...	...	...
83	- Annual investment for telephone service		10x3	...	...	...	...	...	...	...	...	...	11'790
BROADCASTING													
965	Television receivers			18'000	20'000	22'000	23'000	23'000	24'000	24'000	25'000	26'000	26'000
965h	Television equipped households			...	...	21'600	22'000	22'000	22'000	22'000	22'000	23'000	23'000
965c	Cable TV subscribers			—	—	210	225	480	600	...	...	...	...
965s	Home satellite antennas			—	—	—	—	50	100	...	...	...	...
INFORMATION TECHNOLOGY													
422	Personal computers	8		...	...	100	300	500	800	900	1'000	1'100	1'200
4213	Internet subscribers			...	...	...	...	100	130	150	300	1'000	1'320
4212	Estimated Internet users			...	...	...	...	300	400	500	1'000	3'000	4'000
4214	International Internet Bandwidth (Mbps)	9		—	—	—	—	...	...	...	0.3	2.3	3.0
99	Internet users per 100 inhabitants			...	...	...	...	0.17	0.23	0.29	0.57	1.68	2.22

Source: General Post Office.

(1) Source: Until 1990: UN. 1991 and 2000 census datat. Other years: ITU estimate. (2) 1976, 2000: UN. Other years: ITU estimate. (3) Source: Asian Development Bank. 2001: World Bank. (4) 1982-1989 and 99-2000: ITU estimate. (5) 1997: as of 10 February, 1998. (6) 1983: ITU estimate. (7) 1992-1993: ITU estimate. (8) ITU estimate. (9) 2002: Pacific Islands Forum Secretariat. Pacific ICT Survey 2002.

FRENCH POLYNESIA

Area: 3'941 km2

National currency: CFP Franc

	Indicators		Unit	Year Ending 31.12									
				1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	DEMOGRAPHY, ECONOMY												
61	Population	1	10x3	210	215	218	220	223	226	230	233	236	240
62	Households	2	10x3	48	49	50	50	51	51	52	53	54	55
63	Gross domestic product (GDP)	3	10x6	344'453	360'698	362'523	392'266	385'644	410'310	412'000	446'100	523'932	...
652	Average annual exchange rate per US$	4		107.16	101.10	91.10	93.30	106.12	99.90	111.97	113.57	133.35	112.58
66_95	Consumer price index (1995=100)			...	...	...	...	...	...	115	117	118	...
677e	Telecom equipment exports (US$)		10x6	...	...	...	...	...	...	1	1	—	—
677i	Telecom equipment imports (US$)		10x6	...	...	...	...	...	...	11	14	17	15
	TELEPHONE NETWORK												
112	Main telephone lines in operation	5		44'943	47'078	48'655	51'236	52'297	53'089	52'272	53'689	52'632	52'500
91	Main telephone lines per 100 inhabitants			21.35	21.88	22.32	23.34	23.47	23.48	22.78	23.01	22.26	21.87
1142	% digital main lines		%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
116	% residential main lines		%	...	...	...	73.0	75.0	...	...	...	...	...
1112	Public payphones			579	474	514	541	573	551	748	796	853	...
117	Line capacity of local exchanges			50'049	...	...	74'849	...	...	...	...	...	...
123	Waiting list for main lines			718	...	...	...	...	...	...	...	...	...
	MOBILE SERVICES												
271	Cellular mobile telephone subscribers			—	—	1'150	2'719	5'427	11'060	21'929	39'900	67'300	90'000
2712	- Digital cellular subscribers			—	—	1'150	2'719	5'427	11'060	21'929	39'900	67'300	90'000
271pop	Coverage of population (%)		%	...	...	...	...	...	...	80.0	...	70.0	...
911	Cellular subscribers per 100 inhabitants			—	—	0.53	1.24	2.44	4.89	9.56	17.10	28.46	37.49
	OTHER SERVICES												
28	ISDN subscribers			80	157	252	341	516	735	1'112	1'597	2'068	2'808
28c	ISDN B channel equivalents			606	1'530	1'288	1'718	2'348	3'066	4'156	5'230	6'030	7'128
412	Private leased circuits			450	...	437	448	...	...	511	...	...	...
	TRAFFIC												
1311m	- Local telephone (minutes)		10x3	...	...	...	...	...	...	112'700	113'000	...	...
1312m	- National trunk telephone (minutes)		10x3	...	...	...	...	...	...	52'600	57'000	...	...
1311im	Dial-up Internet traffic (minutes)		10x3	...	...	...	...	...	...	51'614	100'000	...	...
1313w	Fixed-mobile (minutes)		10x3	...	...	...	...	...	6'000	...	...	...	...
132m	Int'l outgoing telephone (minutes)		10x3	7'636	7'610	8'259	8'138	9'239	12'348	14'630	17'400	18'300	...
132mi	Int'l incoming telephone (minutes)		10x3	8'481	...	...	...	...	...	...	...	...	...
133wm	Total mobile (minutes)		10x3	...	...	...	...	...	6'000	...	...	...	...
	STAFF												
51	Full-time telecommunication staff	6		813	826	820	817	871	799	850	888	927	913
51w	- Mobile communications staff			...	...	...	...	...	200	...	...	...	...
	QUALITY OF SERVICE												
141	% teleph. faults cleared by next day		%	...	...	...	...	...	...	87	...	...	...
143	Faults per 100 main lines per year		%	...	...	...	...	...	...	24.6	...	...	...
	TARIFFS												
151	Residential teleph. connection charge			10'000	10'000	10'000	10'000	10'000	10'292	10'292	10'389	10'389	10'680
151b	Business teleph. connection charge			10'000	10'000	10'000	10'000	10'000	10'292	10'292	10'389	10'389	10'680
152	Residential teleph. monthly subscription			1'440	1'440	1'144	1'144	2'000	2'059	2'059	2'078	2'078	2'136
152b	Business teleph. monthly subscription			1'440	1'440	1'144	1'144	2'000	2'059	2'059	2'078	2'078	2'136
153	3-minute local call (peak rate)			32	32	32	32	32	33	33	33	33	34
153o	3-minute local call (off-peak rate)			32	...	...	...	32	33	33	33	33	33
151c	Cellular connection charge	7		—	—	...	...	...	...	...	...	6'900	2'505
152c	Cellular monthly subscription			—	—	5'900	5'900	3'900	...	...	...	2'300	—
153c	Cellular - 3-min. local call (peak rate)			—	—	288	288	...	...	...	...	366	366
153co	Cellular - 3-min. local call (off-peak rate)			—	—	...	...	...	...	...	...	366	366
153sm	Cellular - price of SMS			...	...	...	...	...	...	...	...	...	50
	REVENUE AND EXPENSE												
75	Total telecom services revenue		10x6	9'565	9'835	9'838	9'096	9'300	9'860	10'832	16'071	18'186	19'335
71	- Telephone service revenue		10x6	8'256	...	...	8'318	8'072	...	7'914	11'909	12'386	13'235
741	- Mobile communication revenue		10x6	—	—	...	...	...	...	2'700	4'200	5'800	6'100
	CAPITAL EXPENDITURE												
81	Annual telecom. investment		10x6	1'846	2'742	2'532	914	1'122	...	...	...	...	...
	BROADCASTING												
965	Television receivers	8		44'700	46'300	47'400	48'900	50'100	51'200	52'200	53'300	54'400	55'000
965h	Television equipped households	9		40'700	42'100	43'100	44'400	45'600	46'500	47'500	48'500	49'400	50'200
965c	Cable TV subscribers			—	—	...	13'500	...	...	...	8'600	...	...
965s	Home satellite antennas			...	...	...	...	...	...	...	8'600	...	...
	INFORMATION TECHNOLOGY												
422	Personal computers			...	...	...	...	...	...	51'407	75'115	66'221	70'000
4213	Internet subscribers			...	...	...	...	...	...	4'078	7'000	9'000	11'000
4212	Estimated Internet users			...	...	...	200	480	3'000	8'000	15'000	20'000	35'000
4214	International Internet Bandwidth (Mbps)			...	...	...	...	...	...	5	8	...	...
99	Internet users per 100 inhabitants			...	...	...	0.09	0.22	1.33	3.49	6.43	8.46	14.58

Source: Office des Postes et Télécommunications (OPT).

(1) Source: UN; ITU estimate. 1996: census. (2) 1977,1983,2000: UN. ITU estimate. (3) Source: IMF. 2000: Institut Statistique de Polynesie Francaise. 2001: World Bank. (4) Until 1989: World Bank. 1990-92: South Pacific Commission. 1993-2000: Bank of Hawaii. 2001: Trade New Zealand. (5) 2000: ITU estimate. (6) Including posts. (7) From 2002: Mobile tariffs refer to prepaid service. (8) Source: RFO, ITU estimates. (9) TV homes (sets). 1989 and 1996 census. ITU estimates since then.

APPENDIX 2: UNDERSEA CABLE PROPOSAL

Communications by Under sea Cable

A Concept Paper for the Solomon Islands Government

Martyn Robinson
Chief Executive Officer
Solomon Telekom Co Ltd.

A. Background

In January 2004 the Intelsat satellite 174 Degrees failed leaving the Solomon Islands without international communications for three days and without domestic communications for seven days. Most other countries in the Pacific were equally left without communications. They were in effect cut off from the outside world. This catastrophic event has highlighted the dependency of most Pacific countries, including the Solomon Islands, on the one mode of communications available to them, the satellite.

B. Benefits

This concept paper outlines some of the possible cable alternatives to satellite communications, thus alleviating the dependency on one type of communications and providing an alternative more secure system of communications for the Solomon Islands.

The provision of optic fibre cable into the Solomon Islands would have additional spin offs, including secure communications facilities and massive bandwidth for the dissemination of ICT to the people of the Solomon Islands. A cable access to the Solomon Islands would add to the strategic security of the region and country.

C. Disadvantages

Cable projects are inherently expensive and usually justified based on the expected traffic handling. In the Solomon Islands there is insufficient traffic to warrant a commercial decision on the matter. That leaves other issues to be considered alongside of the commercial benefits, such as security and bandwidth for ICT. There are three major costs relating to a cable project, these are the capital cost, the installation and the maintenance.

D. Solomon Telekom Company LTD

The matter of a cable into Solomon Islands has been discussed by the Board of Directors and it was agreed a major project development of this nature was way beyond the means of this small company. It was agreed that any such undertaking of basic infrastructure would need to be undertaken through the Government of the Solomon Islands in conjunction with one or more of the major aid donors to the country.

E. Option One – Papua New Guinea

Currently under discussion between Australia and Papua New Guinea is the diversion of the existing but no longer required cable, Pac Rim West between Sydney and Guam. This cable already passes through the Solomon Islands near the Reef Islands. The intention is to divert the cable to land at Port Moresby. There is the possibility for the Solomon Islands to join in the project to T off the new routing or to connect to the remaining Guam sector. This is probably the most cost effective proposal.

F. Option Two – New Caledonia

A new cable project is currently being planned by New Caledonia with the financial support of the French Government to connect New Caledonia to Sydney. Should this proceed then there would be the opportunity for the Solomon Islands to connect to New Caledonia via a cable. Initial indications are that a very soft loan would be forthcoming to the Government of the Solomon Islands from the mainland Chinese Government for such a project.

G. Option Three –Cable & Wireless Pacific Cable Project

Full details of this project have been provided to the Ministry of Communications, Aviation and Meteorology. This project was to basically connect most of the Pacific Countries into the cable network at Fiji.

H. Funding

Solomon Telekom cant afford it and it would be hard to justify on commercial grounds. Neither can the Solomon Island Government. Therefore in order to move this concept forward the Solomon Islands Government need to engage one or more of the major regional aid donors. An initial feasibility study needs to be undertaken.

I. Recommendation

It is recommended that cabling the Pacific Islands should be taken to the Pacific Island Forum to endeavour to get this concept adopted as a Pacific Forum policy. If this were to happen there would probably be more support form the various aid agencies.

APPENDIX 3: TELECOM FIJI TARIFFS,JUNE 2005

TelecomFiji

As authorised by the Commerce Commission in accordance with the Commerce Act 1998 Cap 50, tariff changes will be implemented effective from 1 June, 2005 for all TFL customers.

New Telecom Fiji Prices (Residential)

The new residential prices as determined by the Commerce Commission are as follows:

Call Type	Current	June 1, 2005	June 1, 2006	June 1, 2007
Line rental	$2.8400/mth	$8.00/mth	$10.00/mth	$12.00/mth
Local Calls	$0.1091/call	$0.1091/call	$0.1091/call	$0.1091/call
Intra Region	$0.1432/min	$0.1291/min	$0.1291/min	$0.1291/call
Inter Region	$0.4296/min	$0.2675/min	$0.1800/min	$0.1291/call
Fixed Line to Vodafone	$0.5500/min	$0.4950/min	$0.4400/min	$0.4125/min

- All prices are VEP; excludes VTSat, TRS and Radio services

New Telecom Fiji Prices (Business)

The new business prices as determined by the Commerce Commission are as follows:

Call Type	Current	June 1, 2005	June 1, 2006	June 1, 2007
Line rental Small bus. Business	$4.1600/mth	 $15.00/mth $35.00/mth	 $17.50/mth $40.00/mth	 $20.00/mth $45.00/mth
Local Calls Peak hour Off-peak hour	$0.1091/call	 $0.1091/min $0.1091/ 5 mins	 $0.1091/min $0.1091/ 5 mins	 $0.1091/min $0.1091/ 5 mins
Intra Region Peak hour Off-Peak hour	$0.1432/min	$0.1291/min	$0.1291/min	 $0.1291/min $0.1291/ 5 mins
Inter Region Peak hour Off-Peak hour	$0.4296/min	$0.2675/min	$0.1800/min	 $0.1291/min $0.1291/ 5 mins
Fixed Line to Vodafone	$0.5500/min	$0.4950/min	$0.4400/min	$0.4100/min

- All prices are VEP; Small business have = or < 2 lines; Peak hours: 9am – 12 noon Mon-Fri; Off-Peak hours: 12am – 9am & 12pm – 12am Mon-Fri; All day during weekends & Public Holidays; excludes VTSat, TRS & Radio Services.

International Direct Dial (IDD)

Examples of new international direct dial call prices are as follows:

Country	Current	June 1, 2005	June 1, 2006	June 1, 2007
Aust / NZ	$1.30/min	$0.6670/min	$0.6226/min	$0.5781/min
USA/UK/Canada	$2.19/min	$0.6670/min	$0.6226/min	$0.5781/min
India	$2.19/min	$1.2665/min	$1.1821/min	$1.0976/min
Tonga	$1.30/min	$0.8359/min	$0.7802/min	$0.7244/min
Samoa/Vanuatu	$1.38/min	$0.8359/min	$0.7802/min	$0.7244/min

- All prices are VEP; 25% IDD discount ceases from May 31st 2005
- Other countries available on request
- IDD rates apply to both Residential and Business Customers.

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An Asian Development Bank—Commonwealth Secretariat
Joint Report to the Pacific Islands Forum Secretariat

VOLUME 3: WORKING PAPERS
Working Paper No. 16

A Regional International Property Rights Office for the South Pacific: Cost-Benefit Analysis

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Consultant
Intellectual Property Services

Preface

This report was prepared for the Pacific Islands Forum Secretariat (PFIS) in Suva, Fiji Islands. The report is one output of an Asian Development Bank (ADB) technical assistance project (TA 6226 REG): "Developing and Implementing the Pacific Plan for Strengthening Regional Cooperation and Integration." The Commonwealth Secretariat provided funding to the project.

The lead author of the report was Dr. Roman Grynberg, Deputy Director of Trade and Regional Cooperation at the Commonwealth Secretariat. He was assisted by Michael Hyndman, a cost-benefit analyst contracted by ADB, and Sacha Silva, an economist contracted by the Commonwealth Secretariat. Consultants from PIFS and the Pacific region provided valuable inputs for the report. Bill Costello was the ADB task manager.

The report is published in three volumes. Volume 1 is the Executive Summary. Volume 2 is the main report. Volume 3 contains the working papers commissioned for the report–a series of independent studies assessing potential benefits and costs of implementing a variety of possible regional initiatives. Volume 3 has been printed in hard copy in only limited numbers. However, it is available on the websites of ADB (www.adb.org) and at www.pacificplan.org.

Disclaimer

CONTENTS

ABBREVIATIONS AND ACRONYMS

CEO	—	Chief Executive Officer
FICs	—	Forum Island Countries
GIs	—	Geographical indications
IP	—	intellectual property
IPO	—	intellectual property office
IPONZ	—	Intellectual Property Office of New Zealand
IPOPNG	—	Intellectual Property Office of Papua New Guinea
IPR	—	intellectual property right
PCT	—	Patent Cooperation Treaty
RFAP	—	Regionally Focused Action Plan
SPC	—	The Secretariat of the Pacific Community
SPREP	—	South Pacific Regional Environment Programme
TK	—	Traditional Knowledge
TM	—	trademark
TRIPs	—	Trade Related Aspects of Intellectual Property Rights
UPOV	—	The International Union for the Protection of New Varieties of Plants
WIPO	—	World Intellectual Property Organisation
WTO	—	World Trade Organisation

EXECUTIVE SUMMARY

In accordance with the terms of reference for this study I visited four Forum Island Countries, Samoa, Tonga, Fiji Islands and Papua New Guinea (PNG), and held consultations with senior officials responsible for the administration of intellectual property. I sought details of the current costs and resources associated with that administration, as well as constraints and particular issues faced by the individual agencies.

The Intellectual Property (IP) operations of three of the four countries studied (Fiji Islands, Samoa and Tonga) may be characterised by having limited resources in both staff and operational equipment, lacking modern administration systems and record management, and largely lacking in relevant skills and training in their personnel.

The fourth country, Papua New Guinea, differs from the other three in that it has an agency whose sole responsibility is for IP and that does not have dual responsibility for other registration systems such as companies and business names. The PNG IP office is adequately resourced and is meeting its national requirements efficiently and effectively.

Establishing a regional facility for the administration of Intellectual Property rights (IPR)s has the potential to increase the efficiency of providing protection for IPRs. Regionalism can benefit applicants for IPR protection through simpler, one-off application processes, and, depending on the option chosen, through simpler, one-off grant and renewal processes. The business, industry, research and cultural sectors will thus be assisted in the conduct and further development of their enterprises through enhanced procedures for obtaining IPR protection and enhanced standards of protection

I have noted that the protection of TK is a significant issue for Forume Island Countries (FICs). To date this has been dealt with as a separate issue from IP and there is as yet insufficient evidence to support a move to establish a regional facility that would administer both TK and IP.

In preparing the options for regional administration of IP I have assumed that copyright protection will remain an automatic right requiring only the national policy and legislation framework to be maintained, and licensing and royalties collection to be arranged according to the recommendations of the study by Ang Kwee Tiang as approved by Forum Ministers. If adequate copyright legislations and proper collective management organizations are put into place as recommended in this document, Mr. Ang estimated the income from the collective management of the rights in musical and literary works, as well as that of related rights would start in the region of half a million US dollars, rising to US$1 million per annum. With annual costs projected at US$100,00, an estimated sum of US$400,000 to US$900,000 would remain to be distributed to copyright owners whose creations are utilized by users in the forum island countries.

Four options for regional administration of IPRs in the FICs are described and their costs and benefits analysed. The options are:

- No change. National agencies continue their present functions.
- Use existing agency in region to act on behalf of FICs to receive and process IP applications to the point of grant; FICs national agency decides the grant.
- Establish new regional facility to act on behalf of FICs to receive and process IP applications to point of grant; FICs national agency decides the grant.

- Establish a regional facility (using either an existing agency or creating a new one) to receive, process and grant IPRs having effect for the region as a whole. National agencies are disbanded.

A key decision to be made in considering these options is whether or not to retain national sovereignty over the grant of IPRs. If Leaders believe that this control must be retained then the second option, using, for example, the PNG IP office as the regional agency, would deliver the efficiencies and enhanced quality of process required of a regional IP administration in the most cost effective form of any of the options, while at the same time the FICs would retain the right to grant the IPRs. If retention of sovereignty is not considered essential then option four, using an existing regional agency such as IPOPNG, would afford the most effective and efficient arrangement, although the negotiations required to establish the necessary legal framework would be lengthy and possibly complex.

I. INTRODUCTION

The principle objective of the consultancy study is to assess the costs and benefits of setting up a regional IP office that would function as a centralised agency responsible for administering IP applications on behalf of the 14 Forum Island Countries (FICs). A regional approach to Intellectual Property (IP) Administration will be assessed to determine the extent of economies of scale that might be achieved if such an approach is adopted by the FICs.

In accordance with the terms of reference for this consultancy study (see Appendix 1) I visited the national agencies responsible for IP administration in each of Samoa, Tonga, Fiji Islands and Papua New Guinea. For various reasons outside of my control the CEOs of the Samoan and Fijian agencies were unable to meet me and my consultations were limited to their deputies. Nevertheless I believe the information and advice I received from these and the other officials was as complete as their systems and resources permit. I have noted in the individual country sections where some data is particularly uncertain, and it is fair to assume that most of the data on budgets and application activity levels is approximate at best. This reflects the generally limited nature of the administration systems in place, the very limited staff resources in most agencies, and the dual responsibilities that three of the four agencies have for company registration matters as well as IP. Detailed notes of the consultations held in each country are included in Appendix 2.

II. BACKGROUND

"The premise underlying IP throughout its history has been that the recognition and rewards associated with ownership of inventions and creative works stimulate further inventive and creative activity that, in turn, stimulates economic growth. The continuum from problem → knowledge → imagination → innovation → intellectual property → solution, in the form of improved products and new technologies, continues to be a powerful driver for economic development."[1] In his book Dr. Idris, the Director General of World Intellectual Property Organisation (WIPO), goes on to describe how in recent decades the growth in Foreign Direct Investment (FDI) has mirrored the increase in IP activity, as shown by the rise in patent applications as well as trademark and copyright activity. Dr. Idris argues that this IP driven economic benefit is realisable by developing countries as well as by industrialised ones.

Effective economic development is obviously essential for the general welfare and support for any community, and the role that the IP system can play in promoting this development is an important reason for committing resources to its establishment. As well as its economic role, effective IP protection can also play a role in promoting social welfare, through more orderly regulation of trade and business, the introduction of better products, and the enhancement of cultural activities. Forum Economic Ministers recognised these benefits of the IP system at their meeting in July 2000 when they agreed "that an effective system of intellectual property rights is one element which contributes to a confident and secure business environment and can lead to increased investment."

This relevance and significance of effective IP recognition and protection to economic and social welfare has been progressively realised by the international community and culminated in the negotiation of the Trade Related Aspects of Intellectual Property Rights (TRIPs) Agreement as

[1] Intellectual Property: A Power Tool for Economic Growth by Kamil Idris, WIPO, 2003.

part of the Uruguay Round of negotiations which led to the creation of the World Trade Organization (WTO). The TRIPs Agreement has become the de facto international standard for recognition and protection of IP rights. There are presently 148 members of the WTO, including Fiji Islands and Papua New Guinea, who are bound by the terms of TRIPs. Samoa and Tonga have observer status to the WTO, indicating their interest in membership at some future stage, and therefore their undertaking to meet the TRIPs standards for IP protection.

The IP system as described in the TRIPs Agreement consists of copyright, patents, trademarks, industrial designs, circuit layouts, geographical indications, protection of undisclosed information and control of anti-competitive practices in contractual licenses. Copyright is generally protected as an automatic right, requiring no application process leading to registration. Patents, trademarks and industrial designs, on the other hand, are granted on the basis of an application and examination process, consisting of at least an assessment of compliance with formality requirements and usually also an assessment of compliance with substantive requirements for registration.

Personnel with the capacity to understand and interpret legislative provisions, to conduct analysis and research into a broad range of subject matter, with sound communication skills and proficiency in information technology as an administrative tool are required to establish a trademark administration facility that performs the full range of registration procedures. This comprises examination as to formal and substantive registration criteria. Industrial designs administration personnel require a similar set of qualifications. People with this set of qualifications are available in the region, albeit in limited numbers in some countries.

Patent administration, on the other hand, requires personnel with extensive, high level technical qualifications across a wide range of technologies, as well as the capacity to understand and apply the complex provisions of patent law. Many tertiary qualified examiners would be needed to establish a facility that covers all the technologies in which patent rights may be sought, plus support staff and operational equipment. The availability of such highly qualified personnel in the region is very limited.

III. ISSUES

Of all the elements comprising the IP system the application activity reported and the officials consulted in this study confirmed that copyright and trademarks are of the greatest significance in the various economies. Fiji Islands and PNG each receive in excess of 600 trademark applications per year, the majority of which are filed by foreign applicants. There is anecdotal evidence that a high proportion of these filings are common to the four countries studied.

Applications for patent and industrial design rights, in contrast, are miniscule. The cost of establishing a fully functional patent examination facility is far greater than that for equivalent facilities for the other IP elements, due to the extensive technical qualifications required in the staff resources. The level of activity in this part of the IP system in the South Pacific, both presently and for the foreseeable future, clearly does not justify the required expenditure of scarce funds, even if the relevantly qualified personnel could be found. The main focus for a regional IPR office should therefore be the administration of trademarks applications and registrations, with the capacity for their examination as to formality and substantive requirements, and only formal examination of what patent applications might be received.

The IP operations of three of the four countries studied (Fiji Islands, Samoa and Tonga) may be characterised by having limited resources in both staff and operational equipment, lacking

modern administration systems and record management, and largely lacking in relevant skills and training in their personnel. These countries have IP laws covering most aspects of the IP system but most laws are yet to be made compliant with world standards such as TRIPs. Although staff makes every effort, there is little scope in these countries for effective public awareness raising activities, with the result that there is limited understanding of IP and its role in economic development amongst the government, business, industry, enforcement, academic and general community sectors. As a consequence the capacity for effective IP policy and legislation development is limited, as is the capacity for these countries to participate effectively in the international IP community.

The fourth country, Papua New Guinea, differs from the other three in that it has an agency whose sole responsibility is for IP and does not have dual responsibility for other registration systems such as companies and business names. The PNG IP office is adequately resourced and is meeting its national requirements efficiently and effectively. It has a modern computerised system for administering trademarks applications and registrations and monitoring the timeframes and deadlines associated with their processing. The staff has high entry level qualifications and receive adequate training in the office operations. The Intellectual Property Office of Papua New Guinea (IPOPNG) has an arrangement with IP Australia whereby patent applications received in PNG are examined as to substance by the Australian Patent Office and the final decision to grant is made by IPOPNG. Public awareness activities are gradually increasing in conjunction with consultation with interest groups, and policy and legislation development are also informed by this consultative process. IPOPNG thus represents a significant resource of expertise and infrastructure in the administration of IP in the South Pacific region.

Issues which were raised by national officials in the course of the consultations were:

- Where a regional IPR office might be situated

  Comment: to be determined by Leaders in the course of consideration of this report and other relevant matters.
- Who would fund it

  Comment: to be determined, but note that ongoing operations would be based on cost recovery through fees charged
- How would revenue from administrative processes be disbursed

  Comment: according to the relative functions performed by the FICs and the regional facility.
- What tasks, if any, would be retained by national offices

  Comment: variable, from grant of rights, maintenance of registers, policy and legislation development, public awareness activities to none, depending on the nature of the regional facility.
- Where would applications be filed – with a national office or with the regional facility

  Comment: preferably with the regional facility, for simplicity and cost effectiveness
- The need for harmonisation of the FICs' IP laws and in some instances the development of some IP laws currently absent from some FICs' IP system

  Comment: noted and identified in the options described
- The concerns expressed by the legal profession over impact of a regional facility on their business

Comment: similar concerns were expressed by Australia legal practitioners and patent attorneys over Australia's proposed accession to the Madrid Protocol and its possible impact on trademark application business. After several years experience of working under the Protocol it appears that these concerns were largely unfounded. The nature of the work performed by legal practitioners may have changed somewhat but still seems to be substantial.

A further issue of relevance to the FICs' consideration of creating a confident and secure business environment is that of traditional knowledge (TK). The definition of TK used by WIPO includes indigenous knowledge relating to categories such as agricultural knowledge, medicinal knowledge, biodiversity-related knowledge, and expressions of folklore in the form of music, dance, song, handicraft, designs, stories and artwork. In 2000 Forum Trade Ministers noted the importance of effective recognition and protection of this aspect of regional culture when they supported the Forum Secretariat in its work with South Pacific Regional Environment Programme (SPREP) and the Secretariat of the Pacific Community (SPC) in developing an integrated regional policy framework and model legislation for the protection of traditional knowledge related to biodiversity, agriculture, ecological, medicinal and fragrances uses, and folklore.

TK is not protected under any of the international agreements but in recent years has been the subject of increased exploitation as competition for developing new products intensifies. The IPR system cannot protect TK for three reasons. First, the IPR system seeks to privatise ownership and is designed to be held by individuals or corporations, whereas TK has collective ownership. Second, this protection is time-bound, whereas TK is held in perpetuity from generation to generation. Third, it adopts a restricted interpretation of invention that should satisfy the criteria of novelty and be capable of industrial application, whereas TK is incremental, informal and occurs over time. A *sui generis*, or alternative law, is therefore necessary to protect TK. A model law relating to TK and expressions of culture has now been developed for FICs to adopt and adapt to national contexts while a regional framework on traditional ecological knowledge is still in draft form and undergoing regional consultation.

Although there are interrelationships between the IP system and TK (eg, awareness of traditional methods of medical treatment can be relevant to assessing the novelty of patent application subject matter) the fundamental differences between the two systems are such that the development of laws and administration systems for their protection has been dealt with separately. It is perhaps for this reason that the treatment of TK was not part of the terms of reference for this study and did not form part of the consultations. These differences also mean that there would be less benefit to be gained from incorporating the TK administration system into a regional facility for IPR administration. There is likely to be far more national cultural interests to be respected and taken into account in determining appropriate protection for the various elements of TK than is the case with IP, and thus greater difficulty in achieving a centralised, regional approach. Until some experience of implementing the newly developed laws for protecting expressions of culture and traditional ecological knowledge has been gained at the national level I do not believe there is sufficient reason to attempt to establish a regional facility that would deal with both TK and IPR administration.

IV. REGIONAL OPTIONS

During consultations with the four FICs the following options for delivering the functions relating to the administration of trademarks, patents and industrial designs in the region, comprising a range of combinations of national and central responsibility emerged. They are:

- No change. National agencies continue their present functions.
- Use existing agency in region to act on behalf of FICs to receive and process IP applications to the point of grant; FICs national agency decides the grant.
- Establish new regional facility to act on behalf of FICs to receive and process IP applications to point of grant; FICs national agency decides the grant.
- Establish a regional facility (using either an existing agency or creating a new one) to receive, process and grant IPRs having effect for the region as a whole. National agencies are disbanded.

The first of these options has the advantages of being cost neutral, retaining national skills and responsibility and local access to the IP office. It provides little scope, however, for concentrating and further developing IP skills and expertise, reducing duplication of work and resulting costs to applicants, and harmonising the standards for IPRs granted in the region.

The second and third options have similar benefits in terms of reducing the duplication of work in national offices, reducing costs to applicants, harmonising standards, optimising IP skills and resources. The set-up cost is the main difference with that of the third option being considerably greater. IPOPNG is well placed to take on the role of regional facility in the second option. The capacity of IP Australia to act in this role has also been considered extensively in the Regionally Focused Action Plan (RFAP) developed jointly by WIPO, the PIFS and IP Australia over the last 3-4 years.

The fourth option would be the most complex and costly to establish but once established would provide the most efficient and effective regional administration of IPRs with greatest benefits to users of the system. A single application would have effect throughout the region, with consequential simplification and cost reduction of registration, renewal, assignment and other procedural actions.

For local users of the IP system some form of regional processing of IP applications (whether option 2, 3 or 4) will bring benefits in the form of simpler application procedures (ideally a single application for the relevant IPR, which would be examined centrally and then if registrable, could result in protection throughout the region) instead of multiple applications and often varying standards of registrability for the same IP. The fourth option would bring the additional benefits for IPR owners of single granting and renewal processes instead of the multiple processes required for nationally granted and maintained IPRs.

These options are analysed more fully below, based on the following assumptions:

- Copyright will remain an automatic right requiring only the policy and legislation framework to be maintained, and licensing and royalties collection to be arranged according to the recommendations of the study by Ang Kwee Tiang as approved by Forum Ministers. If adequate copyright legislations and proper collective management organizations are put into place as recommended in this document, Mr Ang

estimated the income from the collective management of the rights in musical and literary works, as well as that of related rights would start in the region of half a million US dollars, rising to US$1 million per annum. With annual costs projected at US$100,00, an estimated sum of US$400,000 to US$900,000 would remain to be distributed to copyright owners whose creations are utilized by users in the forum island countries.

- The substantive examination of patents will be performed externally, either under the PCT or arrangements made with other IP offices such as IP Australia.
- The examination of trademarks and industrial designs, both as to formalities and substantive criteria, will be performed either by the individual FICs or by the regional facility, as described in the options below.
- There is a high level (perhaps as high as 80%) of commonality in the trademark applications filed in the region
- Enforcement of IPRs would continue to be managed at the national level
- IPRs administration should be operated on a cost recovery basis through appropriate levels of fees charged

1. No change

Cost: neutral

Benefits:
- FICs retain sovereignty over their IP system and grant of IPRs
- National cultural and moral standards can be maintained
- Skills and experience are retained in-country
- Local IPR holders have more immediate access to information and registration process
- FICs retain revenue from IP processes
- Legal firms retain present business levels

Risks:
- Diversity of standards in IPRs remains and may increase
- Duplication of effort within IPOs remains with resulting extra costs to IPR holders
- Capacity of region to increase expertise in and awareness of IP remains limited

2. Use existing agency in region to receive and process IP applications to the point of grant

Cost:
- Set-up costs to prepare computerised databases of trademarks for participating FICs for reference search purposes and recording systems to manage applications data
- Additional staff to process additional workload – for example, if IPOPNG is designated as the regional agency it is estimated that 1-2 full-time officers would be required
- Modifications of national IP laws to allow for external processing and to

harmonise standards of registrability – expected to be minimal

● Modification of application forms to allow for single application to nominate multiple FICs

● Retention of sufficient staff in FICs to manage grant of IPRs, maintenance of registers, policy and legislation development, and public awareness – at least the equivalent of 1.5 full-time trained officer in each FIC

Benefits:
- FICs retain sovereignty over grant of IPRs
- FICs retain some IP skill and expertise in-country
- FICs retain some revenue from IP processes
- Uniform laws and standard of IPRs granted in region
- Enhanced capacity for region to meet international standards
- Enhanced international reputation for regional IPRs protection
- Simpler, more cost-effective processes for applicants
- Reduction in duplication of work and establishment
- Optimal use made of existing regional expertise
- Continuing role, even if modified, for legal firms

Risks:
- Some duplication of work
- Cost of maintaining national capacity may not be optimal

3. Establish new regional facility to receive and process IP applications to point of grant – an establishment similar in size to IPOPNG would be required as a minimum

Cost:
- Accommodation purchase or hire, plus maintenance
- Recruitment and training of staff – more or less costly depending on to what extent existing personnel from the region could be recruited
- Purchase of operational equipment (computers, software, furniture, storage facilities, telecommunications, etc)
- Creation of trademark databases and recording systems as in option 2. above

Benefits:
- FICs retain sovereignty over grant of IPRs
- FICs retain some IP skill and expertise in-country
- FICs retain some revenue from IP processes
- Uniform laws and standard of IPRs granted in region
- Enhanced capacity for region to meet international standards
- Enhanced international reputation for regional IPRs protection
- Simpler, more cost-effective processes for applicants
- Reduction in duplication of work and establishment
- Optimal use made of existing regional expertise
- Continuing role, even if modified, for legal firms

● Perception of independence for a new facility

● Could be located optimally for region in terms of access to expertise, facilities, communication, transport

Risks: ● Some duplication of work

● Cost of maintaining national capacity may not be optimal

● Substantial set-up costs could be difficult to fund and require long period to recover

● Existing trained personnel may not be prepared to re-locate, increasing overall time and cost to establish facility

4. Establish a regional facility (using either an existing agency or creating a new one) to receive, process and grant IPRs having effect for the region as a whole.

Costs: ● similar to options 2. or 3. above, plus:

● Negotiation and implementation of a treaty or equivalent agreement binding the participating FICs and providing the legal authority for the facility to operate on behalf of the region

● Modification of national IP laws to operate under the agreement

● Personnel and systems to maintain registers of IPRs

Benefits: ● similar to options 2. or 3. above, plus:

● No duplication of work or resources resulting in maximum rationalisation of resources and maximum cost benefit to IP applicants

● Simple, transparent, cost-effective process for IPRs holders: one application having effect throughout region

● Harmonised regional IPRs of uniform quality

Risks: ● similar to options 2. or 3. above, plus:

● negotiation of a treaty or similar agreement is likely to be lengthy and sensitive

● modification of national laws could be lengthy depending on national priorities

● loss of national sovereignty in the grant of IPRs

● no revenue for FICs from IPRs if fees are calculated to recover costs of the regional facility only

A key decision to be made in considering these options is whether or not to retain national sovereignty over the grant of IPRs. If Leaders believe that this control must be retained then the second option, using, for example, the PNG IP office as the regional agency, would deliver the efficiencies and enhanced quality of process required of a regional IP administration in the most cost effective form of any of the options, while at the same time the FICs would retain the right to grant the IPRs. If retention of sovereignty is not considered essential then option four, using an existing regional agency such as IPOPNG, would afford the most effective and efficient arrangement, although the negotiations required to establish the necessary legal framework would be lengthy and possibly complex.

V. ESTIMATE OF FINANCIAL COSTS OF A REGIONAL FACILITY

A. Assumptions for Calculation of Key Costs

In preparing this estimate of costs for the various options I have excluded consideration of IP Australia being designated as the regional facility. I am aware of the role IP Australia has taken in the development of the RFAP for the South Pacific, and the consideration given under that Plan for IP Australia to provide regional services in receiving and examining trademark applications on behalf of the FICs. The status of that proposal, however, is not clear to me and I am not in a position to make assumptions on IP Australia's behalf about the costs that would be associated with their provision of those services. Although its computerised systems would require extensive modification to deal with the FICs' trademark applications, given the size of its establishment it would be fair to assume that IP Australia has a greater capacity than other regional agencies to absorb the extra workload of the FICs' trademark applications, and would therefore require few extra staff to do this.

Creating a database of FICs' trademarks and adapting systems to allow for processing of FIC's trademarks data: Some time ago IP Australia estimated their cost for this exercise at approximately US$300,000. This figure represents the extensive modifications of a large, sophisticated, computerised system that would be required to integrate the FICs' trademarks data with Australian data and allowing fully automated processing of applications. If another agency such as IPOPNG is selected as the regional facility, or if a new facility is established elsewhere in the South Pacific, it is reasonable to assume that these costs would be significantly less, given that the systems to be modified or created would be less extensive and less complex, and would handle smaller volumes of data. For the purpose of making a quantitative estimate cost of the various options I am assuming a systems re-development cost of US$120,000 and a new systems development cost of US$300,000.

Staff resources: for the options that provide for retention of national grant of IPRs I am assuming that a minimum of 1.5 full-time officers would be required in each FIC to perfom this function as well as the maintenance of registers, administration of renewals and other notifications, and provide IP policy and legislation development services. For the fourth option, with a full processing regional facility, there would be no national IP establishment in the FICs. The regional facility would be responsible for providing IP policy and legislative advice to the FICs for the purpose of national laws being maintained appropriately.

An average regional salary figure has been calculated from the national data provided, and is used for the estimation of staff costs for the various forms of regional facility postulated. The respective national salary data is used for estimation of national costs. 50% of the salary figure has been added to the staff costs as an estimate of the on-costs.

I have assumed that a regional facility equivalent to IPOPNG plus two extra staff (17 staff in total) would be required to receive and process the trademark and patent workload of the region as currently assessed and as it is likely to develop in the medium term. For a regional facility performing the full range of IP receipt and grant functions I estimate that an additional 3 staff would be required.

Office equipment: Based where possible on the data provided by the offices visited or on my own knowledge I have estimated average costs for computer and telecommunications equipment and essential office furniture as follows:

- US$3000 per person for computer equipment, plus an allowance for telecommunications where appropriate

- US$3000 per person for furniture and fitout

On the basis of these assumptions I have prepared a calculation of the quantitative costs of the options for regional administration of IP described above. This is shown in detail below. As I have already noted elsewhere it was not possible to obtain full and accurate details of the costs of the present IP administration systems in the region. For this reason the costs analysis has been based on identifying only the marginal benefits and costs.

VI. COST RECOVERY PERIOD

Based on the costing figures set out below the cost recovery period for each of the options is as set out in the following table.

Option	Cost Recovery Period
One	Not applicable
Two	4 years
Three	36 years
Four	4 years (7 years for new facility)

Marginal Cash Flow (US$)

(Negative values represent additional costs, Positive values represent additional savings)

		Option 1 No change		Option 2 Existing agency for receipt and examination		Option 3 New agency for receipt and examination		Option 4 Existing agency for full process		Option 4 New agency for full process	
		Man years	US$	Man years	US$	Man years	US$	Man years	US$	Man years	US$
Samoa	Staffing	nil		1.5	17,235	1.5	17,235	3	34,470	3	34,470
	Operations				5,745		5,745		11,490		11,490
	Equipment				4,500		4,500		9,000		9,000
	Policy			-0.25	-2,873	-0.25	-2,873	-1.5	-17,235	-1.5	-17,235
Tonga	Staffing	nil		2	10,515	2	10,515	3.5	18,401	3.5	18,401
	Operations				3,005		3,005		5,260		5,260
	Equipment				6,000		6,000		10,500		10,500
	Policy			-0.25	-1,314	-0.25	-1,314	-1.5	-7,886	-1.5	-7,886
Fiji	Staffing	nil		1	11,265	1	11,265	2.5	28,163	2.5	28,163
	Operations				9,420		9,420		23,555		23,555
	Equipment				3,000		3,000		7,500		7,500
	Policy			-0.25	-2,816	-0.25	-2,816	-1.5	-16,898	-1.5	-16,898
PNG	Staffing	nil		13.5	76,748	13.5	76,748	15	85,275	15	85,275
	Operations				34,110		34,110		37,900		37,900
	Equipment				40,500		40,500		45,000		45,000
	Policy			-0.25	-1,421	-0.25	-1,421	-1.5	-8,528	-1.5	-8,528
Existing FIC Agency	Staffing			-15	-103,950			-20	-138,600		
	Operations				-40,000				-45,000		
	Establishment										
	System Redev.				-120,000				-150,000		
	Equipment				-9,000				-60,000		
	Policy										
New Agency	Staffing					-17	-117,810			-20	-138,600
	Operations						-42,000				-45,000
	Establishment						-75,000				-90,000

APPENDIX 1: STUDY TERMS OF REFERENCE

The Consultant will undertake the following tasks:

1. Visit Fiji Islands, Samoa, Tonga and Papua New Guinea and consult with national IPR office personnel.

2. Prepare a report on the costs and benefits of establishing a regional IPR office. This report should address, at a minimum:

   - The present performance of national IP office addressing key constraints and running costs, including:

     resource allocation (budget, training, equipment) by government (and other sources) to the national IP office and its impact on capacity and efficiency issues;

     extent of capacity and function of national office to foresee and contribute to the formulation of national IP policy, legislation and enforcement affecting it;

     any other issues raised by national IPR personnel during the consultations.

   - The quantitative and qualitative costs of establishing a regional IPR office, including:

     staffing and infrastructure needs both at the regional and at the country level;

     length of time involved in recovering costs of establishing a regional IPR office.

   - The quantitative and qualitative benefits of establishing a regional IPR office, including:

     the short-run benefits of relieving the national constraints and costs addressed above;

     the longer-run benefits from improved planning and surveillance, based on clearly laid out assumptions and analytical frameworks.

APPENDIX 2: COUNTRY DATA

I visited the agencies responsible for IP administration in the four FICs, Samoa, Tonga, Fiji Islands and Papua New Guinea, as required by the terms of reference for this study, and held consultations with available senior officials. Due to the variation in the type of records kept, and the dual nature of the official functions of three of the four agencies, much of the data provided by the officials consisted of estimates and general information rather than exact figures. Nevertheless I believe the consultations have provided sufficient information to prepare the cost benefit analysis required for the study. The details follow.

Samoa

The IP Office is within the Ministry of Commerce, Industry and Labour. It has dual responsibility for intellectual property and companies registration. The resources are shared approximately equally between these responsibilities. Its IP responsibilities extend to patents, trademarks, industrial designs and copyright. My discussions were with Ms. Margaret Fruen, Assistant CEO and Deputy Registrar, and Ms. Alataua, Principal Officer.

Staff

CEO

Assistant CEO

Principal Officer

Two Senior Officers – one full time on IP, the other full time on companies work

Officer

Clerical officer

This represents approximately 3.5 officers working full-time on IP administration.

Budget

Approximately Samoa tala (ST)110,000, made up of ST60,000 on staff salaries, ST20,000 on training and ST30,000 on operational costs. The operational budget covers furniture, equipment, including computers, consumables, and public awareness activities. Other running costs, such as premises, electricity, water, come under the Ministry's corporate services budget. The office has received some external support in the form of computer equipment from WIPO and staff training from WIPO and Australia.

Revenue

Fees are charged for most activities associated with the receiving and processing of applications. Revenue from these fees is in the order of ST80,000 annually, and is paid into Treasury funds.

Staff Training

Entry level for staff at the senior officer level and above is currently first year university or university graduate. On the job training in IP matters is provided by the assistant CEO and Principal Officer, and consists principally of trademark examination procedures. Additional training in trademark examination principles and the broader IP system generally is provided occasionally as indicated above by WIPO and Australia. More general IP training is coordinated

by the Public Service Commission and involves other agencies responsible for aspects of the management of IP, such as enforcement and border control.

Application Activity

Trademarks: approximately 100-150 applications per year, of which 90-95% come from overseas. Currently there is a delay of around 12 months in processing these applications; those filed in early 2004 are now being examined. Applications are examined both as to formality requirements and to substantive registration requirements. Only trademark applications in respect of goods are receivable; there is as yet no provision for marks in respect of services. There are approximately 5000 trademarks recorded but it was not clear how many of those are active registrations.

Patents: Approximately 5 per year, all from overseas. If filed within 12 months of a corresponding grant elsewhere the patent is granted in Samoa, subject only to formality requirements being met. There is no capacity in the IPO to conduct substantive examination of patent applications.

Industrial designs: no applications received in last 8-10 years; small number of live registrations.

Copyright: automatic grant of rights with no application or registration process required.

Status of IP Laws

The trademarks, patents and designs laws all need review and amendment to make them TRIPs compliant. The current trademarks law does not provide for service marks or multi-class applications. The copyright law is essentially TRIPs compliant. WIPO has provided Samoa with copies of its model laws for IP which are being assessed by the Attorney-General's department. Any legislative changes are likely to take some time given Attorney-General's priorities and resources. The WTO Working Committee (see below) has decided that Samoa should prepare specific legislation to protect GIs, and may use the draft Tongan law as a model.

Public Awareness Activities

Samoa has undertaken a number of public awareness activities aimed at increasing the level of knowledge and understanding of IP amongst the business, student and general public. The IP office produced a video for World IP Day (26 April), has participated in TV interviews and conducted face-to-face sessions on various aspects of the IP system. Approximately 15,000SOT plus staff costs have been expended on these activities which are delivered in the local language and in English. The bulk of these activities focus on copyright and trademarks as these elements of the IP system are of greatest relevance to the Samoan community.

Enforcement

The IP laws make provision for rights holders to enforce their IP, but lack of resources and training for police and other enforcement officials means that there is little or no *ex officio* enforcement action.

Policy and Legislation Development

The Ministry of Commerce, Industry and Labour, and hence the IPO, has primary responsibility for input to IP policy development, but the Ministry for Foreign Affairs has a role in respect of WTO accession and TRIPs obligations. Ms Fruen is a member of the WTO Committee presently engaged in considering Samoa's accession to the WTO. Other agencies represented are Foreign Affairs, Customs, Attorney-General's, Agriculture, and the private sector. Ms Fruen expressed some concern over the capacity of the IPO to provide appropriate input to IP policy development, due to limited exposure to relevant training and experience in such activities.

Attorney-General's has primary responsibility for the preparation of legislation,

and the IPO provides advice and works with AG's in reviewing IP laws.

General Comments

The IPO has limited staff and limited access to and use of modern administrative technology. Computers are being used to record some application data, but most records are hand written in ledger books which form the principal means of referencing IP information. The individual case files are the only records of the current status of trademark or patent applications or registrations. It is difficult for a comprehensive search of these records to be made efficiently.

Ms. Fruen indicated that Samoa would support the concept of a regional IP facility, recognising the potential for benefits from the pooling of resources and using regional expertise. She noted that current Samoan budgetary constraints limit the capacity to modernise the IPO and to train staff effectively.

Tonga

In Tonga IP is administered within the Intellectual Property and Company Registration Office (IPCR) within the Ministry of Labour, Commerce and Industry. I held consultations with Mr Pene Latu, Deputy Registrar of Trademarks and Head of IPCR, and with the Secretary of the Ministry.

Staff Resources

In addition to Mr Latu there are 5 other staff, 3 of whom work full-time on IP. Another member of staff is due to join the office shortly. The structure is:

Deputy Registrar

Assistant Registrar (2)

Trademarks/Designs Officer

Company Inspector

Assistant Secretary (about to join)

Technical Support Officer

This represents approximately 3.5 officers working full-time on IP administration.

Budget

The total budget for the IPCR is approximately Tonga pa'anga (T$)67,000, of which approximately 70% covers staff salaries and 30% goes to operational costs. Pro rata the budget for IP would be approximately T$33,500. Mr. Latu described the scope of activities provided for by this budget as limited, particularly in the operational area. Implementation of the new copyright law has been delayed due to lack of sufficient staff, and public awareness activities are limited for similar reasons.

T$46,000 worth of computer equipment was provided by IP Australia in 2003, and two computers with printers and scanner equipment were provided by WIPO in 2004.

Revenue

Revenue from fees charged for receiving and processing IP applications amounts to approximately T$65,000 annually. Given the small number of new applications per year, the bulk of this revenue comes from renewal fees for existing registrations and other processing fees.

Training

Apart from in-house training there is no specific training in IP administration or examination. External training in trademark matters has been provided by IP Australia and IPONZ, and

WIPO has provided general IP training sessions.

Application Activity

Trademarks: approximately 50-60 per year. When the present Trademarks Act came into force in 2000 there was a large workload of 1600 trademarks to be re-registered. Approximately 1400 of these have been processed and the remaining 200 are expected to be finished this year.

Patents: approximately 5 per year. IP Australia provides substantive examination services free of charge and Tonga conducts the formalities examination and makes the final decision to grant the patent.

Industrial designs: no applications have been received and there are no entries in the Designs Register.

Utility models: no applications.

Copyright: awaiting entry into force of new law.

Status of IP Laws

The Industrial Property Act 1994 came into force in 2000, and provides for patents, utility models, trademarks and industrial designs. This Act has been under review for compliance with TRIPs obligations and is presently with the Law Reform Committee. Mr. Latu expects that it will come before parliament in its next session and be passed this year.

The Geographical Indications Act 2002, Copyright Act 2002, Protection of Layout-Designs (Topographies) of Integrated Circuits Act 2002 and Protection Against Unfair Competition Act 2002 are yet to be implemented. There is an Enforcement and Border Measures Bill in the final stages of processing before parliament, and a request has been made for drafting assistance from WIPO/UPOV for a Plant Variety/Seed and Seedlings Bill. When this legislation has been completed and takes effect Tonga will complete its TRIPs obligations.

Public Awareness Activities

Virtually no public awareness activities are possible due to the limited resources available to the IPO. A few articles on radio and in the newspapers on World IP Day is the extent of activity.

Enforcement

The IP laws make provision for rights holders to enforce their IP, but lack of resources and training for police and other enforcement officials means that there is little or no capacity for *ex officio* enforcement action.

Policy and Legislation Development

Mr Latu is the main officer responsible for providing IP policy advice and for managing IP legislation development. He relies on support from WIPO in developing and drafting IP laws, then consults with other relevant Tongan agencies in finalising those laws.

General Comments

The human and operational resources of the Tongan IPO are very limited and constrain the capacity of the office to contribute to the effective use of the IP system in the further development of the Tongan economy. Mr. Latu identified the following as immediate needs for improvement:

- An up to date and appropriate database for IP
- An appropriate computerised IP system
- Storage facilities for IP information

The Secretary expressed the view that Tonga would agree with the concept of a

regional IP facility, and noted that it made sense from the point of view of enhanced use of regionalism in the Pacific. He noted that the Government of Tonga is currently holding discussions on accession to the WTO and that if that happened the TRIPs obligations would add to the burden on the IP administration. He also raised the matters of how a regional facility would be funded, how IP revenue would be disbursed and how IP enforcement would be handled regionally.

Fiji Islands

In Fiji Islands IP is administered by the Office of the Attorney General and Ministry of Justice. Trademarks and patents are handled within the Registration of Companies, Business Names, Patents and Trademarks Office, and copyright comes under the Solicitor General's responsibilities. There is no industrial designs law currently in Fiji Islands. I held consultations with Ms Kelera Vuibau, Acting Registrar of Trademarks, Ms Janet Maughan, a Justice Agencies Support Advisor under the Australia/Fiji Islands Law & Justice Sector Program, and Mr Nainendra Nand, Solicitor General.

Staff Resources

The office has two staff working full-time on trademarks and patents. One is an examiner and the other is a clerical assistant. Ms Vuibau, although responsible for supervising these staff and holding statutory functions in the administration of IP, in practice has little capacity within her overall duties in the Companies Office to devote to IP.

Budget

Ms Vuibau was unable to give me specific figures on the budget allocation for IP. The material she gave me covered details of expenditure for the whole of the Office of the Attorney General and Ministry of Justice. The pro rata calculations I have made for IP expenditure are therefore very rough. Based on these calculations the expenditure on staff salaries is in the order of Fiji dollars (F$)31,596 and the operational budget for IP is in the order of F$39,640.

Revenue

Again, the figure provided by Ms Vuibau was an approximation only, as it appears that there is no accurate calculation or breakdown of IP revenue. The estimated revenue from trademarks and patents processing for 2004 was about F$18,000. It is worth noting that the fees schedule in Fiji Islands has not been reviewed for many years and the fees charged are very low in comparison with the other IP offices surveyed.

Training

Very limited training is available to IP staff as there is no government funding for such activities. Staff have attended a WIPO course and receive some general on-the-job instruction. While Ms Vuibau is a law graduate, the other IP staff are high school graduates. Ms Vuibau identified more highly qualified and trained staff as a high priority requirement for IP administration.

Application Activity

Trademarks: approximately 600-700 per year. Trademarks have been registered in Fiji Islands since the 1890's, and there are some 34,000 entries in the Register. There are in the order of 1000 renewals processed annually but it is unclear as to how many active registrations are current. The office examines applications both formally and substantively, and there is currently no delay in processing. Due to lack of appropriate staff there is currently a backlog of around 100 cases of opposition to registration of trademarks, representing about 10 years delay in this area.

Patents: 1-2 applications per year. Fiji Islands has had patent grant since 1800's, and around 1000 patents have been granted in that period. No substantive examination is conducted locally; IP Australia currently provides examination services free of charge and the Fiji Islands office performs formality examination and decides on the grant or otherwise.

Copyright: rights are granted automatically with no application and registration required. There is an active Performing Rights Association and Collecting Society for composers and musicians. Consideration is being given to extending the scope of this Society to include other copyright holders.

Status of IP Laws

The trademark law is old (1972) and out of date. It does not meet TRIPs obligations, such as service marks and multi-class applications. The classification system used in the office is also out of date and does not comply with international standards such as the Nice classification of goods and services. Similarly the patents law is old and not TRIPs compliant. There is no industrial design law in Fiji Islands.

Draft legislation for new patents, trademarks and designs law has been prepared (1999) but has not progressed due to lack of relevant resources. While the draft laws have been assessed as TRIPs compliant, they have been modelled on Singapore IP laws and may be more complex in their provisions than is required by a small developing economy such as Fiji Island's. There are currently no implementing regulations prepared for the new laws.

The Fiji Islands Copyright Act is TRIPs compliant and consistent with international standards. Consideration is currently being given to amendment of the law to accommodate the latest WIPO copyright treaties. Fiji Islands has a three person Copyright Tribunal to deal with copyright disputes, headed by a High Court Justice and supported by two staff. So far only one dispute has come before the tribunal but it provides advice and consultation on copyright issues. The tribunal liaises closely with its Australian counterpart.

Public Awareness Activities

There is no budget and no resources for public awareness activities in respect of trademarks and patents in Fiji Islands. In respect of copyright the two staff members who support the Copyright Tribunal also provide secretariat support for a Copyright Awareness Committee which consists of representatives of the Attorney General's office, the police, the DPP, consumers, commerce and industry, the University of the South Pacific and business. The Committee meets every 4-6 weeks to discuss current issues and exchange information. World IP Day is celebrated each year and twice yearly publicity for copyright is promoted through radio, television and newspapers.

Enforcement

The IP laws make provision for rights holders to enforce their IP, but lack of resources and training for police and other enforcement officials means that there is little or no *ex officio* enforcement action. This observation applies even to copyright despite the apparently much greater level of sophistication and activity associated with its administration.

Policy and Legislation Development

The two CEO's responsible for the administration of IP are the primary officials responsible for preparing policy advice and developing legislation related to IP. The Trade section of the Ministry of Foreign Affairs has a role in respect of WTO and TRIPs matters, and Customs is responsible for border control issues.

General Comments

While the resources available for the administration of trademarks and patents are very limited, the staff appear to be meeting the immediate needs of trademark applicants. The

principal constraints are accurate record keeping, easy access to records for the purpose of reference searching, expertise in dealing with disputes over trademark rights, delivery of public awareness activities and training of enforcement officials.

The officials I met indicated that they recognised the potential advantages of a regional facility in addressing these constraints, but were unsure of what model of regional IP administration would best suit the needs of the South Pacific community. Ms Vuibau also noted that the legal profession in Fiji Islands has registered its concerns about, and opposition to, the establishment of a regional facility.

Papua New Guinea

IP is administered in Papua New Guinea by the Intellectual Property Office of Papua New Guinea (IPOPNG) within the Investment Promotion Authority (IPA). IPOPNG is located in Port Moresby and is responsible for all elements of the IP system. I held consultations with Mr Gai Araga, Registrar, and his senior management staff, and with Mr Ivan Pomaleu, Managing Director, IPA.

Staff Resources

There is a staff of 15 officers in IPOPNG, in a structure shown in the annex to this section. This substantial establishment provides for comprehensive and efficient administration of most elements of the IP system, including substantive examination of trademarks but only formalities examination for industrial designs and patents. IP Australia provides substantive patent examination services to IPOPNG.

IPOPNG has only recently acquired responsibility for copyright administration and the newly appointed copyright officer is undergoing training (largely externally provided) in this element of the IP system.

Operational Resources

IPOPNG has spacious and modern facilities in a centrally located office block in Port Moresby. All staff have a personal computer linked to the automated system that supports the office operations. Most of the IP administration is computerised with expiry and renewal notices, certificates, assignments, change of name and so on automatically generated.

The public has access to the relevant records to conduct searches.

Budget

Staff salaries are expected to amount to approximately Papua New Guinea kina (K)180,000 for 2005. The operational budget is approximately K120,000.

Revenue

Actual revenue for 2004 was K560,000.

Training

The Registrar and Deputy Registrars and most of the examination staff have university degrees. The remainder of the staff have senior high school or post high school diplomas. On the job training in the administrative systems and examination procedures is provided by the senior staff, and external training in broader aspects of the IP system is provided by WIPO, IP Australia and the Japanese IP office.

Application Activity

Trademarks: approximately 800 applications per year and 3000 renewal notifications per year. About 30% of filings are local and this proportion is increasing. There are in excess of 12,000 trademarks currently entered in the Register.

Patents: PNG joined the Patent Cooperation Treaty (PCT) in 2002 and has received 940 notifications so far, of which 4 have entered the national phase. About 20 local patent applications have been filed and 2 have been granted.

Industrial designs: 4-5 applications per year, all foreign filings; 3 currently registered.

Copyright: automatic rights. The Registrar is planning to prepare guidelines to help copyright holders to register licenses and collect royalties.

Status of IP Laws

I was advised by the Registrar that all the IP laws in force presently are TRIPs compliant. Amendments are currently being processed to provide for the latest WIPO copyright treaties, the Madrid Protocol for the international registration of trademarks and for protection of geographical indications.

Public Awareness

IPOPNG started a public awareness program last year with a budget of approximately K50,000, largely covering travel costs. The program targets research institutions, universities, agricultural institutes and recording studios. Other activities have included radio talk-back programs, newspaper articles and brochures produced in-house on various aspects of the IP system.

The Registrar is currently considering holding a workshop for local law firms to increase the level of IP expertise in the local community. Some support for this activity may be sought from Australian legal firms already represented in PNG.

Enforcement

Enforcement of IP rights in PNG is a matter of concern with much infringement and counterfeit activity in the community. There is a border control measures Bill still in preparation under the primary responsibility of the Customs ministry. The trademarks legislation also contains enforcement provisions and IPOPNG hopes to further develop proposals for enhanced enforcement measures in consultation with the National Intellectual Property Committee (NIPC).

Policy and Legislation Development

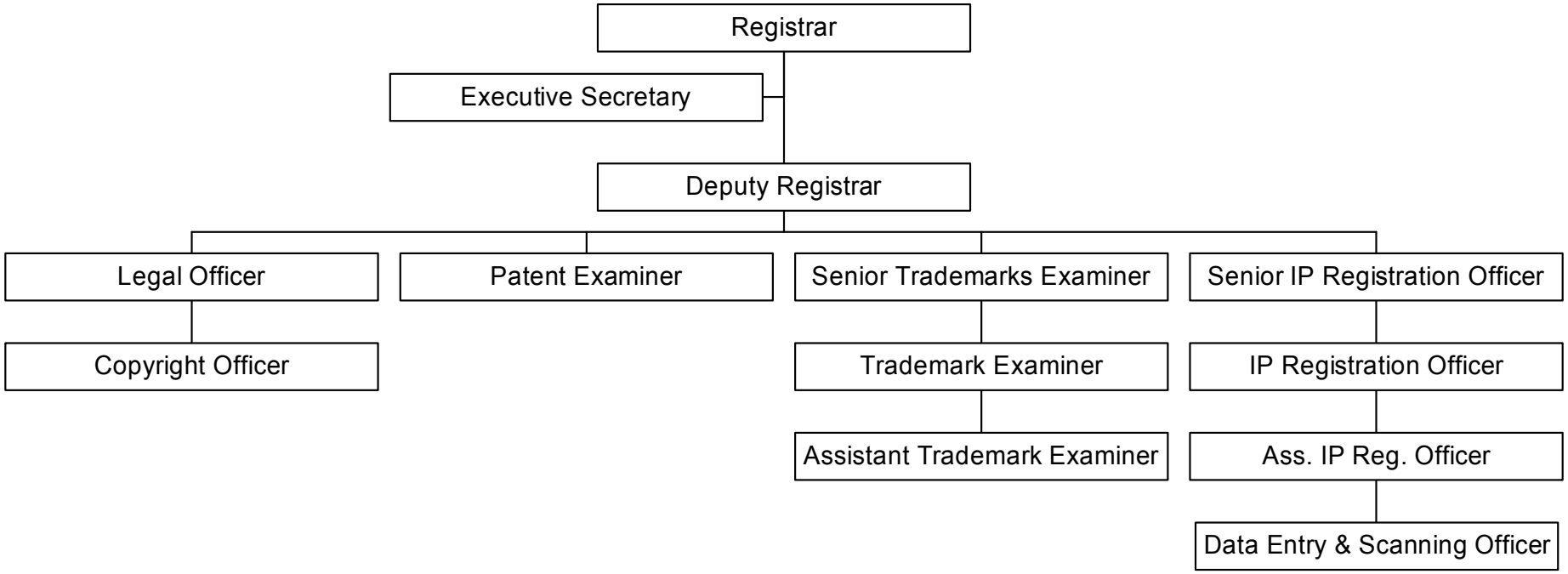
The Registrar and his senior staff have a primary role in the preparation of IP policy advice. They hold consultations with relevant interest groups through the NIPC, which is chaired by the Registrar. Feedback from the consultations held in the public awareness program also contributes to policy formulation.

The Legal Officer position within IPOPNG is responsible for preparing drafts for IP legislation and general legal advice on IP issues. This in-house resource provides valuable interaction with IPOPNG policy development as well as liaison with general government legislative procedures.

General Comments

The operations of the IPOPNG are significantly more sophisticated and comprehensive than those of the other target countries in this study. The staff are highly motivated, well trained and experienced in IP administration, and their activities are well supported and resourced by the IPA management. The presence in Port Moresby of several patent attorney firms and laws firms active in the IP area adds to the effectiveness and efficiency of the administration of IP in the country.

INTELLECTUAL PROPERTY OFFICE OF PNG
STAFF STRUCTURE - 2005

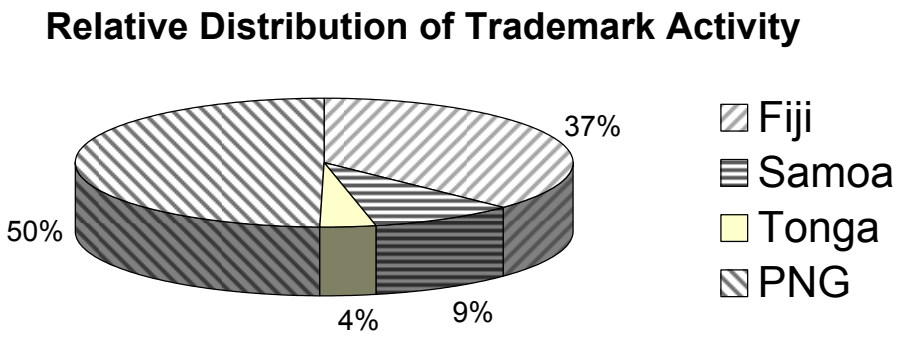


APPENDIX 3: ANNUAL INTELLECTUAL PROPERTY APPLICATION ACTIVITY

Country	Trademarks	Patents	Industrial designs
Fiji Islands	600	2	-
Samoa	150	5	-
Tonga	60	5	-
Papua New Guinea	800	6[a]	5
Total	**1610**	**18**	**5**

Note: figures are approximate.

[a] PNG is a member of the PCT and has received 940 notifications since 2002 of which 4 have entered the national phase



APPENDIX 4: BUDGET AND STAFF STATISTICS

Country	**Staff Numbers**	**Staff Salaries** (US$)	**Operational Budget** (US$)	**Training** (US$)	**Total Budget** (US$)	**Revenue** (US$)
Samoa	3	22978	11489	7659	42127	30368
Tonga	3.5	12272	5259		17532	34018
Fiji Islands	2.5	18776	23556		42332	10702
PNG	15	56850	37900		126334	176868
Total	**24**	**110876**	**78204**		**228325**	**251956**

Average salary: US$4,620

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Joint Report to the Pacific Islands Forum Secretariat

VOLUME 3: WORKING PAPERS
Working Paper No. 17

The Impact of Liberalizing Labour Mobility in the Pacific Region

Terrie L. Walmsley, S. Amer Ahmed, and Christopher Parsons
Global Trade Analysis Project
(University of Purdue, United States and University of Sussex, United Kingdom)

Preface

This report was prepared for the Pacific Islands Forum Secretariat (PFIS) in Suva, Fiji Islands. The report is one output of an Asian Development Bank (ADB) technical assistance project (TA 6226 REG): "Developing and Implementing the Pacific Plan for Strengthening Regional Cooperation and Integration." The Commonwealth Secretariat provided funding to the project.

The lead author of the report was Dr. Roman Grynberg, Deputy Director of Trade and Regional Cooperation at the Commonwealth Secretariat. He was assisted by Michael Hyndman, a cost-benefit analyst contracted by ADB, and Sacha Silva, an economist contracted by the Commonwealth Secretariat. Consultants from PIFS and the Pacific region provided valuable inputs for the report. Bill Costello was the ADB task manager.

The report is published in three volumes. Volume 1 is the Executive Summary. Volume 2 is the main report. Volume 3 contains the working papers commissioned for the report–a series of independent studies assessing potential benefits and costs of implementing a variety of possible regional initiatives. Volume 3 has been printed in hard copy in only limited numbers. However, it is available on the websites of ADB (www.adb.org) and at www.pacificplan.org.

Disclaimer

CONTENTS

ABSTRACT

Due to the lack of political consensus at the previous General Agreement on Trade on Services (GATS), negotiations on the temporary movement of natural persons (Mode 4) have stagnated. The growth in the economic literature surrounding this important issue has historically been lacklustre; despite the large welfare gains that have consistently been demonstrated to result from relatively small multilateral liberalisations on such transitory movements. This paper implements a CGE model of bilateral migration flows (GMig2) to quantify the benefits of liberalising GATS Mode 4 in the Pacific region. The results indicate that an increase in the labour forces of Australia and New Zealand from elsewhere within the Pacific region would raise welfare in Australia and New Zealand. However the results also shows that while the Pacific Island economies could gain substantially from the movement of unskilled workers, the loss of scarce skilled workers could lead to significant declines in the welfare of those remaining, which could offset any gains from the movement of unskilled labour. Agreements regarding the movement of unskilled labour could therefore potentially provide a significant development policy, which warrants further attention from policy makers.

I. INTRODUCTION

The World Trade Organization's (WTO) Uruguay round heralded a new wave of optimism for developing country members. During this round, the first discussions took place on the *'temporary presence of natural persons* (Mode 4)' under the General Agreement on Trade on Services (GATS). Developing countries hope to capitalise on their abundant labour. Against a backdrop of years of capital and goods market liberalisation, reticent policy makers on both sides of the GATS Mode 4 negotiations remain largely defensive, resulting in little progress being made; paradoxical since the welfare benefits from the future services liberalisation are likely to far outstrip the returns from additional goods market liberalisation. Hertel et al (1999) show that $300 billion will accrue from a 40% liberalisation of the services sector, compared to only $70 billion for an equivalent relaxation in both agriculture and manufacturing.

Winters (2001) argues that if individuals moving from developing to developed nations make up a quarter of the wage gap between the two nations, a 5% increase in industrialised countries populations would yield a global welfare gain of approximately $300 billion. A similar back-of-the-envelope calculation estimates that liberalisation equivalent to a 3% rise in 'rich' countries' labour forces supplied by 'poor' countries on a temporary and rolling basis, with each individual residing abroad for between 3 and 5 years, would raise developing countries annual welfare by $200 billion (Rodrik, 2004). More systematic approaches based on various modelling scenarios corroborate these computations. Walmsley et al (forthcoming, 2003a, 2003b) find that a 3% liberalisation on the quotas of both the skilled and unskilled from developing to developed nations would yield a global welfare gain of $150 billion. Indeed simulations from subsequent models based on bilateral migration flows (as opposed to from a global migrant pool) show that a similar lifting of quotas would produce approximately double these gains (Walmsley et al, 2005). Though all of these estimations should be viewed with a degree of caution, not least as relatively minor alterations to any of the crucial underlying assumptions can impact heavily upon the results, the orders of magnitude are clearly astonishing, especially in comparison to the total annual ODA budget. These benefits only represent static gains however failing to account for any dynamic effects, those associated with 'brain circulation' for example. Service providers are likely to return with greater levels experience, in part through learning from doing. Spill over and indirect effects of increased service provision may also increase welfare benefits (Winters 2003). If the above results could be given with certainty they would certainly represent lower bound estimates.

This paper implements a model of bilateral migration flows (GMig2, Walmsley, 2002) to assess comparable scenarios to those previously tested, in the context of the Pacific region. The remainder of this section continues by providing a background, to both GATS Mode 4 and the history of migration in the region. The following section gives a brief synopsis of the model. Section 3 analyses the results and provides a sensitivity analysis. While it is beyond the scope of the paper to discuss in detail relevant policy options some are alluded to in passing and conclusions are drawn in the final section.

1.1 The Potential of GATS Mode 4

Australia and New Zealand represent two of the 'big four' traditional magnets of international immigration alongside Canada and the United States. They are by far the largest economies in the Pacific region[1] and also the wealthiest on a per capita GDP basis ranked 14th and 33rd in the

[1] The region is assumed to comprise of Australia, New Zealand, American Samoa, the Cook Islands, Fiji Islands, French Polynesia, Guam, Kiribati, the Marshall Islands, the Federated States of Micronesia, Nauru, New Caledonia, Norfolk Island, the Northern Mariana Islands, Niue, Palau, Papua New Guinea, Samoa, the Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, and Wallis and Futuna.

world respectively (CIA World Fact book 2004). Both have experienced fairly prolonged and sustained economic growth largely unfettered by the constraints that have consistently hampered the development of their Pacific neighbours. Not only are the Pacific islands geographically remote they also remain on the periphery of the world economy, increasingly dependent on the wider world, on both international institutions and donors.

Though a fair amount of variation exists between the Pacific nations typically they are small isolated communities, endowed with few natural resources, comprising of many smaller islands and atolls which often suffer from a lack of geographical proximity to one another. A direct result of this isolation is that a disproportionate share of total income is spent on communication, administration and transport. A narrow production base exacerbated by the declining terms of trade in Pacific Island agricultural commodities, failures to successfully diversify economically, significant diseconomies of scale (due to incredibly small domestic markets[2]), and an inability to compete effectively in the global marketplace, have resulted in large trade deficits. Increasingly vulnerable, the Pacific Islanders remain highly susceptible to external shocks. Among the other island nations of the Pacific it is those ex-colonies of France and the United States that are predominantly the richest, ranked in order; Guam (35), French Polynesia (49), New Caledonia (56), Northern Marianas (62), Palau (78), American Samoa (87), Fiji Islands (108), Nauru (116), Cook Islands (117), Wallis and Futuna (137), Niue (138), Vanuatu (148), Tonga (158), Papua New Guinea (160), Micronesia (163), Solomon Islands (175), Marshall Islands (179), Tuvalu (197), Tokelau (198) and Kiribati (210)[3]. The region is now among the poorest in the world, and despite not suffering from the depths of chronic poverty experienced for example in Sub-Saharan Africa, the region is the highest recipient of overseas aid on a per capita basis.

The countries and territories of the Pacific have experienced high levels of migration, the majority of which has taken place in the last four decades. Internal migration has been significant with large movements toward urban conurbations, which has simultaneously been accompanied by considerable international migration. Traditionally high fertility rates, coupled with rising life expectancy, have resulted in relatively high population growth rates. International migration from the territories of the Pacific is viewed in part as a means of relieving population pressure on the already scarce resources, while increasing both the earning potential of the migrant abroad through higher salaries, and the income of the sending family via remittances. According to Munro and Bedford (1980) certain ethnic groups within the region 'were the first genuine Malthusians', as migration was openly advocated as a means of relieving some pressure on agricultural producers. This is perhaps best exemplified more recently by the relatively recent leasing of land in Asia by Tonga (Connell, 2003).

Aside from natural disasters however, migration is primarily driven by the large disparities in social and economic factors between the sending and host nations. The prospects of superior health and education standards and higher wages stimulate ever-increasing expectations of living standards which fuel spiralling aspirations of moving abroad (Connell, 2003). Migration in the region should be viewed not merely as a response to ailing economies nor simply a development strategy, but more as an intrinsic part of life that many islanders take almost for granted. This is perhaps best demonstrated by the increasing reliance on remittance flows which often contribute substantially to household incomes. This is particularly true of Polynesia[4], specifically for Tonga and Samoa, where both emigration rates and the level of remittance flows

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[2] All the Pacific nations are below the richest 150 countries in the world as measured by GDP with the exception of PNG (126).

[3] Data was unavailable for Norfolk Island.

[4] Polynesia consists of American Samoa, Tokelau, the Cook Islands, Tonga, Niue, Tuvalu, French Polynesia, Wallis and Futuna, and Samoa.

are substantially higher than elsewhere in the region but also true for Tuvalu where Chambers (1986) notes parents specifically aim to rear effective remittance earners. For some of the smaller island states[5] remittances have proved historically so vital that Betram and Watters (1985) christened them the Migration, Remittance and Bureaucracy (MIRAB) states.

The migration histories of the other traditional island groupings are quite different to that of Polynesia however. Micronesia[6] has experienced significant outflows of residents, though in contrast to Polynesian migrants, a large proportion actually return, which not only alters the demographics of the two, but also indicates that different policies may be appropriate for each. The exception to this is the recent Diaspora from the Federated States of Micronesia (FSM), the country in 2004 that had the highest net emigration rate in the world (CIA World Fact book, 2004). Under the United States' Compacts of Free Association those from FSM have unrestricted Access to the United States (Connell, 2003). Melanesia[7] with the exception of Fiji Islands, has experienced far lower emigration rates, in part due to fewer geographically disadvantages. Fiji Islands has experienced significant departures of Indo-Fijians not least following the coups of 1987 and 2000 (APMRN, 1997). The percentage of total GDP represented by remittances[8] where data were available, demonstrates Polynesia's reliance on remittances relative to Melanesia's. Remittances are less than 1% of GDP for PNG and the Solomon Islands, just over 3% for Vanuatu but 7% for Samoa and a staggering 41% for Tonga[9]. Moreover in light of the increasing literature on measuring informal remittances (see Freund et al, 2005 for example) these estimates are likely to significantly under estimate the true value of remittance flows.

1.2 Australia, New Zealand and the Pacific Community

The most popular destinations for international migrants from the Pacific region are to other neighbouring Pacific Islands or one of the 'big four', the choice of which usually depends upon the prevailing economic conditions. Chart 1 shows the percentage distribution in the stock of immigrants in these regions from the Pacific Islands for 2001.

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[5] Primarily the Cook Islands, Kiribati, Tokelau and Tuvalu.

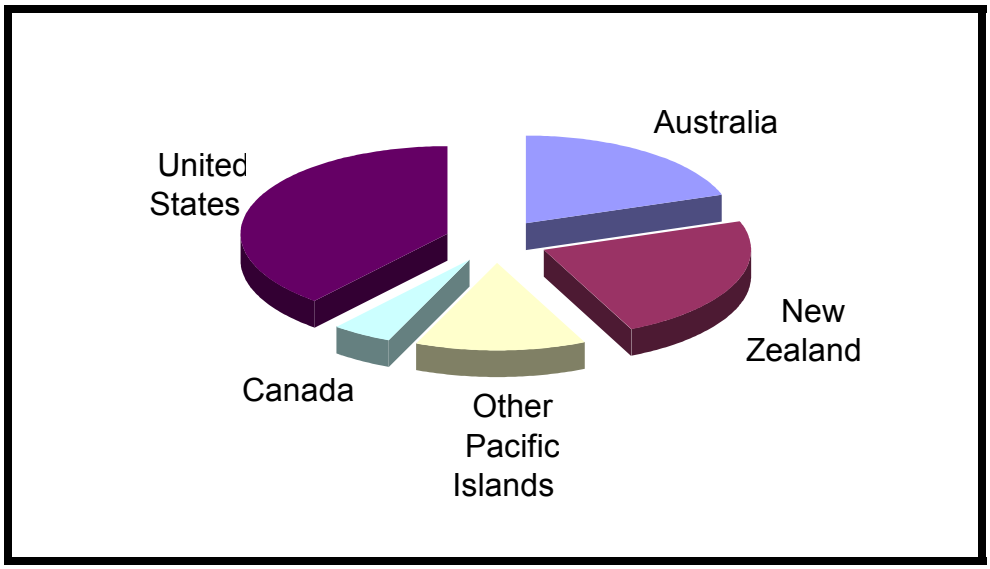
[6] Micronesia consists of the Federated States of Micronesia, Kiribati, the Northern Marianas, Guam, the Marshall Islands, Palau, and Nauru.

[7] Melanesia consists of Fiji Islands, PNG, Vanuatu, New Caledonia and the Solomon Islands.

[8] GDP data is taken from the World Development Indicators while the estimates of remittances were provided by the World Bank.

[9] Data were unavailable for the other Pacific nations.

Chart 1: Immigrants Stocks of Pacific Islands in most Popular Destinations

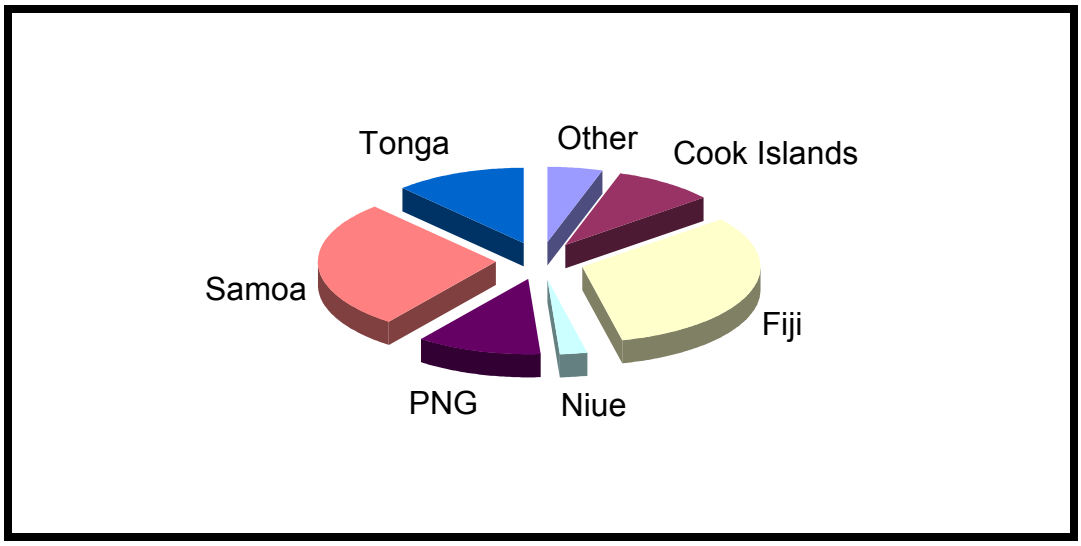


Source: Parsons et al (2005)

Canada, the United States and other Pacific Islands are important destination countries. Australia and New Zealand though together representing only a fraction of the GDP of the North American countries still attract approximately 43% of all Pacific Island migrants (to the most popular destinations), in part due to their proximity. The top eight Pacific nations with the highest immigrant stocks are also those with the highest per capita incomes in the region. These examples demonstrate well the 'gravitational' effects of wealthier countries. Across both Australia and New Zealand, Pacific Islander migrants constitute 4.6% of the total population. This figure masks the imbalance between Australia, where the percentage is just 2.4%, and New Zealand where it is 16.9%. Though relatively small on average the number of Pacific immigrants relative to their domestic populations can be very large. In 2001 the immigrant population residing in Australia and New Zealand from the Cook Islands represented 96.9% of the total home population. The figures are also surprisingly high for Samoa (33.7%), Tonga (24.7%), Tuvalu (10.1%) and Nauru (5.7%)[10]. Predictably these are among the nations which constitute the highest percentage of the total Pacific Island migrant stock in Australia and New Zealand, see Chart 2.

[10] Data were unavailable for French Polynesia, Niue, Tokelau and Norfolk Island.

Chart 2: Percentage total Pacific Islanders residing in Australia and New Zealand

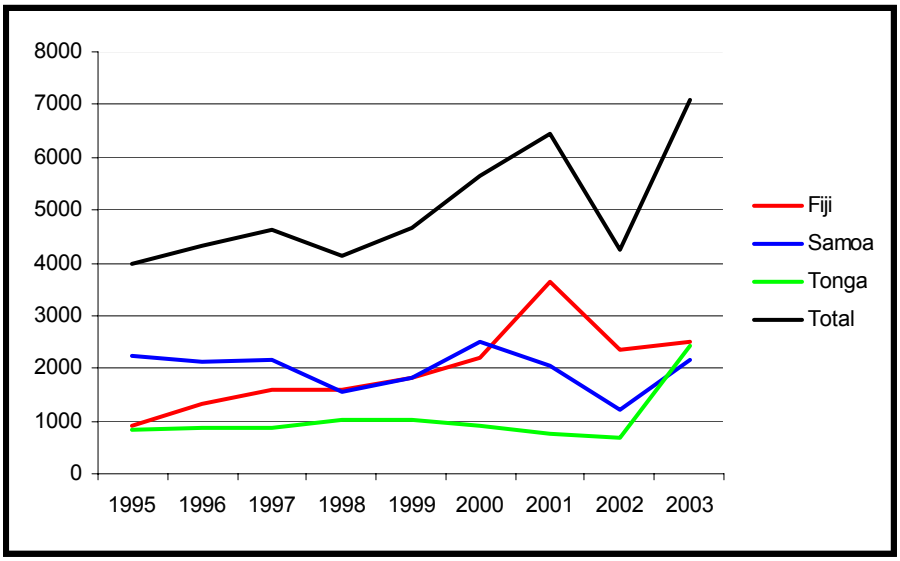


Source: Parsons et al (2005)

Charts 3 and 4 graph the settler arrivals and residence approvals of Pacific Islanders to New Zealand[11] and Australia based on nationality and birthplace respectively. At first glance the upward trend for New Zealand from a Pacific Island perspective looks optimistic (see chart 3). Having once flooded into New Zealand in the post-war period as part of a drive to recruit unskilled and medium skilled workers, the numbers of Pacific Islanders has dramatically fallen over the medium term however. The introduction of the points system in 1991 on the one hand, combined with a falling demand for lower skilled workers on the other, has skewed immigrant arrivals away from the more traditional sending region of the Pacific. Immigrants are increasingly received from Pacific Rim nations. In particular East Asia, and primarily Taipei,China, South Korea and People's Republic of China, now represent the three highest countries for applications to New Zealand. Highly skilled professionals from South Africa also represent a major group. In the four years up until 1991 New Zealand received 22,963 residence applications from Pacific nationals, in the four years to 1995 this figure had dropped to only 12,716 (APMRN, 1997). The high of approximately 7000[12] in Chart 3 in 2003 shows this trend is continuing. More recently increased animosity toward the Maori due to them attempting to reclaim New Zealand's' resources i.e. an acknowledgement of the Treaty of Waitangi, has spilled over increasing the alienation of Pacific Islanders. In their favour, Pacific Islanders are more likely to pass the newly introduced English proficiency tests, which act as a significant barrier to entry for migrants from Asia. Residents from Samoa, Fiji Islands and Tonga are exempt from the visa waiver system however.

[11] Data were only available on three Pacific nations.
[12] Note that this number is only the total of the three largest Pacific Island sending nations.

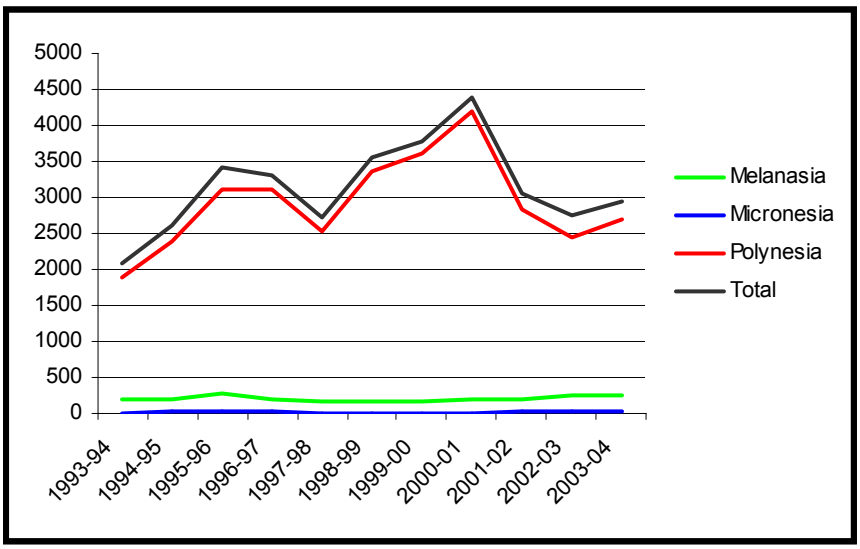
Chart 3: New Zealand, Residence Approvals by Nationality 1995-2003



Source: Statistics New Zealand

The overall migration story of New Zealand largely reflects the patterns observed in Australia, although the latter is on a larger scale involving more migrants from a greater number of source countries. Australia operates a much older points system and in recent history has also experienced increasing numbers of Asian migrants. There has also been a gradual increase (recently) in the overall number of Pacific Islanders into Australia with the vast bulk provided by Polynesia (see Chart 4), though this too is misleading in terms of the longer trends.

Chart 4: Australia, Settler Arrivals by Birthplace 1993-94 to 2003-04



Source: Australian Department of Immigration

For both Australia and New Zealand despite the reasonably large stocks of Pacific Island migrants the recent inflows from the region have been low relative to other nations, specifically those from Asia. These flows still represent very substantial fractions of the total number of

emigrants from the Pacific region however. The reliance of Pacific communities on sending nationals to these countries is going to continue. But their future is far from certain. Clearly any further restrictions on migration between the two sets of countries will likely have major repercussions on the welfare of Pacific Islanders with Tonga and Samoa particularly effected due to the high representation in these states and their increasing reliance on remittance flows. Conversely any reductions in the barriers to migration or a system that would allow freer movement might represent a significant development policy for the island communities and that is the subject to which we now turn.

1.3 The Need for Skill

In December 1988, at the Mid-Term Ministerial meeting in Montreal, WTO members finally decided to include labour mobility in the Uruguay round of GATS. Prior to this developed countries had strongly objected because of a failure to agree on a suitable definition of 'temporary' and a belief that Mode 4 impinged on their sovereignty to determine their own immigration policies. It should be noted that GATS Mode 4 is *not* migration. Furthermore, Mode 4 though commonly treated as synonymous to temporary migration is rather a temporary movement. As such, many of the arguments commonly cited against migration including the erosion of cultural traditions, excessive drains on the public purse and anxieties relating to assimilation, are simply not relevant in the case of Mode 4 (Winters, 2003). Neither necessarily is the 'brain drain' argument appropriate since (at least theoretically) workers return home. It is also an advantage that any wages earnt on a temporary scheme will accrue directly to the migrant as wages, or to the migrants' family via remittances.

However despite the inclusion of the cross-border movement of natural persons in the negotiations, little progress was achieved during the Uruguay round. Where some headway was made it was largely in the area of 'commercial presence abroad'. Developing countries were treated most unfavourably, securing little or no market access from developed countries while conceding market access for skilled workers from the richer nations. This reflects the fact that developed countries generally consider Mode 4 to relate to only skilled workers, and the 'North's' superior bargaining power. In fact Mode 4 is a binding, non-discriminatory[13], multilateral agreement, neither limited to any particular skill level nor able to influence the national immigration policies of individual members. For example it does not prohibit countries imposing stricter regimes for visas for nationals from particular countries Nor is Mode 4 restricted simply to 'North-South' cross-border service provision though this is what we confine out attentions to here since this is the key area in which previous offers have taken place. Winters (2003) identifies within this subset of Mode 4, three types of (North-South) flows; the movements of the skilled from developed to developing countries, that area on which most progress has already been made; the flows of skilled workers from developing to developed nations (that movement akin to arguments concerning the brain drain), and the flows of the unskilled, from developing to developed countries.

Businesses and corporations have long since recognised the profit in sending workers abroad for short periods. It is one way in which the potential of experts can be maximised and costs saved with lower numbers of them. Mode 4 also represents a means to speed up the international movement of corporate workers who often face long waits for obtaining foreign visas. Largely concerning 'intra-corporate transferees' this is the area in which most progress has already been made. As the Pacific Islands have little or no 'commercial presence abroad' however it is of little use to them. Iredale (2000) notes the great reluctance for Pacific

[13] Under Mode 4 commitments are 'horizontal' and as such apply equally across all sectors. This does not preclude the possibility of the selective deepening of commitments in certain sectors however (Chaudhuri et al 2004)

communities to either send *or* receive skilled labour. Similarly Australia and New Zealand are unlikely to want to send skilled labour to the islands. This is with the possible exception of Papua New Guinea where a sizable cohort currently resides largely working on the extraction of natural resources.

The movement of skilled workers from developing to developed countries, the so-called 'brain drain' has quite justifiably received significant attention from policy makers. The outflow of skilled workers tends to both widen wage gaps and lower the average level of skill, thus reducing total output and the already dwindling tax base. In the Pacific region the movements of the elite have left the remaining stocks of skilled works severely depleted in many instances. In the decade between 1966 and 1976 half of the total of residents in the Cook Islands that possessed any vocational qualification emigrated (Cook Islands, 1984). A similar crisis occurred again in the mid-nineties. Similarly in Fiji Islands between 1987 and 1995 approximately 75% of administrative and managerial workers and 25% of all professional and technical workers left the country (APMRN, 1997). If their qualifications are unrecognised abroad such highly skilled workers are often employed in lesser skilled jobs, the so-called 'brain waste'. Due to low domestic demand and insufficient capacities to train large numbers of skilled workers, island communities find replacing skilled labour extremely problematic. In Fiji Islands for example the cost of hiring a foreign worker are between double and quadruple that of a domestic worker (APMRN, 1997). Moreover island communities are often hit harder by the loss of this labour, a doctor emigrating from a rural area can represent a substantial loss of the local skilled labour force for instance. This leads in many cases to a critical weakening of service provision in rural areas.

The consequences of the 'brain drain' remain far from certain. It is quite plausible that workers abroad increase their productivity to such an extent that when they return this more than compensates for their loss, the so-called 'beneficial brain drain' (Winters, 2003). This does of course rely on the fact that migrants return, and a migrants' propensity to return varies widely across the region. Micronesians for example are far more likely to return relative to emigrants from Polynesia.

The increased return to education through temporary movement also warrants attention. Commander, Kangesniemi and Winters (2002) conclude that such skill gains are both potentially large enough to offset some or all of the losses from brain drain (skill loss) and that these effects are likely higher with a temporary worker scheme. The limited prospects resulting from the constrained size of the Pacific nation markets however, make migration a very attractive prospect. Acquiring skills are likely to remain a high priority for many. Kiribati and Tuvalu stand out as examples of nations not just in the Pacific but in the world that specifically train people to work abroad.

These potential gains in the context of the Pacific are unlikely to be realised however. The discussion in the literature so far does not generally consider the size of the pool of skilled workers that remain at home. Even if migrants return successfully with vastly improved productivity overall gains are unlikely if the country has had to endure an extended period when they are few or virtually no skilled workers. During this period the country would experience a 'transitory brain drain', a worsening of living standards of both the quality of education, and health care, together with dramatic reductions in wages and output. This is a likely scenario in the Pacific especially in the case of the Cook Islands.

1.4 The Future

Certainly in some occupations there is simply no substitute for unskilled labour. For the Pacific communities this is the resource in which they possess a comparative advantage and relatively

large endowments, and therefore an area in which they seek greater openness and better market access. This is where the differences, the fundamental basis on which trade generates net gains are greatest, and where the successful exploitation of these differences will yield the largest welfare benefits. As in most developed nations both Australia and New Zealand have an increasingly educated and more highly skilled, though aging population. Over time therefore the scarcity of unskilled labour will likely increase; although this is not presently the case as unemployment among the domestic unskilled remains. Nevertheless it is (almost) inevitable that in the coming decades opportunities will arise for the Pacific communities to send more unskilled workers abroad. This would go some way to redress the skill imbalance in all of these economies and provide a source for additional future remittance earnings.

The importance of temporary worker schemes has steadily increased, especially in Australia, but these do not concern unskilled workers. The fears expressed by policy makers in Australia and New Zealand on temporary worker schemes for the unskilled are not dissimilar from those in other developed nations, these include; job instability, the wage erosion of domestic unskilled workers, national security, enforcement, the high costs of administering temporary schemes (including potentially high turnover costs), and the social exclusion of temporary workers, which have all resulted in a lack of political will.

To date only Australia, New Zealand and Fiji Islands have made Mode 4 offers; and of these only the first two are publicly available. Winters (2005) alludes to the fact that no developing country has been known to have made a horizontal offer on lower skilled professionals or workers, and this *would* include Fiji Islands. Australia's initial offers on GATS Mode 4 were on intra-corporate transferees and employees of host based firms only. New Zealand's offer similarly reflected the aims of her points system. The two Oceanic powers rather than committing to any binding multilateral agreements have instead opted to sign bilateral agreements, targeting specific foreign populations for immigration, and raise the number of points needed for entry. The existence of bilateral agreements is surely the biggest hurdle standing in the way of future liberalisation of Mode 4. However, with a greater number of stakeholders actively contributing to the present round of negotiations, optimism must remain.

II. MODEL AND DATA

Mode 4 can be modelled at either extreme from which it can be viewed, i.e. from a perspective of pure labour migration or analogous to greater trade in goods. Here we choose to model with an increase in the population.

We use a standard global applied general equilibrium model, which has been adjusted to take into account bilateral labour flows. The model, termed GMig2, is similar to the model used in Walmsley and Winters (2005). In that model, Walmsley and Winters (2005) hypothesized a global pool to intermediate the flow of labour between countries, which circumvented the problem of the lack of bilateral data on the stocks of migrants. In this model, bilateral labour flows are modelled directly and therefore data is an important aspect of this model. The benefit of this approach is that it allows us to track the bilateral flows of labour, their productivities and their remittances directly.

The data base used with the Bilateral Labour Migration Model (GMig2) is based on the GTAP 6 Data Base (Dimaranan and McDougall, 2005) and is augmented with the bilateral migration data base developed by Parsons, Skeldon, Winters and Walmsley (2005) (henceforth PSWW)

and remittance data from the World Bank. These data were used to estimate bilateral wages and remittances in the model.[14]

A number of assumptions are made in creating this data base and in the model itself, which are outlined here.[15] We assume:

- participation rates are the same as their home region;
- labour has the same characteristics as their home region, in terms of skilled/unskilled labour splits;
- wages of migrants (Wi,r,c) are equal to the home wage (HWi,r) plus a proportion (beta) of the difference between host and home wage (HWi,c - HWi,r):

  Wi,r,c = HWi,r + BETA x (HWi,c - HWi,r)

  Where: BETA is the proportion of the difference obtained by a person of labor type i migrating from region r to region c (= 0.75);
- a constant remittance to income ratio to determine bilateral remittances in the data base. In the model we assume that remittances remain a constant proportion of income;
- all other income (from capital, land etc) accrues to permanent residents;
- that foreign and domestic labour are perfect substitutes;
- the quantity of skilled and unskilled labour within a region is fixed and only changes with the movement of capital from one region to another;
- that there is excess demand for the quota spaces and hence any change in quotas will be filled by the labour exporting region; and
- a revolving door, where temporary workers continually enter and return to their home countries. Unless otherwise stated, no changes in productivities are assumed upon their return home.[16]

These results are the comparative static short run impacts of these policies. That is, they show how much better (or worse) off the residents of each region are in the short run, before capital has had time to respond to changes in the rates of return.

Charts 5 and 6 show the shares of foreign labour in Australia and New Zealand respectively, contained in the data base. Both charts show that Europe is the largest provider of foreign labour to both Australia and New Zealand. New Zealand is also a large supplier of foreign labour to Australia, primarily due to their geographical proximity and ties through the Closer Economic Relations agreement. South East Asia and the rest of the world are also large suppliers of labour. As mentioned above the Pacific Islands are not an important source of foreign labour for Australia, in New Zealand however, the Pacific Islands represent the second largest source of foreign workers, followed by Australia and the rest of the world.

[14] Further information on the methods used to create this database and model are available from the Walmsley et al. (2005).

[15] Further work is still being undertaken on the GMig2 model and database to get better data on many of these aspects and /or test their importance.

[16] This assumption may be unrealistic given that many temporary labour schemes are designed to increase skill levels and/or productivity.

Chart 5: Percentage Total of Foreigners Living in Australia

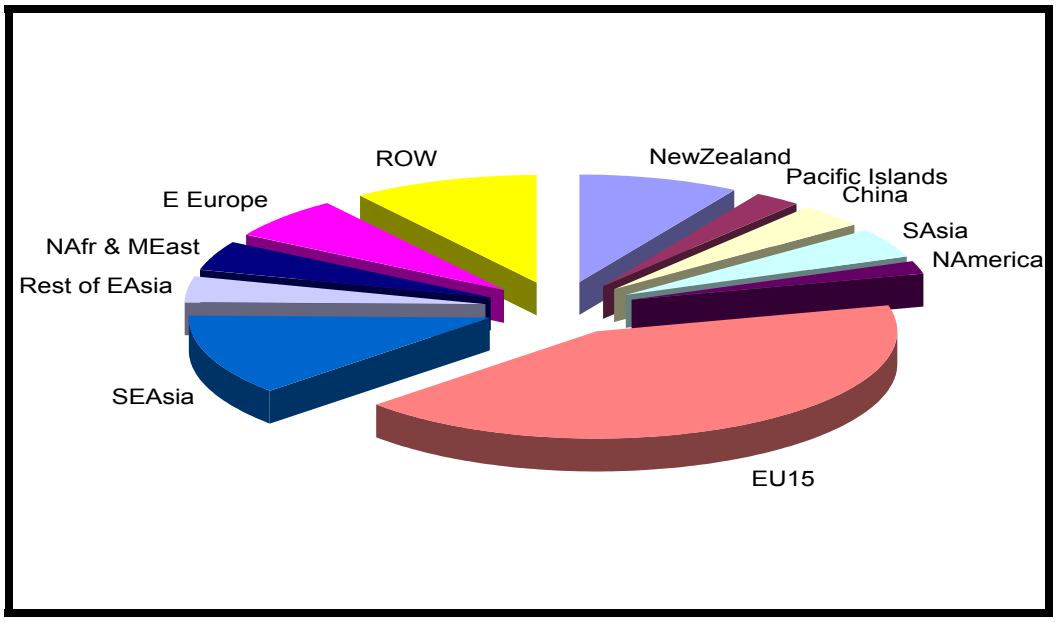
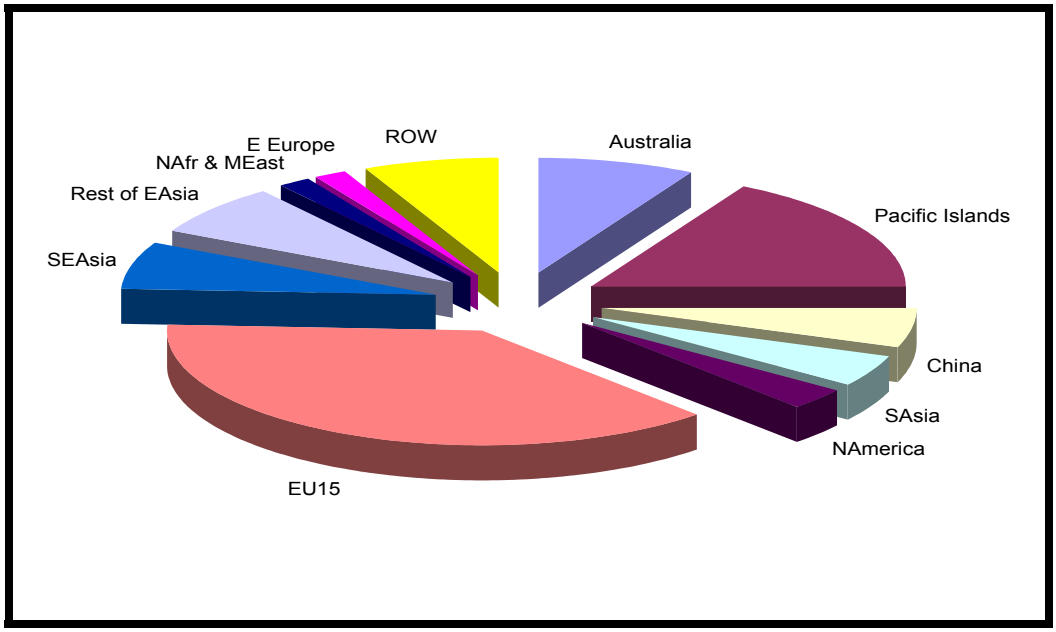


Chart 6: Percentage Total of Foreigners Living in New Zealand



III. EXPERIMENTS

The purpose of this paper is to examine how increases in the flows of temporary labour to Australia and New Zealand from the major labour exporting countries would affect both Australia and New Zealand, the Pacific Islands and other labour exporters. Quotas on Australia and New Zealand's temporary movement of natural persons were increased by 1% of the labour forces. The increased quotas were filled by increases in the labour from the Pacific Islands.

Table 1 shows the stock of Pacific Island migrants in Australia and New Zealand prior to the shock and the stocks after the Australian and New Zealand labour forces have been increased by 1 and 3%. There are currently only about 111 thousand migrant workers from the Pacific Islands in Australia and New Zealand. As mentioned above in terms of numbers Australia and New Zealand have similar numbers of migrants from the Pacific Islands, however as a percentage of the labour force, New Zealand is an important importer of Pacific Island labour. After the 1% increase in migrant labour quotas from the Pacific Islands, this number doubles to 232 thousand. This increase of 1% in the Australian and New Zealand labour force amounts to declines in the Pacific Island's skilled and unskilled workers of 21% and 2% respectively.[17] While the Pacific Islands could afford to send 2% of their unskilled labour force, a loss of 21% of their skilled labour force could have a significant effect. Temporary migration schemes however often assist with capacity building efforts in the labour exporting economy. We also investigate the impact of an increase in the productivities of returning workers.

Table 1: Stock of Pacific Island Migrants by skill in Australia and New Zealand
(Numbers of people)

	Skilled		Unskilled		Total	
	Australia	**New Zealand**	**Australia**	**New Zealand**	**Australia**	**New Zealand**
Initial	2350	2773	48946	57739	51296	60512
1%	41201	8966	111096	71546	152297	80512
3%	118903[a]	21352[a]	235396	99160	354299	120512

[a] The skilled labour forces in Australia and New Zealand were not increased by 3% since this would have significantly reduced the skilled labour force in the Pacific Islands.

These results were compared with those when quotas were filled by alternative labour exporting country sets, including developing economies, developed economies and those of South East Asia. Under these assumptions the increased quotas are supplied according to the labour force shares, hence the extent to which Pacific Islanders fill these places is diminished, particularly in Australia.

Further sensitivity analysis was conducted to examine the impact of varying the magnitude of the increase in quotas. Specifically, the 1% increase in unskilled labour was compared with the case where the unskilled labour force was increased by 3%. A 3% increase in the quotas of Australia and New Zealand leads to over 335 thousand unskilled migrants from the Pacific Island economies. This amount to 8.7% of the Pacific Island economies unskilled labour force. We also examine smaller increases in the flow of skilled workers between the Pacific Islands and Australia/New Zealand.

[17] The reason for this large difference is that while the Pacific Island's has a reasonably large population of approximately 7m, only 5% of its labour force is skilled as compared to approximately 30% of Australia and New Zealand's labour forces. Hence skilled labour is a very scarce resource in the Pacific Island economies.

IV. RESULTS

In this section we examine the results of the alternative experiments outlined above. In the first section we examine the macro implications and hence the impact on welfare, in section b) the sectoral implications. Section c) compares the results with those obtained when the labour forces are increased by 3% in Australia and New Zealand. In section d) we compare the results with the case where other economies supply the increased quotas: South East Asia, developing and developed economies.

4.1 Macroeconomic Effects

The welfare changes of labour from country *r* residing in country *s* are displayed in Tables 2A to 2C. As a consequence of the increased flow of skilled and unskilled migrant workers from the Pacific Islands into Australia and New Zealand, the welfare of Australians and New Zealanders residing in Australia and New Zealand rises by 302.61m and 26.5m respectively (Table 2A). This is due to the fact that the increased labour endowment in Australia and New Zealand has increased the returns to capital (Table 3 and 4) and tax revenues, which offsets the fall in wages. Most of the gains come from the increase in quotas on unskilled labour (Table 2B).

Table 2A: Bilateral Welfare Changes for 1% Shock to Unskilled and Skilled labour

(Millions of US$)

Home Region[19]	Host Region[18]				Total Welfare of Home Region
	Australia	New Zealand	Pacific Islands	Other	
Australia	302.61	-0.85	1.77	0.00	303.53
New Zealand	-6.88	26.55	0.94	0.00	20.61
Pacific Islands	1386.10	168.07	-488.02	0.00	1066.14
PRC	-2.89	-0.63	0.50	1.70	-1.32
South Asia	-1.40	-0.18	0.03	-4.12	-5.67
North America	-2.55	-0.66	16.49	-4.02	9.26
EU 15	-44.08	-7.14	5.05	-12.66	-58.83
South East Asia	-8.23	-0.61	3.87	0.70	-4.28
Rest of East Asia	-3.99	-1.13	2.53	-11.16	-13.76
North Africa and Middle East	-1.12	-0.10	0.15	0.82	-0.25
Eastern Europe and Former Soviet Union	-4.92	-0.20	3.73	-1.74	-3.13
ROW	-6.35	-0.65	0.77	-2.62	-8.85
Total Welfare of Host Region	**1606.28**	**182.46**	**-452.19**	**-33.10**	**1303.44**

[18] Host region is the region where the person is residing. Hence the host region of an Australian who lives in the United Kingdom is the United Kingdom.

[19] Home region is the region where people are permanent residents or in this database the region of birth. Hence the home region of an Australian who lives in the United Kingdom is Australia. Hence $1386.10m is the welfare gained by Pacific Islander's living in Australia from the increase in Australia and New Zealand's quotas equal to 1% of their labour force and supplied by workers from the Pacific Islands only. This positive reflects the increase in numbers of Pacific Islander's in Australia earning the Australian wage. On the other hand, $4.88m is the welfare loss of New Zealander's living in Australia when Australia and New Zealand increase their quotas, and these are supplied by workers from the Pacific Islands. This negative reflects the fall in wages that these workers will endure (note there is no change in the number of workers as New Zealand did not supply more labour to Australia).

Table 2B: Bilateral Welfare Changes for 1% Shock to Unskilled Labour

(Millions of US$)

Home Region	Host Region				Total Welfare of Home Region
	Australia	New Zealand	Pacific Islands	Other	
Australia	199.84	-0.38	0.07	0.00	199.53
New Zealand	-4.88	17.90	0.04	0.00	13.07
Pacific Islands	775.05	104.13	22.03	0.00	901.21
PRC	-4.20	-0.76	0.10	0.96	-3.90
South Asia	-1.95	-0.21	0.01	-3.78	-5.94
North America	-1.52	-0.35	0.97	-3.92	-4.82
EU 15	-24.86	-3.36	0.26	-6.50	-34.46
South East Asia	-9.47	-0.57	0.13	0.19	-9.73
Rest of East Asia	-3.98	-0.91	0.22	-3.83	-8.51
North Africa and Middle East	-1.44	-0.11	0.01	0.67	-0.86
Eastern Europe and Former Soviet Union	-4.19	-0.15	0.12	-1.02	-5.24
ROW	-7.01	-0.55	0.06	-1.82	-9.33
Total Welfare of Host Region	**911.39**	**114.67**	**24.02**	**-19.06**	**1031.02**

PRC = People's Republic of China, ROW= rest of world.

Existing foreign workers in Australia and New Zealand, including those from the Pacific Islands, lose (Table 2A) as these wages fall (Table 3 and 4) and since they do not own capital the rise in returns to capital does not compensate for this loss in labour income. The EU loses most due to the large proportion of workers it already sent to Australia (42% of migrants in Australia are from the EU) and New Zealand (37%).[20]

[20] Note that when only the quotas on skilled labour are increased the welfare of some migrants, e.g. People's Republic of China in Table 2C, rises by 1.3%. This is due to the fact that China supplies mostly unskilled labour to Australia and New Zealand. The increase in quotas on skilled workers causes the wage of unskilled to rise and hence the gains to existing unskilled Chinese workers living in Australia and New Zealand are greater than the losses made by existing skilled migrants as their wages decline.

Table 2C: Bilateral Welfare Changes for 1% Shock to Skilled Labour

(Millions of US$)

Home Region	Host Region				Total Welfare of Home Region
	Australia	New Zealand	Pacific Islands	Other	
Australia	102.77	-0.47	1.70	0.00	103.99
New Zealand	-2.00	8.64	0.90	0.00	7.54
Pacific Islands	611.05	63.94	-510.06	0.00	164.93
PRC	1.30	0.13	0.40	0.73	2.57
South Asia	0.55	0.03	0.02	-0.33	0.27
North America	-1.04	-0.32	15.52	-0.10	14.07
EU 15	-19.23	-3.77	4.79	-6.16	-24.37
South East Asia	1.24	-0.04	3.74	0.51	5.46
Rest of East Asia	-0.01	-0.22	2.32	-7.33	-5.24
North Africa and Middle East	0.32	0.01	0.14	0.16	0.62
Eastern Europe and Former Soviet Union	-0.74	-0.05	3.60	-0.71	2.10
ROW	0.66	-0.10	0.71	-0.80	0.48
Total Welfare of Host Region	**694.88**	**67.79**	**-476.21**	**-14.04**	**272.42**

PRC= People's Republic of China, ROW = rest of world.

Table 3: Percentage Changes in Real Factor Returns and Real GDP due to Unskilled Labour

I	II	III	IV	V	VI
Regions	% change in Real Wage of Skilled Labour	% change in Real Wage of Unskilled Labour	% Change in Rental Price of Capital	% Change in Real GDP	% Change in Terms of Trade
Australia	0.20	-0.41	0.23	0.27	-0.01
New Zealand	0.18	-0.44	0.21	0.26	-0.03
Pacific Islands	-0.01	1.26	-0.23	-0.52	0.36
PRC	0.00	0.00	0.00	0.00	0.00
South Asia	0.00	0.00	0.00	0.00	0.00
North America	0.00	0.00	0.00	0.00	0.00
EU 15	0.00	0.00	0.00	0.00	0.00
South East Asia	0.00	0.00	0.00	0.00	0.00
Rest of East Asia	0.00	0.00	0.00	0.00	0.00
North Africa and Middle East	0.00	0.00	0.00	0.00	0.00
Eastern Europe and Former Soviet Union	0.00	0.00	0.00	0.00	0.00
ROW	0.00	0.00	0.00	0.00	0.00

Table 4: Percentage Changes in Real Factor Returns and Real GDP due to Skilled Labour

I Regions	II % change in Real Wage of Skilled Labour	III % change in Real Wage of Unskilled Labour	IV % Change in Rental Price of Capital	V % Change in Real GDP	VI % Change in Terms of Trade
Australia	-0.56	0.13	0.17	0.21	-0.02
New Zealand	-0.65	0.09	0.11	0.16	-0.02
Pacific Islands	18.69	-1.93	-2.57	-4.00	0.65
PRC	0.00	0.00	0.00	0.00	0.00
South Asia	0.00	0.00	0.00	0.00	0.00
North America	0.00	0.00	0.00	0.00	0.00
EU 15	0.00	0.00	0.00	0.00	0.00
South East Asia	0.00	0.00	0.00	0.00	0.00
Rest of East Asia	0.00	0.00	0.00	0.00	0.00
North Africa and Middle East	0.00	0.00	0.00	0.00	0.00
Eastern Europe and Former Soviet Union	0.00	0.00	0.00	0.00	0.00
ROW	0.00	0.00	0.00	0.00	0.00

PRC= People's Republic of China, ROW = rest of world.

The gain to Pacific Islanders located in Australia and New Zealand gain significantly due to the fact that they are supplying the increased quotas. The welfare of the permanent residents of the Pacific Islands however, falls considerably (-$488m). This is due to the substantial rise (18.7%) in real skilled wages[21] in the Pacific Islands from the loss of 27% of their skilled labour force (Table 4), which is not completely offset by increased remittances sent back home by the temporary workers. The increase in quotas on skilled labour reduces welfare by 500m (Table 2C), while the loss of unskilled labour actually raises the welfare of permanent residents by 22m (Table 2B).

The welfare loss of the Pacific Islands permanent residents is dwarfed by the gains enjoyed by the migrant labour in Australia and New Zealand, leading to an overall positive change in welfare for Pacific Islanders, however as indicated above at great expense to Pacific Islanders at home.

At this point the reader is reminded of two assumptions made in the model. First, returning migrants do not experience an increase in productivity as a result of their temporary work abroad. However temporary worker schemes are often linked with capacity building and hence returning migrants are expected to experience increased productivities. Table 5 shows the impact of increasing the productivity of returning skilled and unskilled labour. The increase in productivity is determined by assuming that returning Pacific Islanders continue to gain 50% of

[21] In this paper we assume that the skilled labour market is subject to market forces which would raise the real wage by 18%, even though 40% of skilled workers are employed by the Government sector.

the difference between their productivities abroad and at home[22] and that 80% of temporary workers return home. This leads to a 32% increase in the productivity of skilled temporary workers, which is equivalent to a 6% increase in productivity of the skilled workforce. The increase in productivity of unskilled is much larger, primarily because wage differentials (on which productivity is assumed) are much larger. The increased productivities of skilled and unskilled returning migrants raise the welfare of Pacific Islanders. These gains also offset the loss of skilled labour and hence overall welfare is positive. However most of the gains are from returning unskilled workers with higher productivities. Returning skilled workers do not offset the initial loss resulting from more temporary workers moving abroad[23].

Table 5: Welfare of Pacific Islanders in the Pacific Islands with an Increase in Productivity of Returning Migrants

	Total	Skilled Labour		Unskilled Labour	
		Productivity	Loss	Productivity	Loss
Pacific Islands	18.84	124.80	-522.17	395.70	20.51
Productivity increase of migrants[a]		32.01		627.05	
Equivalent Productivity increase of Labour force		6.27		9.95	

[a] Assumes: 50% of gains are taken back by migrant and 80% of migrants return.

The second assumption which readers are reminded of is that the quotas are assumed to be filled. It could be argued that an increase in the real wages of skilled workers in the Pacific Islanders of 18% might provide a large enough incentive to skilled Pacific Islanders that they choose not to move to Australia and New Zealand. This argument is more likely to apply if movement was permanent; since temporary workers are likely to return home with higher productivity and hence even higher wages.

The permanent residents of People's Republic of China and South East Asia gain from increased trading opportunities with Australia and New Zealand, while the more skilled labour intensive countries – Europe, East Asia and North America lose.

Real GDP rises in Australia and New Zealand due to the greater access to labour endowments, both skilled and unskilled (columns V, Tables 3 and 4). The rental price of capital rises reflecting the increased demand for capital which accompanies the abundance of skilled and unskilled labour.

Real GDP in the Pacific Islands falls, particularly with the movement of skilled labour to Australia and New Zealand. The scarcity of skilled labour raises the real wage of skilled labour by a phenomenal 18% and reduces the returns to capital and hence the rental price also falls significantly (2.57% in Table 4). The rise in unskilled real wages on the other hand is relatively small, only 1.26%, and has a much smaller impact on the returns to capital and Real GDP.

[22] Remember that a Pacific Islander living in the USA will gain 75% of the difference in productivities between a Pacific Islander working at home and an American person working in America. Hence when they return we assume they keep 50% of this difference.

[23] This experiment assumes that the temporary flow of labour is continuous. As workers move home with higher productivities they are immediately replaced with other temporary workers such that the labour supply in the Pacific Island's is permanently lower. This is the revolving door feature referred to above.

Given that the increased quota amounts to only 2% of the Pacific Islands unskilled workforce, this rise in the real wages of unskilled workers might not occur at all if the movement of unskilled labour merely reduces the level of unemployment in the Pacific Islands.

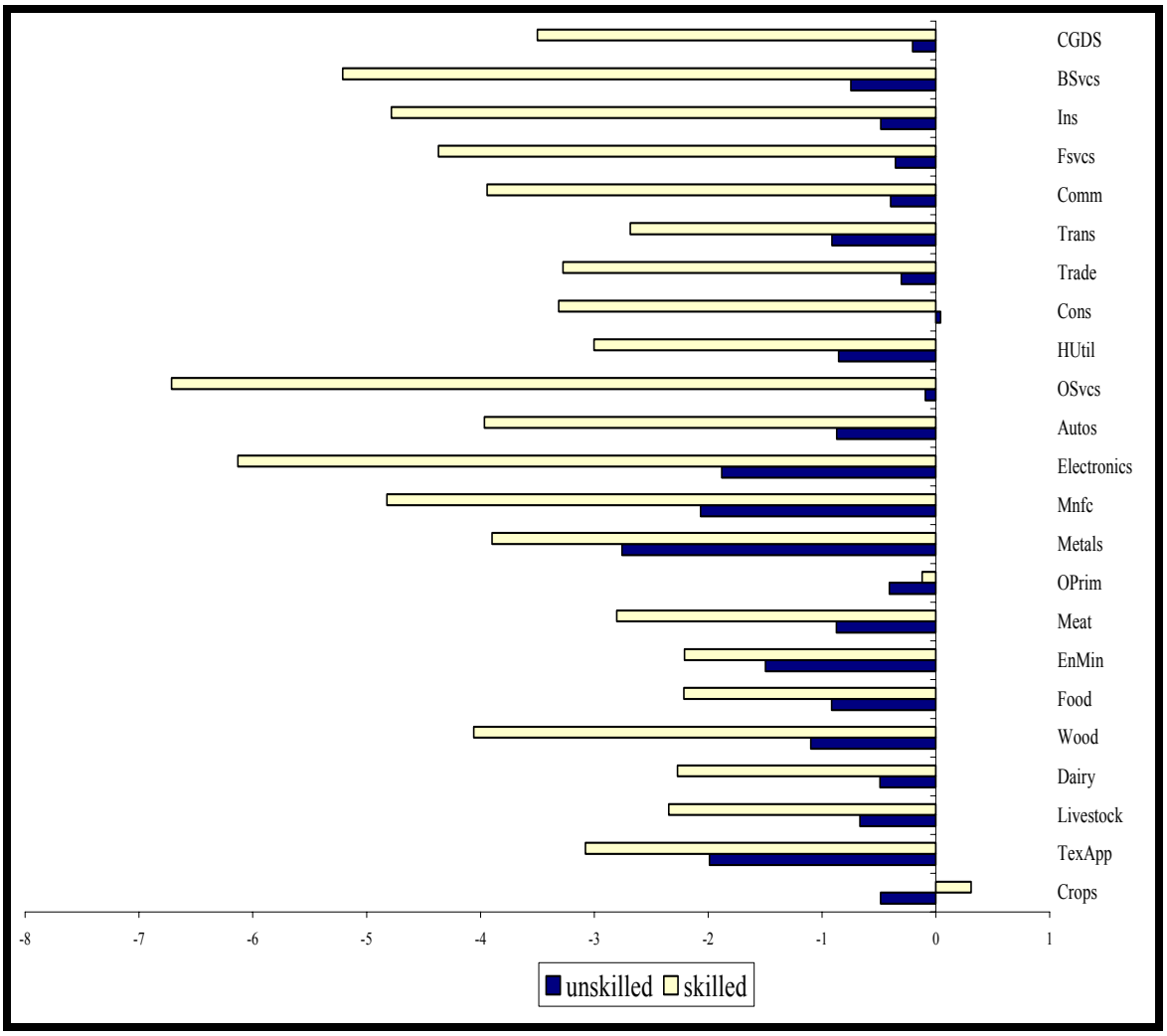
Alongside the improvement in the real wages of skilled workers (18%), the Pacific Islands also experiences a 1 percent improvement in terms of trade as the price of its exports rises relative to imports. This is due to a real exchange rate appreciation resulting from the substantial rise in skilled wages.

4.2 Sectoral Output

Charts 7 and 8 illustrate the effects of the liberalization on the sectoral output of the Pacific Islands and Australia respectively[24].

Chart 7. Impact of Increased Unskilled and Skilled Labour Movement on Sectors of Pacific Island Economies

(%)



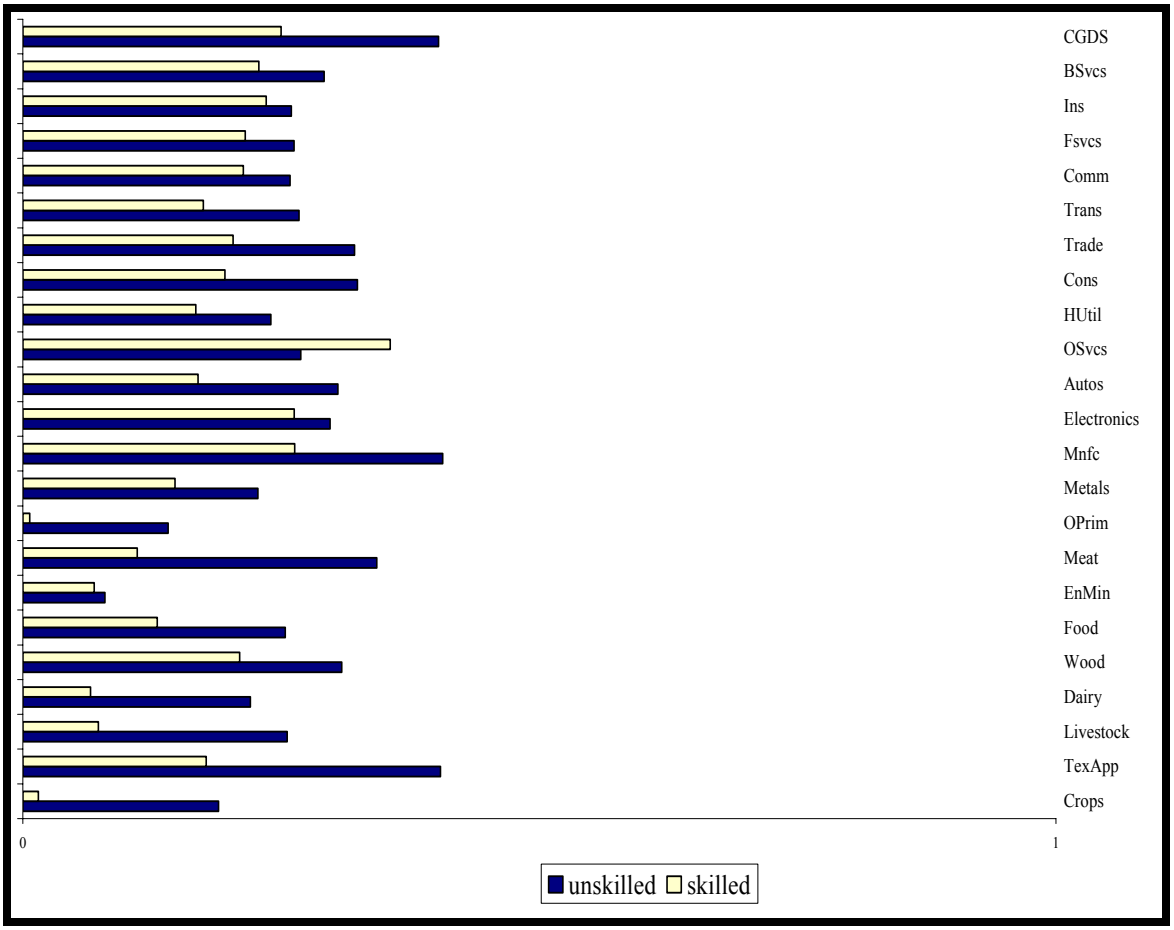
[24] The effects on New Zealand are similar to those on Australia. The effects on the other regions are mostly negative and insignificant.

Chart 7 shows that output in the Pacific Islands drops dramatically across all sectors. Most of these losses can be attributable to the loss of skilled labour, particularly in the "high technology" industries, where the concentrations of skilled labour are highest. Production by the 'Other Services' falls considerably as a result of this. The loss of unskilled labour affects mostly the agricultural industries and other labour intensive manufactures. Sectors that are traditionally more land and unskilled labour intensive suffer the smallest decreases. Other Primary and Crops experience the smallest drops in output, with less than half a percent for Other Primary and 0.1% for Crops. Electronics and Manufacturing, which are affected by both the loss of skilled and unskilled labour, are some of the biggest losers with decreases of more than six percent in total.

In contrast, output in Australia and New Zealand increases in all sectors, although the magnitude of the increases are usually much smaller than the decreases experienced by the Pacific Islands (Charts 7 and 8). Australia gains most heavily in the Electronics sector, while New Zealand does best in Manufacturing, Other Services, and Capital Goods. Both countries see large improvements in their Textiles sector output. Again most of the gains are the result of increases in unskilled labour.

Chart 8. Impact of Increased Unskilled and Skilled Labour Movement on Sectors of Australia

(%)



4.3 Skilled Labour

As mentioned above an increase in Australia and New Zealand's skilled labour force of 1% is equivalent to a fall in the Pacific island's skilled labour force of 21%. In this section we examine the impact of alternative shocks. Table 6 shows that reducing the quota to an increase of 0.2% of the Australian and New Zealand skilled workforce reduces the losses to the Pacific Island economies considerably, from $510 million under the previous experiment to $93 million. The skilled labour force in the Pacific Island economies would fall by just over 4%, much less than the previous case where 21% of the Pacific Island's skilled labour force moved. As less skilled labour moves abroad the welfare losses diminish considerably. It is interesting to note that the movement of just 1% of the Pacific Island's skilled labour force would offset all gains made from sending 2% of its unskilled labour force.

Table 6: Sensitivity Analysis: The Impact of Alternative Changes in Skilled Labour Quotas on Welfare

% Increase in Australia and New Zealand's Skilled Labour Forces (shock)	1%	0.20%	0.10%	0.05%	0.01%	0.005%
% of Pacific Islander's skilled worker population	-21.56	-4.31	-2.16	-1.08	-0.22	-0.11
Welfare of Pacific Islanders in Pacific Islands (Millions of US$)	-510.06	-93.27	-46.16	-22.96	-4.57	-2.29

4.4 Unskilled labour

In the case of unskilled labour the gains to the Pacific Islander's living in the Pacific Islands increases as the quota is further increased to 2 and 3% respectively (Table 7). Similarly the gains to Australia and New Zealand also increase as more unskilled labour is obtained from the Pacific Islands.

Table 7: Sensitivity Analysis: The Impact of Alternative Changes in Unskilled Labour Quotas on Welfare

% increase in Australia and New Zealand's unskilled labour forces (shock)	1%	2%	3%
% of Pacific Islander's unskilled worker population	-1.94%	-3.88	-5.82
Welfare of Pacific Islanders in Pacific Islands (Millions of US$)	22.03	41.46	58.82
Welfare of Australian's in Australia	199.84	402.18	605.87
Welfare of New Zealander's in New Zealand	17.9	36.23	54.88

4.5 Alternative Labour Exporters

In the following sections we examine the case where Australia and New Zealand increase their quotas on the temporary movement of labour, however this new labour is supplied by South East Asia (only), South East Asia and the Pacific Islands, all developing countries, all developed countries and finally according to the current shares.

Pacific Islands Versus South East Asia

In this section we examine the welfare implications of expanding quotas by 1% to persons from South East Asia and compare this with the case where the quotas are increased for persons from Pacific Island economies only and for the case where both S.E Asian and Pacific Islander's fill the 1% increase in quotas.

In the case where quotas are increased for South East Asian persons only the gains to Australia and New Zealand are slightly less than the Pacific Island case (Table 8). The reason for this is that the wages of Pacific Islander's are marginally smaller and hence more gains are made from cheaper labour. Of course the gains are now obtained by S.E Asian labour in Australia and New Zealand. The remaining residents of S.E Asia also gain as a result of the movement of labour. Almost all of the gains are made from the movement of unskilled labour, however unlike the Pacific Islands the loss of skilled labour does not result in an overall decline in welfare, but a small positive change.

In the second case we have assumed that quotas would be opened to both Pacific Island economies and S.E Asia and these economies would supply the labour in accordance with their existing shares. As expected the Pacific Island's supplies a large portion (74.7%) of New Zealand (74%) increased quota for unskilled labour, but in absolute numbers they send more unskilled labour to Australia (11,274). This unskilled labour represents a small proportion of the Pacific Island's unskilled labour supply (0.55%, Table 8). In terms of skilled labour the numbers of people are relatively small (Table 9) however they represent a reasonable percentage of the Pacific Island's labour supply (2.45%, Table 8).

In this case the impact on Australia and New Zealand is similar to that in the other cases. The Pacific Island's lose less from the skilled labour; however they also lose some of the gains made from supplying unskilled labour. South East Asia on the other hand gains from sending both, albeit also more from unskilled labour.

Table 8: Comparison of Welfare Results from Alternative Sources of Labour

			Host Region					
Quotas filled by:		**Home Region**	**Australia**	**New Zealand**	**Pacific Islands**	**South East Asia**	**Other**	**Total Welfare of Host Region**
Pacific Islands Only	**Unskilled**	**Australia**	199.84	-0.38	0.07	0.00	0.00	199.53
		New Zealand	-4.88	17.90	0.04	0.00	0.00	13.07
		Pacific Islands	775.05	104.13	22.03	0.00	0.00	901.21
	Skilled	**Australia**	102.77	-0.47	1.70	0.00	0.00	103.99
		New Zealand	-2.00	8.64	0.90	0.00	0.00	7.54
		Pacific Islands	611.05	63.94	-510.06	0.00	0.00	164.93
South East Asia Only	**Unskilled**	**Australia**	190.67	-0.41	0.00	0.01	0.00	190.28
		New Zealand	-5.11	16.69	0.00	0.00	0.00	11.59
		Pacific Islands	-2.55	-2.01	0.22	0.00	0.00	-4.34
		South East Asia	693.43	99.11	0.00	147.68	0.01	940.23
	Skilled	**Australia**	91.08	-0.44	0.00	0.02	0.00	90.66
		New Zealand	-1.98	8.36	0.00	0.00	0.00	6.39
		Pacific Islands	0.68	0.30	0.47	0.00	0.00	1.46
		South East Asia	1.24	-0.04	3.74	0.51	5.46	0.00
South East Asia and Pacific Islands	**Unskilled**	**Australia**	192.08	-0.39	0.02	0.00	0.00	191.72
		New Zealand	-5.07	17.62	0.01	0.00	0.00	12.57
		Pacific Islands	138.41	77.26	4.55	0.00	0.00	220.22
		South East Asia	566.00	24.66	0.04	111.41	0.00	702.10
		% change in labour force	1%	1%	-0.55%	-0.02%		
	Skilled	**Australia**	91.55	-0.45	0.16	0.02	0.00	91.28
		New Zealand	-1.98	8.97	0.08	0.00	0.00	7.07
		Pacific Islands	37.84	28.74	-52.84	0.00	0.00	13.74
		South East Asia	483.12	30.00	0.35	26.73	-0.01	540.19
		% change in Labour force	1%	1%	-2.45%	-0.17%		

Table 9: Share of Quotas supplied by Pacific Islands and South East Asia

			Host Region	
	Home Region		Australia	New Zealand
Unskilled	Pacific Islands	No of people	11274	10314
		% of quota	18.14%	74.70%
	South East Asia	No of people	50876	3493
		% of quota	81.86%	25.30%
Skilled	Pacific Islands	No of people	2361	2765
		% of quota	6.08%	44.65%
	South East Asia	No of people	36489	3428
		% of quota	93.92%	55.35%

All Developing Countries

Under this scenario we consider the implications of Australia and New Zealand increasing their quotas on skilled and unskilled and allowing these quotas to be filled by all developing countries. This scenario represents a North-South liberalization of Mode 4. The developing labour exporting regions comprise the Pacific Islands, People's Republic of China, South Asia, South East Asia, North Africa and the Middle East, Eastern Europe and the Former Soviet Union, and the Rest of the World.

Once again looking first at welfare changes in Tables 10A and 10B, it can be seen that Australia and New Zealand again experience significant welfare gains, although the sizes of the gains are smaller than in the scenario where the increased labour was imported from the Pacific Islands only.

The gains to the Pacific Islands are reduced as they supply less of the unskilled labour, just 0.25% of their labour force as compared to 1.94% when only they filled the quotas. It is also not surprising that they lose considerably less from skilled labour.

Migrants from South East Asia, ROW, People's Republic of China and Eastern Europe gain considerably as a result of the increased quotas (Tables 10A and B). These are also the countries with the highest shares of the unskilled quotas: 30, 20, 11 and 13% respectively of Australia's quotas. While most countries gain more from unskilled labour than from skilled, Eastern Europe gains more from the increase in skilled labour quotas (Tables 10A and B); this is due to the fact that Eastern Europe supplies almost 30% of the increased skilled labour quota as opposed to only 13% of the unskilled.

Most of the remaining residents of the labour exporting countries gain, at least from the increase in quotas on unskilled labour (Table 10A). The results are more mixed from skilled labour movement (Table 10B).

Table 10A: Welfare Results from Removal of Unskilled Labour, Supplied by Developing Economies

	Host Region									
Home region	**Australia**	**New Zealand**	**Pacific Islands**	**PRC**	**South Asia**	**South East Asia**	**North Africa and Middle East**	**Eastern Europe and Former Soviet Union**	**ROW**	**Other Developed**
Australia	186.16	-0.39	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
New Zealand	-5.19	16.80	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pacific Islands	48.36	41.77	1.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRC	81.39	16.49	0.01	7.17	0.00	0.08	0.01	0.00	0.01	0.02
South Asia	38.31	4.65	0.00	0.00	54.39	0.01	0.13	0.00	0.01	0.00
North America	-1.63	-0.36	0.13	0.00	0.04	0.03	0.05	0.01	0.05	-1.87
EU 15	-26.82	-3.46	0.03	0.00	0.09	0.05	0.09	0.03	0.17	-3.36
South East Asia	198.14	13.35	0.02	0.00	0.00	42.67	0.04	0.00	0.01	0.00
Rest of East Asia	-4.17	-0.93	0.03	0.00	0.02	0.01	0.01	0.00	0.01	2.66
North Africa and Middle East	28.96	2.40	0.00	0.00	0.00	0.01	33.83	0.00	0.01	0.00
Eastern Europe and Former Soviet Union	98.41	3.75	0.02	0.00	0.03	0.04	0.19	-2.80	0.04	0.01
ROW	148.83	13.26	0.01	0.00	0.02	0.02	0.06	0.02	7.03	-0.01
Total Welfare of Host Region	790.76	107.33	2.15	7.18	54.60	42.93	34.42	-2.73	7.35	-2.55
% of Labour Force	1.00	1.00	-0.25	0.00	0.00	-0.01	-0.01	-0.01	0.00	0.00

PRC = People's Republic of China, ROW = rest of world.

Table 10B: Welfare Results from Removal of Skilled Labour, Supplied by Developing Economies

	Host Region									
Home Region	**Australia**	**New Zealand**	**Pacific Islands**	**PRC**	**South Asia**	**South East Asia**	**North Africa and Middle East**	**Eastern Europe and Former Soviet Union**	**ROW**	**Other Developed**
Australia	91.84	-0.45	0.06	0.00	0.00	0.01	0.00	0.00	0.00	0.00
New Zealand	-2.00	8.75	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pacific Islands	13.05	12.89	-20.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRC	18.23	3.98	0.01	-3.36	0.00	0.00	0.00	0.00	0.00	-0.01
South Asia	12.60	1.53	0.00	0.00	12.79	0.00	0.04	0.00	0.00	0.00
North America	-1.03	-0.30	0.57	0.00	0.04	0.12	0.11	0.02	0.24	-1.31
EU 15	-19.01	-3.59	0.18	0.00	0.12	0.17	0.24	0.14	0.66	-5.63
South East Asia	161.43	13.25	0.14	0.00	0.01	10.27	0.05	0.00	0.01	-0.01
Rest of East Asia	-0.05	-0.20	0.08	0.00	0.02	0.03	0.02	0.01	0.04	-1.94
North Africa and Middle East	15.41	1.47	0.00	0.00	0.00	0.01	1.90	0.00	0.00	0.00
Eastern Europe and Former Soviet Union	162.24	6.25	0.13	0.00	0.04	0.09	0.46	-8.90	0.15	0.00
ROW	137.66	17.60	0.03	0.00	0.03	0.03	0.07	0.02	-44.22	-0.01
Total Welfare of Host Region	590.38	61.17	-19.05	-3.35	13.05	10.73	2.90	-8.71	-43.12	-8.90
% of Labour Force	1.00	1.00	-0.96	-0.01	-0.01	-0.06	-0.02	-0.03	-0.02	0.00

PRC = People's Republic of China, ROW = rest of world.

All Developed Countries

The final simulation considers North-North liberalization, where quotas on workers from developed countries are increased by 1%. The developed countries in this simulation are considered to be roughly the following regions: the EU 15, the Rest of East Asia, and North America. Note that movement between Australia and New Zealand is not included because of the CER agreement which already allows for the free movement of labour between these countries.

The results from this scenario are shown in Tables 11A and 11B, for unskilled and skilled labour respectively. In this scenario the permanent residents of Australia and New Zealand have the largest welfare gains of all the simulations. This is due to the fact that the skilled and unskilled labour from Europe, North America and the Rest of Asia are also the most productive and hence add considerably to the effective labour force. The wages of the skilled and unskilled in Australia and New Zealand also decline the most when labour from developed economies fills the increased quotas.

Table 11A: Welfare Results from Removal of Unskilled Labour, Supplied by Developed Economies

	Host Region							
	Australia	**New Zealand**	**Pacific Islands**	**North America**	**Europe**	**Rest of Asia**	**Other Developing**	**Total Welfare of Home Region**
Australia	271.73	-0.63	0.00	0.00	0.09	0.00	0.00	271.19
New Zealand	-6.77	30.09	0.00	0.00	0.09	0.00	0.00	23.41
Pacific islands	-3.43	-3.21	0.13	0.03	0.05	0.00	0.00	-6.43
PRC	-5.81	-1.27	0.00	0.25	0.85	0.59	1.29	-4.12
South Asia	-2.70	-0.36	0.00	0.10	0.98	0.01	-1.92	-3.89
North America	50.26	12.66	0.01	-93.27	1.32	0.01	0.00	-29.02
Europe	846.31	128.73	0.00	0.42	-1307.09	0.00	-0.01	-331.65
South East Asia	-13.13	-0.96	0.00	0.43	1.37	0.06	1.65	-10.58
Rest of East Asia	104.52	28.05	0.00	0.35	0.81	-166.43	0.00	-32.69
North Africa and Middle East	-1.99	-0.18	0.00	0.09	2.78	0.00	0.31	1.01
Eastern Europe and Former Soviet Union	-5.80	-0.25	0.00	0.27	4.15	0.01	-3.42	-5.04
ROW	-9.72	-0.92	0.00	1.29	9.55	0.04	-2.07	-1.83
Total Welfare of Host Region	**1223.46**	**191.75**	**0.15**	**-90.03**	**-1285.06**	**-165.70**	**-4.19**	**-129.62**
% of Labour Force	**1.00**	**1.00**	**0.00**	**0.00**	**-0.05**	**-0.01**	**0.00**	

PRC = People's Republic of China, ROW = rest of world.

Migrant labour from Europe gains the most as they supply between 72-92% of the increased quotas in Australia and New Zealand. The remaining residents in Europe however lose considerably as a result of the loss of both skilled and unskilled labour, unlike the developing economies where some gains could be made. Another important difference with the developing economies is that the losses were less from the movement of skilled labour than from unskilled.

This result reflects the relative abundance of skilled labour in these developed economies. Residents in North America and the Rest of Asia also lose, but to a lesser extent. The Pacific Island's gain only marginally from this policy, as a result of trade ties.

Table 11A: Welfare Results from Removal of Skilled Labour, Supplied by Developed Economies

	Host Region							
	Australia	**New Zealand**	**Pacific Islands**	**North America**	**Europe**	**Rest of Asia**	**Other Developing**	**Total Welfare of Home Region**
Australia	132.68	-0.68	0.00	0.00	0.11	0.00	0.00	132.12
New Zealand	-2.56	14.71	0.00	0.00	0.04	0.00	0.00	12.21
Pacific islands	0.95	0.46	0.57	-0.01	-0.01	0.00	0.00	1.96
PRC	1.69	0.21	0.00	-0.08	-0.28	0.03	-0.85	0.71
South Asia	0.71	0.05	0.00	-0.03	-0.32	0.00	-1.13	-0.73
North America	37.08	6.45	0.01	-80.97	0.69	0.03	-0.02	-36.73
Europe	658.79	73.66	0.00	0.31	-1097.61	0.02	-0.06	-364.90
South East Asia	1.62	-0.05	0.00	-0.06	-0.20	0.04	1.16	2.51
Rest of East Asia	35.57	7.29	0.00	-0.02	0.00	-92.99	-0.01	-50.15
North Africa and Middle East	0.41	0.01	0.00	-0.02	-0.56	0.00	-0.74	-0.90
Eastern Europe and Former Soviet Union	-0.94	-0.07	0.00	0.02	0.27	0.02	-2.35	-3.04
ROW	0.87	-0.14	0.00	-0.27	-1.47	0.02	-3.11	-4.10
Total Welfare of Host Region	**866.88**	**101.90**	**0.58**	**-81.13**	**-1099.35**	**-92.82**	**-7.12**	**-311.05**
% of Labour Force	**1.00**	**1.00**	**0.00**	**0.00**	**-0.07**	**-0.01**	**0.00**	

PRC = People's Republic of China, ROW = rest of world.

V. CONCLUSIONS

This paper provides further evidence of the potential gains to be made by both labour exporting and importing regions from negotiations under GATS Mode 4. Here we examine the impact on welfare, Real GDP and wages of Australia and New Zealand increasing their quotas on skilled an unskilled labour from the Pacific Island economies by 1% of their labour force. The results show that Australia and New Zealand would gain considerably from increasing these quotas through GATS Mode 4. Although most of the negotiations have focussed on the mobility of skilled labour, this paper provides further evidence that the gains to developing economies from Mode 4 are greatest when applied to unskilled labour. This result is consistent with other findings, such as Walmsley and Winters (2005).

The paper also found that Australia and New Zealand's choice of sending partner amongst developing economies does not affect the welfare gains accruing to them. The gains made by Australia and New Zealand were similar regardless of whether labour came from the Pacific Islands, South East Asia or a combination of developing economies. Of course the choice of sending region had a considerable impact on the welfare of the sending economies themselves.

The Pacific Island economies gained substantially from sending unskilled labour to Australia and New Zealand under GATS Mode 4. In the case of skilled labour, however, the loss of scarce skilled labour was shown to have a significant negative impact on the permanent residents remaining in the Pacific Islands and significantly increased the wages of the remaining skilled workers.

However, when Mode 4 was linked to capacity building efforts and it was assumed that 80% of skilled and unskilled workers would return with increased productivities the results for the permanent residents remaining in the Pacific islands was more positive, albeit again most of the gains were from increases in the productivities of unskilled workers.

Finally, this paper also examined the case where the quotas were met by an increase in labour from developed economies. In this case, the gains made by Australia and New Zealand were much greater than when labour was supplied by developing economies. However Europe, North America and the rest of Asia, the three sending economies, all lost significantly as a result of the lost labour supply, particularly from the loss of unskilled labour.

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Aid to the Pacific
Past, Present and Future

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Preface

This report was prepared for the Pacific Islands Forum Secretariat (PFIS) in Suva, Fiji Islands. The report is one output of an Asian Development Bank (ADB) technical assistance project (TA 6226 REG): "Developing and Implementing the Pacific Plan for Strengthening Regional Cooperation and Integration." The Commonwealth Secretariat provided funding to the project.

The lead author of the report was Dr. Roman Grynberg, Deputy Director of Trade and Regional Cooperation at the Commonwealth Secretariat. He was assisted by Michael Hyndman, a cost-benefit analyst contracted by ADB, and Sacha Silva, an economist contracted by the Commonwealth Secretariat. Consultants from PIFS and the Pacific region provided valuable inputs for the report. Bill Costello was the ADB task manager.

The report is published in three volumes. Volume 1 is the Executive Summary. Volume 2 is the main report. Volume 3 contains the working papers commissioned for the report–a series of independent studies assessing potential benefits and costs of implementing a variety of possible regional initiatives. Volume 3 has been printed in hard copy in only limited numbers. However, it is available on the websites of ADB (www.adb.org) and at www.pacificplan.org.

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EXECUTIVE SUMMARY

1. Relative to their size aid to Pacific Island Forum countries is high by international standards. All developing Pacific Island Forum countries receive per capita aid at least three times the average for all developing countries.
2. Aid receipts per capita vary greatly across Pacific Island Forum (PIF) countries. The smaller countries and the three former United States (US) territories (Marshall Islands, Micronesia and Palau) receive the highest aid per capita. and Papua New Guinea (PNG) receive the lowest.
3. Two-thirds of aid to Pacific Island Forum countries other than the three former US territories comes from Australia and New Zealand. Two-thirds of aid from Australia and New Zealand goes to Papua New Guinea.
4. Total aid to Pacific Island Forum countries other than the three former US territories has fallen by 40% since 1980 and averaged US$433 million per year during 2000-03. Not all countries have experienced decreases in aid receipts, but the fall is not solely due to the fall of almost 50% in aid to Papua New Guinea.
5. Aid from Australia and New Zealand to Pacific Island Forum countries other than the three former US territories has fallen by a quarter since 1980. The fall was the result of a 40% decrease in aid to Papua New Guinea. Aid to countries other than Papua New Guinea increased slightly.
6. In 2003 Australia gave 0.067% of its gross domestic product (GDP) to Pacific Island Forum countries, compared to 0.19% in 1980. Aid to Pacific Island Forum countries made up 29% of total Australian aid in 2003, compared to 46% in 1980.
7. In 2003 New Zealand gave 0.057% of its GDP to Pacific Island Forum countries compared to 0.12% in 1980. Aid to Pacific Island Forum countries made up 28% of New Zealand's total aid budget in 2003, compared to 38% in 1980.
8. The literature on the effectiveness of aid in promoting growth and reducing poverty cannot be reduced to a single coherent narrative that policy makers can use to inform aid allocation decisions.
9. The dominant theme of the literature has been that aid is more effective in better-governed countries, but this result has not proven robust to different datasets, specifications or estimation techniques.
10. Critiques of the aid-policy interaction hypothesis have argued that aid has the same effect in all environments, but has diminishing marginal returns, that the effectiveness of aid is greater in countries more vulnerable to external shocks and that the estimation techniques used to assess the impact of aid on growth give inconsistent estimates.
11. Policy makers do not have the luxury of waiting for academics to decide between the competing hypotheses before they make aid allocation decisions. Based on the evidence available we suggest the following six principles could form the basis of a "best practice" guide to aid allocation. The first three emerge unambiguously from the aid effectiveness literature; the second three are more contentious.
    a) Aid can have a positive effect on growth.
    b) The relationship between aid and growth is non-linear and may be affected by country specific factors.
    c) There is no causal link from the level of aid flows to the quality of governance in a country.
    d) Aid has diminishing marginal returns and at sufficiently high levels has a negative marginal effect on growth. The level of aid at which the marginal effect becomes negative is uncertain and may vary across countries.
    e) Aid is more effective in a good governance environment.

f) Aid can mitigate the negative effects of adverse external shocks and can increase growth in countries vulnerable to such shocks.

12. Pacific Island Forum countries should seek the following commitments from Australia and New Zealand. If achieved these commitments would ensure an end to the long term decline in aid to Pacific Island Forum countries and would ensure that if Australia's or New Zealand's aid budget were to increase in the future Pacific Island Forum countries would share in the benefits.
    a) Australia to give at least 0.03% of its GDP and at least 10% of its total aid budget to Pacific Island Forum countries excluding Papua New Guinea.
    b) Australia to give at least 0.05% of its GDP and at least 15% of its total aid budget to Papua New Guinea.
    c) New Zealand to give at least 0.08% of its GDP and at least 25% of its total aid budget to Pacific Island Forum countries.
13. The targets do not represent optimal levels of aid to PIF countries. They are realistic goals based on trends in Australia's and New Zealand's aid to PIF countries since 1980. Targets (b) and (c) are slightly higher than current levels of aid, but are lower than aid flows during the 1980s and the first half of the 1990s. Target (a) is higher than either current or previous levels of aid and is intended to build on the recent increase in Australian aid to PIF countries excluding PNG.
14. Governance in Pacific Island Forum countries is roughly average by international standards. Samoa and Tuvalu stand out as being well governed and Papua New Guinea and Solomon Islands have the worst levels of governance.
15. Governance should be one of the criteria that donors consider when deciding how to allocate aid between Pacific Island Forum countries.
16. Samoa has better governance than otherwise similar Pacific Island Forum countries, but receives similar amounts of aid as them. Based on governance criteria more aid should be allocated to Samoa than is currently the case.
17. A program should be established to target aid at countries experiencing negative external shocks. Disbursements should be rapid enough to ensure they are anti-cyclical.

I. INTRODUCTION

Aid data is taken from the Organisation for Economc Co-operation and Development (OECD) Development Assistance Committee's (DAC's) International Development Statistics (IDS) Online database.[1] By 'aid' we mean Net Disbursements of Official Development Assistance (ODA) as defined by the DAC. To be counted as ODA loans must contain a grant element of at least 25% (calculated using an interest rate of 10%). Net disbursements are gross disbursements less repayment of principal on loans and offsetting entries for debt relief. We define developing countries as those countries included in Part 1 of the DAC List of Aid Recipients, which lists those countries eligible to receive ODA. Countries in Transition which are eligible to receive Official Aid are included in Part 2 of the List of Aid Recipients.

Gross domestic product (GDP) data is from the World Bank's World Development Indicators (WDI).[2] Population data is from the WDI for all countries other than Cook Islands, Nauru, Niue and Tuvalu for which it is from the IDS. Regional population and gross national income (GNI) data is from the IDS. Governance data is from the World Bank's Governance Indicators 1996-2004 dataset.[3] When we refer to dollars we mean 2002 United States (US) dollars unless otherwise stated.

We use data from 1980-2003. Data for 2004 is not yet available. For analytical purposes we split the data into five sub-periods: 1980-84, 1985-89, 1990-94, 1995-99 and 2000-03. When referring to current values we implicitly mean average values for 2000-03.

When referring to Pacific Island Forum (PIF) countries we always mean PIF countries other than Australia and New Zealand.

II. AID FLOWS TO PACIFIC ISLAND FORUM COUNTRIES

2.1 Overview

Aid flows to the fourteen developing Pacific Islands Forum countries can be characterised by considering them from five perspectives.

a) Level of aid – PIF countries receive high levels of aid relative to other developing countries. In per capita terms all PIF countries receive at least three times more aid than the developing country average.
b) Distribution of aid – Aid is heavily concentrated on certain countries. One-third of aid goes to Papua New Guinea (PNG), one-third to the former US territories, namely Marshall Islands, Micronesia and Palau, and one-third to the ten other PIF countries. In per capita terms the largest recipients are the three former US territories and the three PIF members with the smallest populations: Nauru, Niue and Tuvalu. The lowest aid recipients in per capita terms are Papua New Guinea and Fiji Islands.
c) Source of aid – PIF countries are heavily dependent on Australian and US aid. Half of all aid to PIF countries comes from Australia and New Zealand. Ninety percent of the aid from Australia and New Zealand comes from Australia. Two-thirds of Australian aid to PIF countries goes to Papua New Guinea. A quarter of aid to PIF countries comes from the US, essentially all of which goes to its former territories. Ten percent of aid comes from multilateral donors.

[1] The database can be accessed at: http://www.oecd.org/dac/stats/idsonline.
[2] Available at: https://publications.worldbank.org/WDI.
[3] Available at: http://www.worldbank.org/wbi/governance/pubs/govmatters4.html.

d) Type of aid – Almost all aid to PIF countries is given as grants. Nearly half of all aid to PIF countries is in the form of technical cooperation.
e) Evolution of aid – Aid to most PIF countries has fallen. Excluding Marshall Islands, Micronesia and Palau the real value of aid to PIF countries has fallen by fourty percent over the past quarter of a century. Aid to Papua New Guinea has almost halved driven by a large fall in aid from Australia. Aid to PIF countries other than Marshall Islands, Micronesia, Palau and Papua New Guinea has fallen by a quarter despite a slight increase in aid from Australia.

Sections 2.2-2.5 below provide the details to support these characterisations.

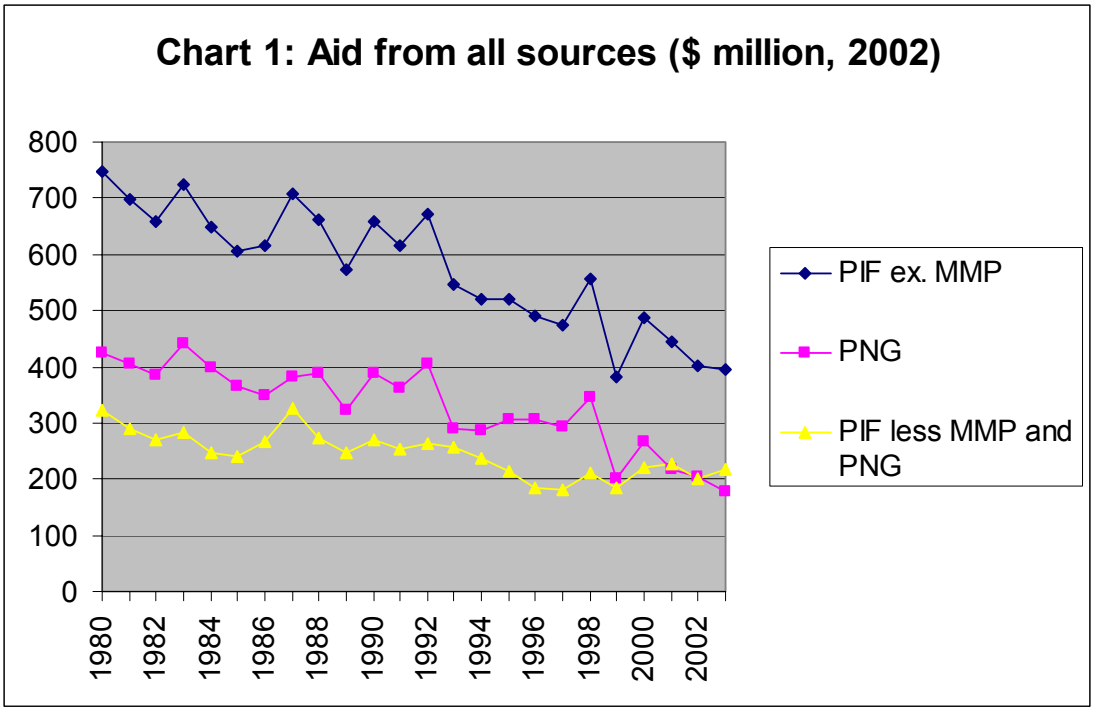
2.2 Real Value of Aid

On average from 2000-03 developing PIF countries received in aggregate $643 million of aid per year. Total aid to PIF countries has not displayed a definite trend over the last twenty-five years (Table 1). It peaked at $720 million per year during 1995-99, before declining to its current level.

Table 1: Annual aid to PIF countries ($ million, 2002)

	All PIF	MMP	PIF excluding MMP	PNG	Other PIF	PNG/(PIF excluding MMP)
1980-84	695		695	411	283	59%
1985-89	633		633	362	271	57%
1990-94	707		603	346	256	57%
1995-99	720	236	485	290	195	60%
2000-03	643	210	433	216	217	50%

However, it would be wrong to conclude that the level of aid flows to PIF countries has been roughly stable over the past twenty-five years. The figures are distorted by the fact that data on aid flows to Marshall Islands, Micronesia and Palau (MMP) are not available prior to the mid-1990s and that these three countries are all substantial recipients of United States (US) aid. Once MMP are excluded it is clear that there has been a sustained decline in aid to the remaining PIF countries (Chart 1). From 1980-84 PIF countries excluding MMP received $695 million per year in aid. Since then aid receipts have steadily decreased reaching $433 million per year during 2000-03.



During 2000-03 50% of aid to PIF countries excluding MMP went to Papua New Guinea (PNG). This was a slight decline from the 1980s and 1990s when the figure was around 60% (Table 1). Consequently we will split our analysis of aid flows to PIF countries excluding MMP into aid to PNG and aid to PIF countries excluding MMP and PNG (Other PIF).

Aid to PNG has been declining rapidly since the 1980s (Table 1, Chart 1). It has almost halved from $411 million per year during 1980-84 to $216 million per year during 2000-03. Aid to Other PIF declined from $283 million per year during 1980-84 to $195 million per year during 1995-99 before picking up slightly to $217 million per year during 2000-03. In absolute terms the decrease in aid to PNG accounts for most of the decline in aid to PIF countries excluding MMP, but in relative terms the decrease was, up until 1999, evenly split between PNG and Other PIF. As Table 1 shows the share of total aid to PIF countries excluding MMP going to PNG remained at around 60% throughout the 1980s and 1990s and it was only over 2000-03 that PNG's share declined to 50%. Therefore it would be wrong to simply attribute the decrease in aid to PIF excluding MMP to a decrease in aid to PNG.

From 2000-03 Australia and New Zealand (ANZ) combined gave $296 million per year to PIF countries (Table 2). This constituted 46% of total aid to PIF countries and 68% of total aid to PIF countries excluding MMP (Table 3). ANZ's aid to PIF countries declined during the 1980s and 1990s from $400 million per year during 1980-84 to $282 million per year during 1995-99, before picking up slightly over 2000-03. ANZ give negligible amounts of aid to MMP.

Table 2: Annual aid to PIF countries from Australia and New Zealand ($ million, 2002)

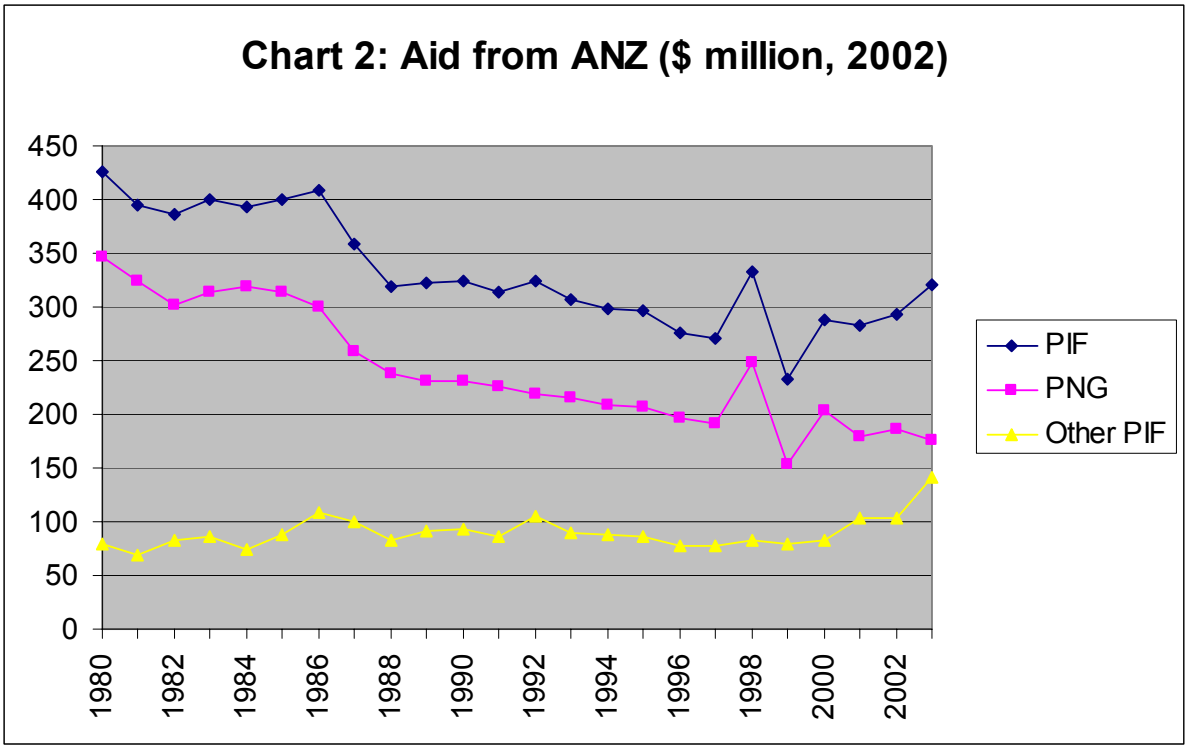
	All PIF	MMP	PIF excluding MMP	PNG	Other PIF	PNG/All PIF
1980-84	400		400	321	78	80%
1985-89	362		362	268	94	74%
1990-94	313		313	220	93	70%
1995-99	282	1.6	280	199	81	71%
2000-03	296	2.2	294	186	108	63%

Table 3: Percent of total aid to PIF countries coming from Australia and New Zealand

	All PIF	MMP	PIF excluding MMP	PNG	Other PIF
1980-84	58%		58%	78%	28%
1985-89	57%		57%	74%	35%
1990-94	44%		52%	64%	36%
1995-99	39%	1%	58%	69%	42%
2000-03	46%	1%	68%	86%	50%

During the 1980s and 1990s ANZ's aid to PIF countries declined in proportion to the decrease in total aid to PIF countries excluding MMP and consequently ANZ's share of aid to PIF countries excluding MMP remained roughly stable at between 50% and 60%. However, the increase in ANZ aid to PIF countries over 2000-03, combined with the continued decline in total aid to PIF countries excluding MMP, meant ANZ's share increased to 68% during 2000-03.

Aid from ANZ to PNG declined steadily from $321 million per year during 1980-84 to $186 million per year during 2000-03 (Table 2, Chart 2). The decline in aid from ANZ made up $135 million of the $195 million decrease in annual aid to PNG between 1980-84 and 200-03. However, aid from other sources actually decreased by a proportionately larger amount causing the share of PNG's aid receipts coming from ANZ to increase from 78% during 1980-84 to 86% during 2000-03.



Aid from ANZ to Other PIF was roughly stable at around $80-90 million per year during the 1980s and 1990s, but increased to $108 million per year over 2000-03. The increase was partly, but not wholly, caused by the increase in Australian aid to the Solomon Islands (to fund the Regional Assistance Mission to the Solomon Islands (RAMSI)) from $20 million in 2002 to $56 million in 2003. With aid from donors excluding ANZ to Other PIF declining throughout, the share of ANZ in aid to Other PIF increased from 28% over 1980-84 to 50% over 2000-03.

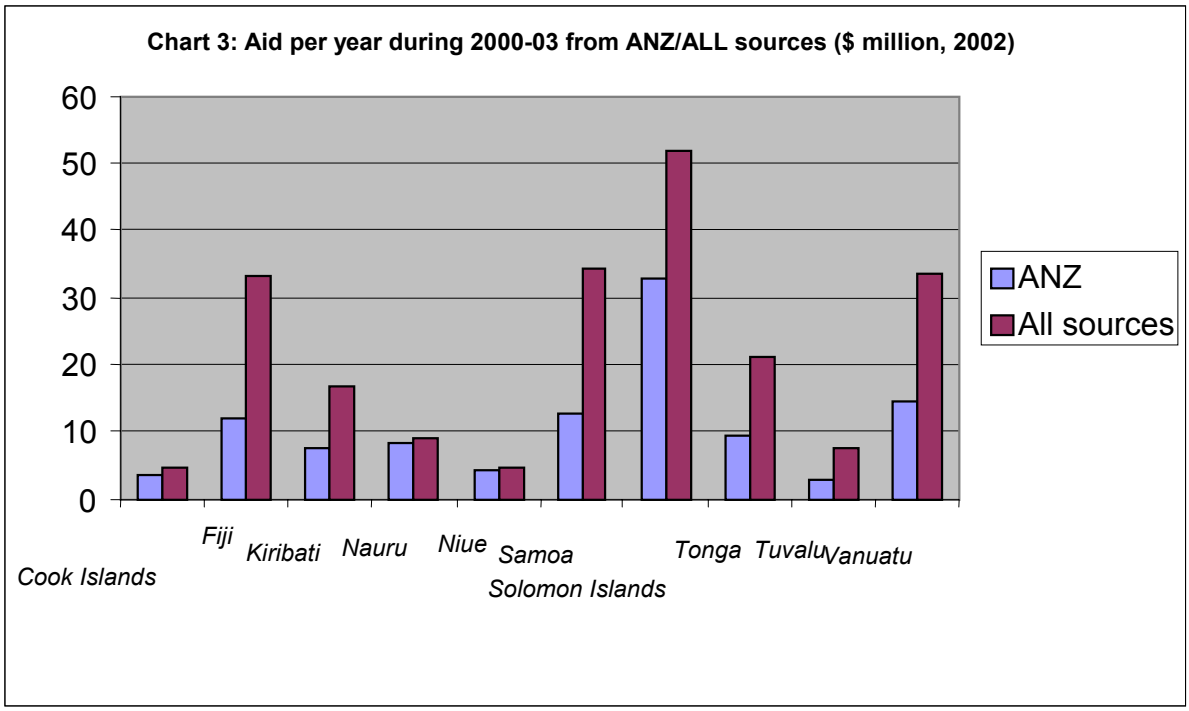
As a consequence of the decline in ANZ aid to PNG and the increase in ANZ aid to Other PIF the share of PNG in aid from ANZ to PIF countries has decreased from its high of 80% during 1980-84. However aid from ANZ to PIF countries is still more heavily biased towards PNG than total aid to PIF countries excluding MMP. While PNG received 50% of total aid to PIF excluding MMP over 2000-03, it received 63% of ANZ aid to PIF.

Aid flows to each of the fourteen PIF countries individually are discussed in Appendix A and summarised in Table 4. Chart 3 shows total and ANZ aid per year over 2000-03 for each of the ten Other PIF countries. We see that Cook Islands, Nauru and Niue receive almost all their aid from ANZ while the other seven countries receive between one-thirds and two-thirds of their aid from ANZ.

To compare aid receipts across countries in a meaningful manner we must take account of the size of the recipient country. Below we consider aid relative to country size by looking at aid as a percentage of GDP and aid per capita.

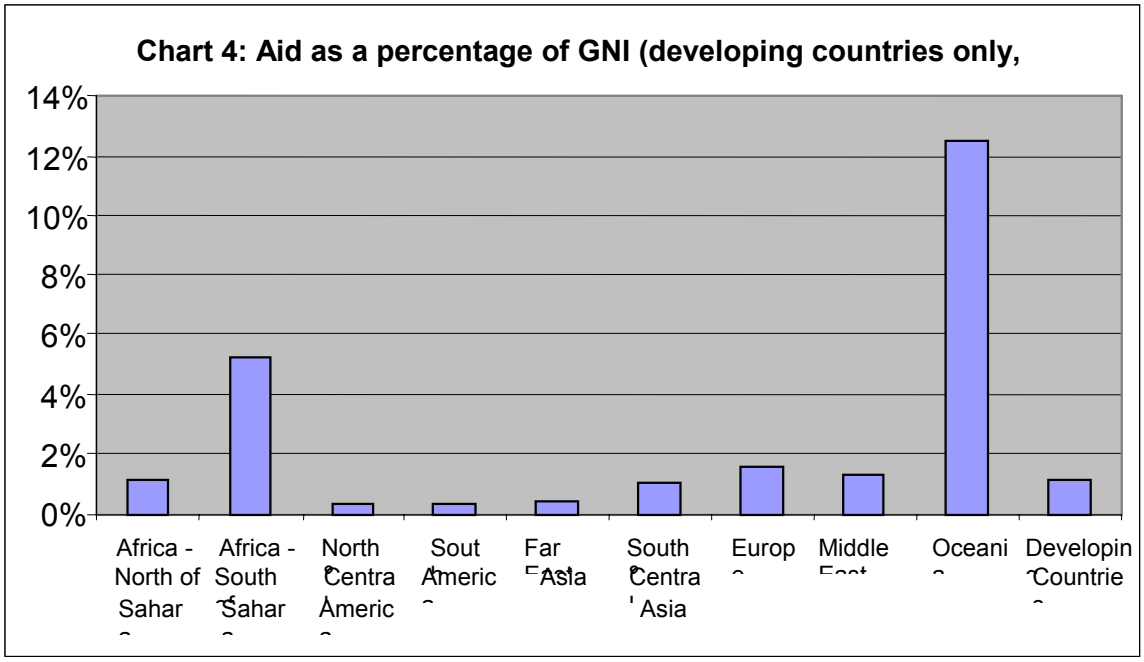
Table 4: Aid flows by country							
Country	Annual aid receipts (million $)	Main donor (percent of total aid)	Percent aid from Australia and New Zealand	Aid/GDP (%)	Annual aid per capita	Trend in total aid	Trend in aid from Australia and New Zealand
Cook Islands	4.5	New Zealand (56%)	78	n/a	210	Decline (substantial)	Decline (substantial)
Fiji Islands	33	Australia (30%)	37	1.91	40	Decline	Decline
Kiribati	17	Australia (34%)	44	33.6	177	Decline	Increase
Marshall Islands	63	US (82%)	1	61.3	1,196	Stable	Increase
Micronesia	116	US (88%)	1	51.0	960	Increase (marginal)	Increase
Nauru	9.1	Australia (92%)	92	n/a	718	Increase (substantial)	Increase (substantial)
Niue	4.6	New Zealand (85%)	95	n/a	2,350	Decline (marginal)	Decline (marginal)
Palau	31	US (50%)	1	27.3	1,590	Decline (substantial)	Increase (marginal)
Papua New Guinea	216	Australia (83%)	86	7.0	41	Decline (substantial)	Decline (substantial)
Samoa	34	Australia (23%)	36	14.3	197	Stable	Stable
Solomon Islands	52	Australia (53%)	63	20.5	120	Increase	Increase (substantial)
Tonga	21	Australia (28%)	45	14.8	210	Decline (marginal)	Stable
Tuvalu	7.7	Australia (22%)	36	n/a	667	Increase (marginal)	Stable
Vanuatu	33	Australia (32%)	43	14.3	165	Decline	Increase

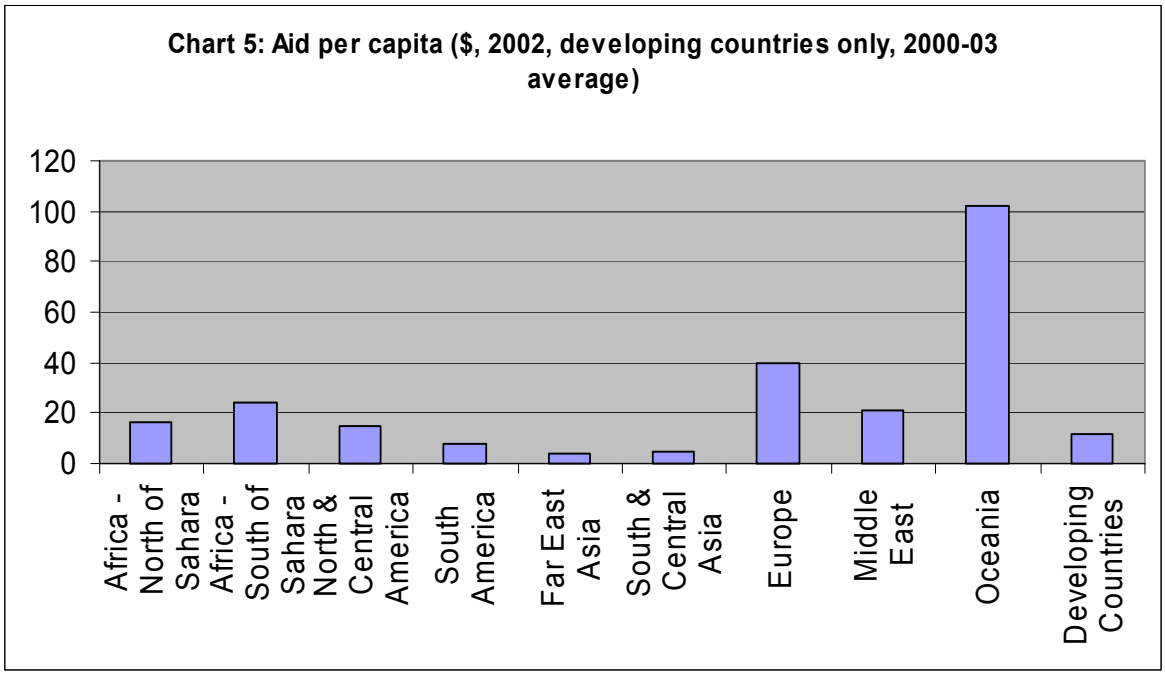
All figures are averages for 2000-03.



2.3 Relative Value of Aid

Relative to its size Oceania receives substantially more aid than any other region. Chart 4 shows aid to developing countries in different regions as a percentage of their combined Gross National Income (GNI) averaged over 2000-03. Oceania received aid totalling 12% of GNI. Sub-Saharan Africa received aid worth 5% of GNI. No other region received aid worth more than 2% of GNI. The ratio of aid to GNI for all developing countries combined was 1.1%. A similar pattern emerges if we consider aid flows per capita (Chart 5). On average over 2000-03 Oceania received $102 per capita. The next largest recipient was Europe at $39 per capita followed by sub-Saharan Africa at $24 per capita. The average for all developing countries was $12 per capita. Thus, in per capita terms, Oceania received two and a half times as much aid as the next largest recipient region and nine times the average for all developing countries.





As one would expect the regional averages discussed above hide substantial inter-country intra-regional variation. Chart 6 shows aid as a percentage of GDP averaged over 2000-03 for PIF developing countries[4] and also for the two French overseas territories in the South Pacific: French Polynesia and New Caledonia. With the exception of Fiji Islands which has an aid to GDP ratio of 1.9% all countries have significantly higher aid to GDP ratios than the developing

[4] Cook Islands, Nauru, Niue and Tuvalu are not shown because GDP data was not available.

country average (Table 5). After Fiji Islands, PNG has the next lowest ratio at 7.0%, but these are the only two countries with aid to GDP ratios below 10%. At the upper end of the scale the Marshall Islands and Micronesia have aid to GDP ratios greater than 50%.

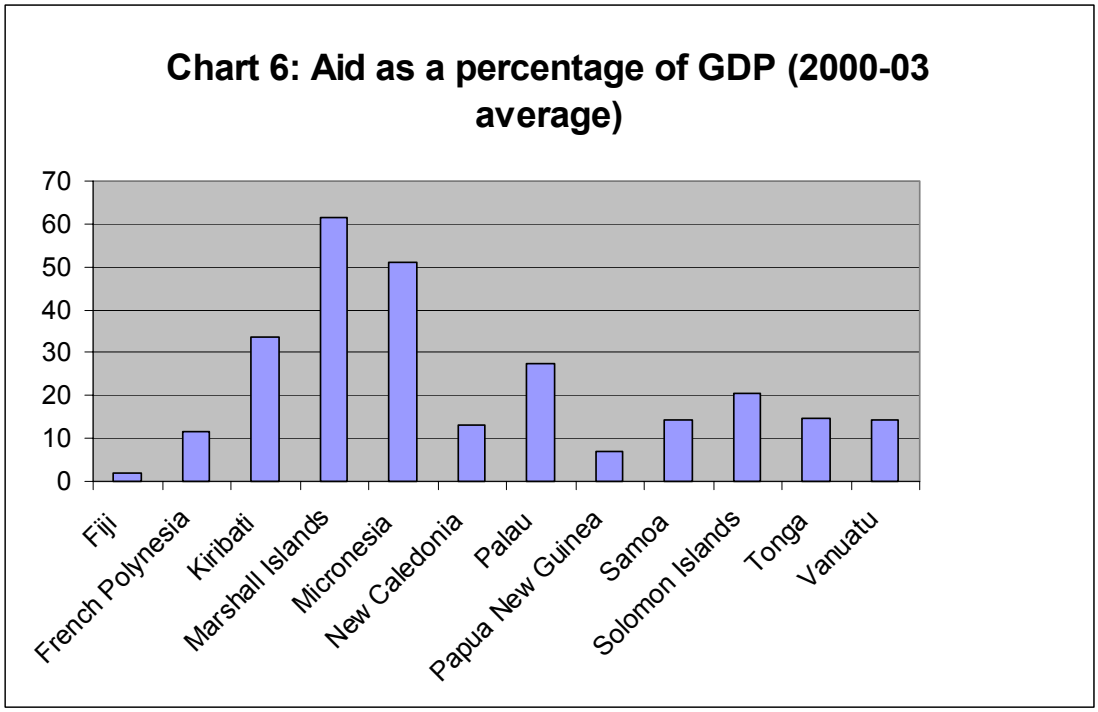


Table 5: Aid as a percentage of GDP

	Cook Islands	Fiji	French Polynesia	Kiribati	Marshall Islands	Micronesia	Nauru	New Caledonia	Niue	Palau	PNG	Samoa	Solomon Islands	Tonga	Tuvalu	Vanuatu
1980-84		3.0	12.5	54.0				17.6			13.0	16.7	23.5	27.6		28.1
1985-89		3.3	11.4	61.9				15.7			10.1	17.9	23.5	22.5		27.2
1990-94		3.4	9.3	59.0				12.4		80.6	9.2	27.6	18.5	20.9		24.4
1995-99		2.1	10.2	33.0	59.8	45.9		10.9		68.8	7.5	14.6	12.1	18.0		15.5
2000-03		1.9	11.7	33.6	61.3	51.0		13.1		27.3	7.0	14.3	20.5	14.7		14.3

Chart 7 shows aid per capita to PIF countries, French Polynesia and New Caledonia averaged over 2000-03. Fiji Islands and PNG receive the lowest annual per capita aid of $40 and $41 respectively (Table 6). They also have the largest populations of the sixteen countries shown. All other countries receive annual per capita aid in excess of $100. Eight of the sixteen countries receive in excess of $500 per capita per year and five receive more than $1000.

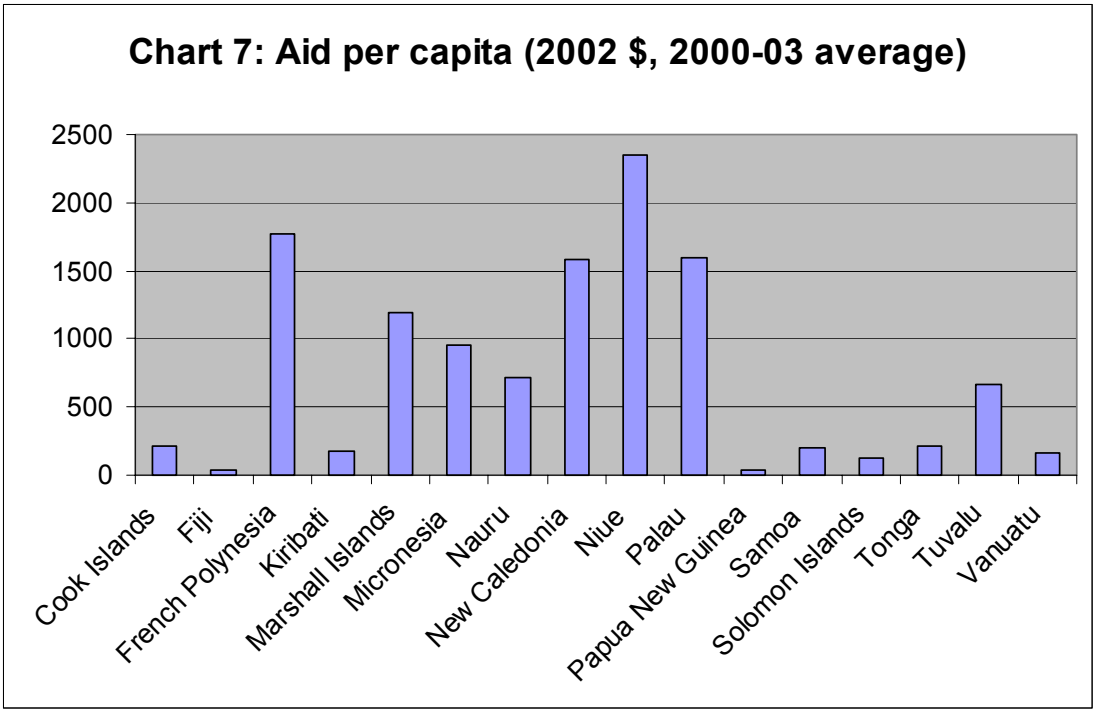


Table 6: Aid per capita ($, 2002)

	Cook Islands	Fiji	French Polynesia	Kiribati	Marshall Islands	Micronesia	Nauru	New Caledonia	Niue	Palau	PNG	Samoa	Solomon Islands	Tonga	Tuvalu	Vanuatu
1980-84	677	85	1720	462			6	1836	2123		127	254	211	287	1161	423
1985-89	1013	73	1854	309			8	1880	2170		98	217	190	240	1780	339
1990-94	627	65	1421	254	510	472	356	1821		4491	83	296	132	269	530	275
1995-99	403	46	1474	170	1193	889	293	1550		4321	61	167	98	253	633	175
2000-03	210	40	1767	177	1196	960	718	1583	2350	1590	41	197	120	209	667	165

The eight countries receiving in excess of $500 per capita per year can be split into two groups. Nauru, Niue, Palau and Tuvalu all had populations of 20,000 or less in 2003 and their high per capita aid levels are a result of their small populations rather than of their receiving high levels of aid in absolute terms. Of these four the largest recipient in absolute terms is Palau, which received $31 million per year during 2000-03. Nauru, Niue and Tuvalu all received less than $10 million per year on average during 2000-03. Note that the Cook Islands had a population of 22,000 in 2003, but 'only' received $210 per capita per year of aid over 2000-03.

The second group consists of countries that receive high levels of aid in both relative and absolute terms: Marshall Islands, Micronesia, French Polynesia and New Caledonia. During 2000-03 PNG was the only PIF country to receive more aid than the Marshall Islands and Micronesia, while French Polynesia and New Caledonia both received more aid than any PIF developing country and between them received more aid than all fourteen PIF developing countries combined. We have already noted the dependence of Marshall Islands and Micronesia on US aid. Unsurprisingly French Polynesia and New Caledonia both receive over 99% of their aid from France.

Between Fiji Islands and Papua New Guinea on the one hand and the eight high aid countries on the other there exists a group of six intermediate countries: Cook Islands, Kiribati, Samoa, Solomon Islands, Tonga and Vanuatu. With the exception of the Cook Islands, these countries

had populations of between 100,000 and 500,000 in 2003. They received aid per capita per year during 2000-03 ranging from $120 (Solomon Islands) to $210 (Cook Islands).

2.4 Aid from Australia and New Zealand

We discussed above trends in the absolute level of aid from Australia and New Zealand combined to PIF countries. In this section we will consider the individual shares of Australia and New Zealand in ANZ aid and we will look at aid from ANZ as a percentage of their respective GDPs. We will also compare trends in ANZ aid to PIF countries with trends in ANZ aid to the rest of the world.

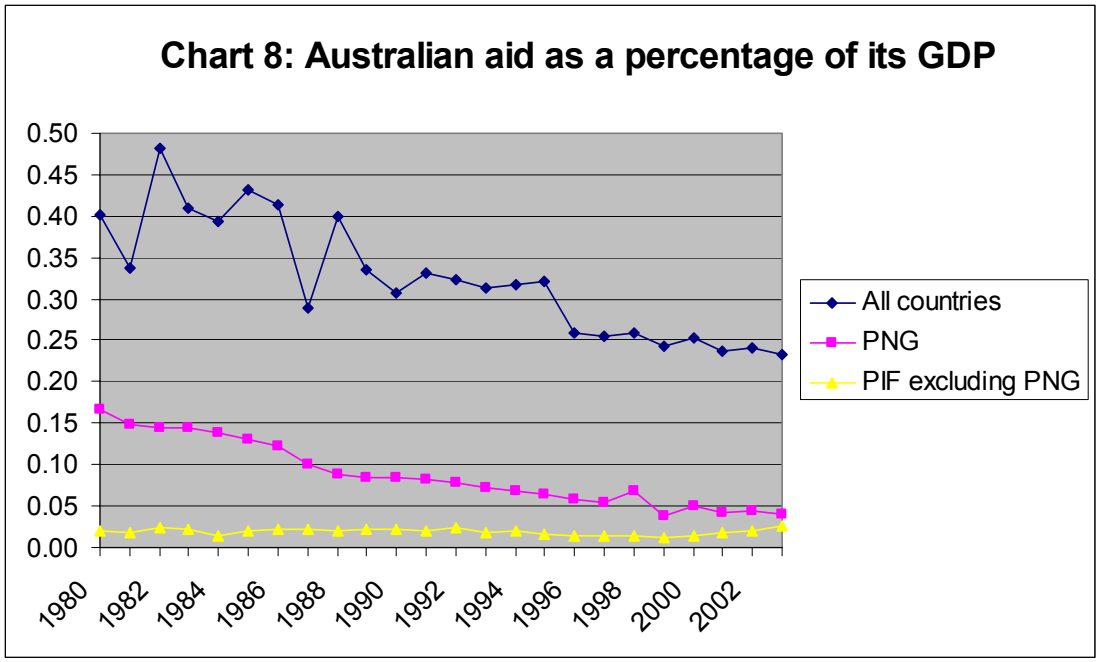
During 2000-03 88% of ANZ aid to PIF countries came from Australia. This share has remained virtually unchanged since the first half of the 1980s. However the share of Australia in ANZ aid to PIF excluding PNG has steadily increased from 53% over 1980-84 to 74% during 2000-03. This increase reflects the combined effect of a shift in Australian aid away from PNG and a shift in New Zealand aid towards PNG. During 1980-84 88% of Australian aid to PIF countries, and 8% of New Zealand aid to PIF countries, went to PNG. Over 2000-03 the figures were 69% and 19%.

Australia

From 2000-03 total Australian aid averaged 0.24% of Australian GDP (Table 7). Australian aid averaged 0.40% of GDP in the 1980-84 period and has been declining ever since (Chart 8). Measured as a percentage of GDP Australian aid has declined by 40% in the last twenty years. A large proportion of this decline is a result of the fall in aid to PNG from 0.15% of GDP over 1980-84 to 0.04% of GDP over 2000-03. Aid to other PIF countries has remained roughly constant over the last twenty-five years at around 0.02% of GDP. By comparison aid to non-PIF countries has decreased steadily from 0.24% of GDP over 1980-84 to 0.18% of GDP over 2000-03. The share of PIF countries excluding PNG in Australia's aid budget has therefore increased from 5% in 1980-84 to 8% in 2000-03. Aid flows connected to RAMSI increased the share of Australia's aid budget devoted to PIF countries excluding PNG from 8% in 2002 to 12% in 2003.

Table 7: Australian aid as a percentage of its GDP

	All countries	All countries excluding PIF	PIF	PNG	PIF excluding PNG	% aid to PIF	% aid to PIF excluding PNG
1980-84	0.40	0.24	0.17	0.15	0.0196	41%	5%
1985-89	0.37	0.25	0.13	0.10	0.0217	34%	6%
1990-94	0.32	0.22	0.10	0.08	0.0209	31%	7%
1995-99	0.27	0.20	0.07	0.06	0.0147	27%	6%
2000-03	0.24	0.18	0.06	0.04	0.0198	27%	8%

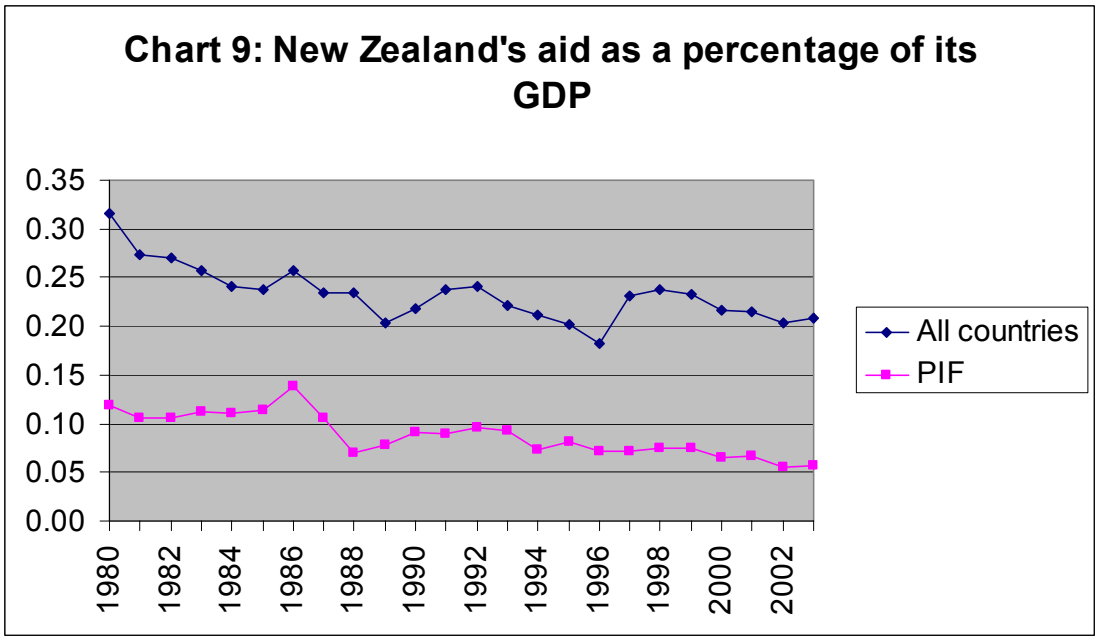


New Zealand

From 2000-03 New Zealand's aid averaged 0.21% of its GDP. (Table 8). This was a marginal decline from 1985-89 when aid was 0.23% of GDP (Chart 9). At that time PIF countries received 43% of New Zealand's aid, a figure that has since steadily declined to reach 29% today. Consequently aid to PIF countries has decreased from 0.10% of GDP over 1985-89 to 0.06% of GDP during 2000-03. Aid from New Zealand is distributed more evenly amongst PIF countries than aid from Australia. During 2000-03 no single country received more than 20% of New Zealand aid to PIF countries. In fact in 2003 the largest recipient of aid from New Zealand amongst the PIF countries was Niue.

Table 8: New Zealand's aid as a percentage of its GDP

	All countries	All countries excluding PIF	PIF	PNG	PIF excluding PNG	% aid to PIF	% aid to PIF excluding PNG
1980-84	0.27	0.16	0.11	0.0092	0.10	0.41	0.37
1985-89	0.23	0.13	0.10	0.0076	0.09	0.43	0.40
1990-94	0.23	0.14	0.09	0.0073	0.08	0.39	0.36
1995-99	0.22	0.14	0.07	0.0107	0.06	0.34	0.29
2000-03	0.21	0.15	0.06	0.0114	0.05	0.29	0.23



2.5. Other Bilateral Donors

Currently the largest bilateral donor to PIF countries other than Australia is the US. From 2000-03 US aid averaged $174 million per year of which $169 million went to MMP (Table 9). US aid made up 27% of total aid to PIF countries during 2000-03, but accounted for only 1% of aid to PIF countries excluding MMP. Aid from the United Kingdom (UK) to PIF countries totalled $80 million per year from 1980-84 and was mainly targeted at its former colonies Fiji Islands, Kiribati, Solomon Islands, Tonga, Tuvalu and Vanuatu. Thereafter UK aid rapidly declined and ceased altogether from 1995 onwards following a decision to end UK bilateral aid to the Pacific. French aid to PIF countries has steadily declined since 1980 and during 2000-03 was $7 million per year. Vanuatu, which prior to its independence was administered jointly by France and the UK, received 85% of French aid.

Table 9: Annual aid to PIF countries from the US, UK and France ($ million, 2002)

	US			UK	France
	MMP	PIF excluding MMP	All PIF		
1980-84		7	7	79	19
1985-89		5	5	50	13
1990-94		4	93	24	12
1995-99	197	6	203	2	9
2000-03	169	5	174	0	7

2.6 Type of Aid

In this section we describe the breakdown of total aid to PIF countries in terms of the percentage of aid given as grants, given as technical cooperation and given by multilateral organisations. Since our main interest is in the level of aid we will only discuss these areas briefly, leaving detailed discussions of the flows of different types of aid to other reports.

The measure of aid we are using includes both grants and loans with a grant component of at least 25%. Grants have made up around 90% of net disbursements of aid to PIF countries from 1980-2003 (Table 10). The percentage of aid disbursed in grant form has displayed no substantial sustained variation across PIF countries, but has tended to increase over time. Grants made up 99% of aid to PIF countries over 2000-03, compared to 86% from 1980-84. The increase in the percentage of aid given as grants may result from two factors: firstly a decision by donors to reduce aid given in the form of concessional loans with the aim of minimising the debt burden of developing countries; secondly an increase in the repayments by PIF countries of the principal on earlier loans.

Table 10: Grants as a percentage of total aid

	All PIF	MMP	PIF excluding MMP	PNG	Other PIF
1980-84	86%		86%	84%	90%
1985-89	93%		93%	94%	92%
1990-94	88%		87%	86%	88%
1995-99	93%	96%	91%	89%	94%
2000-03	99%	95%	101%	106%	98%

From 2000-03 most PIF countries received between one-half and two-thirds of their aid receipts in the form of technical cooperation (Table 11). The exceptions were MMP which received only 7% of their aid as technical cooperation and the three PIF countries with the smallest populations: Nauru, Niue and Tuvalu. Nauru, Niue and Tuvalu all received less than half of their aid as technical cooperation. The share of total aid to PIF countries given in the form of technical cooperation has increased rapidly from 1980-2003, particularly over the last ten years. Technical cooperation made up 59% of total aid to PIF countries excluding MMP during 2000-03, up from 20% during 1980-84. For PNG the share was 5% over 1980-84, rising to 32% for 1995-99 and 63% during 2000-03. For Other PIF the increase was less substantial, from 41% during 1980-84 to 55% during 2000-03.

Table 11: Technical Cooperation as a percentage of total aid

	All PIF	MMP	PIF excluding MMP	PNG	Other PIF
1980-84	20%		20%	5%	41%
1985-89	24%		24%	10%	42%
1990-94	26%		29%	16%	47%
1995-99	30%	5%	41%	32%	55%
2000-03	42%	7%	59%	63%	55%

The percentage of total aid coming from multilateral organisations varies substantially between countries and across time. At one extreme Palau received only 0.5% of its aid from multilateral organisation during 2000-03, while at the other Solomon Islands received 45% (Table 4). However there is some stability in aid receipts from multilaterals at the aggregate level. Except during 1995-99, when receipts from multilaterals were 18% of total aid, Other PIF countries received around a quarter of their total aid from multilaterals (Table 12). MMP receive 5% of their aid from multilaterals, while the share of multilaterals in aid to PNG has plummeted from 19% during 1990-94 to 2% during 2000-03, after many multilateral organisations scaled back aid programs in 1999.

Table 12: Percent of total aid to PIF countries coming from multilateral organisations

	All PIF	MMP	PIF excluding MMP	PNG	Other PIF
1980-84	19%		19%	16%	23%
1985-89	18%		18%	13%	24%
1990-94	18%		21%	19%	24%
1995-99	12%	5%	15%	12%	18%
2000-03	11%	5%	13%	2%	25%

III. AID EFFECTIVENESS – A LITERATURE REVIEW

What is the impact of aid on growth in GDP per capita? In the last ten years a new literature has emerged which attempts to answer this question empirically using cross-country growth regressions in which the relationship between aid and growth has a non-linear component.

There are two primary competing strands to the literature. The first strand models the effects of aid on income growth as depending not only on the level of aid, but also on some other 'enabling' variable (e.g. policy, vulnerability to shocks) which modifies its impact. A standard growth regression is modified to include not only aid (typically measured as a percentage of recipient GDP), but also aid interacted with the enabling variable, as regressors. This approach is typified by the work of Burnside and Dollar (2000) who found that the impact of aid on growth increases as the quality of macroeconomic policies improve. Unsurprisingly this result has been the focus of great attention from policy makers and much of the recent literature on aid effectiveness can be viewed as a response to this finding.

The second strand to the literature concerns itself not with the interaction between aid and other variables, but with the possibility of there being an inherently non-linear relationship between aid and growth. Specifically it argues that there are diminishing marginal returns to aid. This is tested by introducing both aid (again usually measured as a percentage of GDP) and aid squared as regressors in cross-country growth models. Lensink and White (1999) estimate regressions of this type and conclude that at levels above 40-50% of GDP aid has a negative marginal effect on growth.

We will look first at the work on the interaction between aid and policy before turning to the research on the diminishing marginal returns of aid. We will then consider work which models the interaction of aid with the vulnerability of a country to external shocks, before finally attempting to draw out some policy implications from the literature.

3.1 Interaction between Aid and Policy

Burnside and Dollar (2000) investigate the impact of policies on the effectiveness of aid by estimating regressions of the following form:

$$g_{it} = \beta_y y_{it} + \beta_a a_{it} + \beta_p p_{it} + \beta_{ap} a_{it} p_{it} + \beta_z^{'} z_{it} + g_t + \varepsilon_{it} \qquad (1)$$

where i indices countries, t indices periods, g_{it} is per capita GDP growth, y_{it} is the logarithm of initial GDP, a_{it} is aid as a percentage of GDP, p_{it} is a policy index, z_{it} is a vector of other exogenous variables that may effect growth, g_t is a period dummy and ε_{it} is an error term. Burnside and Dollar measure aid using a variable which adds the grant component of concessional loans to outright grants. By contrast aid as measured by ODA includes all loans

with a grant component of at least 25%. The policy variables included are inflation, the budget surplus and the Sachs-Warner trade openness dummy. They are weighted together to form an index using results from estimating a version of equation (1) excluding aid and the aid*policy interaction, but including each of the policy variables separately. The exogenous variables used include measures of institutional quality and ethnic fractionalisation. The equations are estimated using a panel of 56 countries and six four year time periods: 1970-73 to 1990-93. An observation for a period is the average over that period. There are no PIF countries in their sample. Instrumental variables estimation is used to allow for the possible endogeneity of aid in equation (1), but policy is assumed to be exogenous.

Burnside and Dollar's main finding is that although the aid term has an insignificant effect on growth, when the aid*policy interaction term is added it has a positive and significant impact. Thus there is a relationship between aid and growth, but the nature of the relationship depends critically on the quality of economic policies. The better the policies the stronger the impact of aid on growth. They also find weak evidence of aid squared*policy having a negative effect on growth, which would indicate diminishing marginal returns to aid, but this result depends critically on the inclusion of outlying observations. Evaluating the derivative of growth with respect to aid they find that aid has an insignificant impact on growth in an average policy environment, but increasing the policy index to approximately one standard deviation greater than its mean significantly increases the impact of aid on growth.

In common with most of the growth literature Burnside and Dollar find that the institutional quality variable and the policy index they construct have a positive and significant effect on growth, but although initial income has a negative coefficient it is not significant. Note that this direct impact of policy on growth is in addition to the positive effect of policy on growth through the aid*policy interaction term. In an earlier draft of the paper (Burnside and Dollar (1997)) they test whether the level of aid received affects the quality of policies implemented. They fail to find a relationship.[5] If aid had a positive effect on policies Burnside and Dollar's estimates of the derivative of growth with respect to aid would be biased downwards.

Burnside and Dollar also estimate an equation for the allocation of aid. They confirm the results of Alesina and Dollar (2000) that the main influences on aid allocation are income (negative), population (negative) and variables capturing donor's strategic interests. They find no significant relationship between the quality of policies and total aid flows. However when they split aid into bilateral aid and multilateral aid they find that policy has a significant positive effect on the later, but not the former. Finally they estimate an equation for government consumption which shows that bilateral aid significantly increases government consumption while there is no significant relationship between multilateral aid and government consumption. Having previously found no relationship between government consumption and growth they conclude that one reason aid may on average have no impact on growth is that bilateral aid, which makes up around two-thirds of total aid, does not reward good policies and results in increased government consumption not increased investment.

Many reasons are put forward to support aid flows, but one of the most often cited is poverty reduction. By concentrating on the effects of aid on income growth economists may not capture its effects on poverty. Is aggregate income growth a good proxy for poverty reduction? Dollar

[5] This is consistent with the findings of other authors. Collier (1997), Williamson (1994), Rodrik (1996) and Alesina and Dollar (2000) all find no systematic effect of aid on the quality of policies. Knack (2000) finds that aid can weaken institutions. Dollar and Svensson (2000) find no causal relationship from aid programs to policy or institutional change.

and Kraay (2001) find that on average growth of per capita GDP is accompanied by a proportional growth in income of the poorest members of society. Burnside and Dollar (1998) address the impact of aid on poverty reduction directly by estimating equations similar to those discussed above, but with infant mortality as the dependent variable. They hypothesise that maybe the increase in government consumption resulting from increased aid flows leads to poverty reduction without creating aggregate growth. However, using a measure of governance that includes both policy and institutional variables, they find that aid reduces infant mortality only in a good governance environment. This supports the findings of Burnside and Dollar (2000) discussed above, although the significance levels of the infant mortality results are lower than for the growth results.

Chauvet and Collier (2004) consider the effects of aid in a Low Income Country Under Stress (LICUS) defined as a low-income country with consistently weak policies and institutions as measured by the World Bank's Country Policy and Institutional Assessment (CPIA). They find that LICUS status on average reduces peacetime growth by 2.3 percentage points and that in any given year the average probability of a country starting on the path to a sustained turnaround which will result in exiting LICUS status is 1.79%. This probability is increased by education and population size, but unaffected by income and the level of democracy.

They find that aid has a significant and positive effect on the probability of a country starting on the path to a turnaround. Disaggregating aid into its components they find that it is aid other than technical assistance which increases the probability, while technical assistance has no effect. A one percentage point increase in average aid other than technical assistance to LICUS countries would increase the average turnaround probability from 1.79% to 2.50%. Once a country has started on the path to a turnaround both technical assistance and other aid increase the rate at which an incipient turnaround becomes sustained. Given the substantial cost of being a LICUS, which the authors estimate at 4.6 times initial GDP ignoring spillover effects to neighbouring countries, and the small average turnaround probability Chauvet and Collier characterise aid to LICUS countries as a high risk enterprise. Most aid aimed at generating a LICUS turnaround will fail, but the pay-offs to success are enormous.

Chauvet and Collier (2004) suggests that even if we accept the Burnside and Dollar (2000) results there is a case for targeting some aid at countries with very poor governance. Chauvet and Guillaumont (2004) provide further support for this stance with their results which indicate that when policies are initially very poor aid can have a positive impact on them.

3.2. Diminishing Marginal Returns to Aid

Lensink and White (1999) investigate the effects of aid on growth by estimating variants of equation (2):

$$g_{it} = \beta_y y_{it} + \beta_a a_{it} + \beta_p p_{it} + \beta_{aa} a_{it}^2 + \beta_z^{'} z_{it} + g_t + \varepsilon_{it} \qquad (2)$$

where variable definitions are the same as in equation (1). Comparing equation (2) to equation (1) we see that the aid*policy interaction term has been replaced by an aid squared term. Using a sample of 138 countries and four time periods they find a positive and significant relationship between aid and growth and a negative and significant relationship between aid squared and growth. This leads them to conclude that not only does aid have diminishing marginal returns, but that at levels of aid above 40-50% of GDP aid starts to have harmful effects. They also introduce an aid*policy interaction term into their specification, but it is insignificant. Note that

they find a significant and positive impact of aid on growth even when the aid squared term is dropped. Lensink and White's dataset includes six PIF countries: Fiji Islands, PNG, Samoa, Solomon Islands, Tonga and Vanuatu. Hadjimichael et al. (1995) and Durbarry et al. (1998) also find diminishing marginal returns to aid by introducing an aid squared term.

Hansen and Tarp (2001) attempt to unify the approaches typified by equation (1) and equation (2) by estimating a model containing both an aid squared term and an aid*policy interaction term. Using the same sample as Burnside and Dollar (2000) they find that when both variables are included aid squared is significant, but aid*policy is not.

They then proceed to investigate whether or not specification errors mean their results are inconsistent. As mentioned above Burnside and Dollar (2000) use instrumental variables to control for the possible endogeneity of aid. When they estimate their model they find that the results obtained using Two Stage Least Squares (2SLS) are not significantly different to those obtained using Ordinary Least Squares (OLS). This leads them to suggest that aid is not endogenous to growth, a result used by other authors, including Lensink and White (1999), to justify estimating aid equations using OLS. Hansen and Tarp argue that due to the existence of country specific effects which are not included in the model, and the presence of endogenous regressors other than aid, both OLS and 2SLS are inconsistent. They attempt to obtain consistent estimates by respecifying the equation and using a Generalised Method of Moments (GMM) estimator. They estimate an equation without an aid*policy interaction term and although aid and aid squared are both significant with the expected signs the coefficient estimates are highly sensitive to whether OLS or GMM is used. They conclude that traditional approaches to estimating the effectiveness of aid may lead to inconsistent estimates and that more theoretical work should be done before cross-country aid-growth regressions are used to make policy decisions.

Collier and Dollar (2002) evince greater faith in the policy implications of the aid effectiveness literature. They use an aid-growth regression as the basis for deriving a poverty-efficient allocation of aid that maximises poverty reduction. Using a sample of 59 countries and six four year periods they estimate, by OLS, a growth regression including both aid squared and aid*policy terms where policy is measured using the CPIA. They find a positive and significant impact of aid interacted with policy and a negative impact of aid squared that is borderline significant. They do not find a significant impact of aid on growth when it is also included in the regression.

Collier and Dollar use their results to calculate a poverty-efficient allocation of aid. The two key characteristics of this allocation are that aid should be targeted towards countries that have high levels of poverty and good policy. They estimate that equalising the marginal effect of aid on poverty reduction across all countries would require giving two-thirds of current aid to India. Even constraining India to receive its current level of aid they estimate that whereas aid currently lifts 10 million people out of poverty each year their allocation would lift 19 million people out of poverty. Their results are robust to the use of different measures of poverty.

Burnside and Dollar (2004) is a response to the numerous critiques of their earlier work. Using a cross-section of 124 countries they regress average GDP per capita growth in the 1990s on initial income, a measure of institutional quality and at least one of aid, aid squared and aid*institutions. They estimate their equations using both OLS and 2SLS. When using 2SLS they treat all the independent variables as endogenous. They fail to find a relationship between aid, or aid squared, and growth, but they do find a positive relationship between aid*institutions

and growth, that is significant at around the 10% level. However this result is not robust across all their specifications. Note that whereas Burnside and Dollar (2000) interact aid with a policy measure, Burnside and Dollar (2004) interact aid with an institutions measure. In the aid effectiveness literature policy and institutions are often conflated under the general heading of governance. The results in Burnside and Dollar (2004) suggest that this may be a reasonable working assumption.

Burnside and Dollar also estimate an aid allocation model. Controlling for per capita income and population they find that institutional quality had no effect on aid flows in the 1980s, but during the 1990s aid receipts were positively correlated with institutional quality. This result can be compared with their finding in Burnside and Dollar (2000) that there was no effect of the quality of policies on total aid flows in a dataset covering 1970-93.

Burnside and Dollar argue that these new findings support their original conclusion that the impact of aid on growth is higher in countries with good governance. However they acknowledge that due to the methodological difficulties with cross-country growth regressions it is not possible to definitively prove their hypothesis. They therefore adduce evidence from an opinion poll commissioned by the World Bank and from project and country case studies to support the view that the effectiveness of aid depends critically on the quality of governance.

3.3. Aid and Vulnerability

Burnside and Dollar's findings open up the possibility that the effectiveness of a dollar of aid depends upon the characteristics of the country where that dollar is spent. The characteristic focused on by Burnside and Dollar themselves was policy. Guillaumont and Chauvet (2001) extend Burnside and Dollar's analysis to also include a country's vulnerability to external shocks, be they economic or environmental.

Guillaumont and Chauvet estimate a version of equation (1) including a vulnerability term and an aid*vulnerability interaction term. The vulnerability index is a weighted average of: stability of agricultural value added, which acts as a proxy for exposure to climatic shocks, the stability of the real value of exports, the trend of the terms of trade and the logarithm of initial population. The weights are based on the estimated coefficients of the four variables in a growth regression. The methodology used to construct the index therefore mimics that used by Burnside and Dollar (2000) to construct their policy index.

Using 66 countries, two twelve year time periods and both OLS and 2SLS estimation Guillaumont and Chauvet find that vulnerability reduces growth, but that aid interacted with vulnerability has a positive and significant effect on growth. They also find a positive and significant effect of aid, but find no impact of aid interacted with policy. They further estimate the determinants of aid and policy. They find no relationship between aid and policy in either direction. However they find that vulnerable countries receive more aid and have worse policies. Their results suggest that the vulnerability of countries to external shocks should be taken into consideration when assessing the effectiveness of aid.

Collier and Dehn (2001) estimate a similar specification to Guillaumont and Chauvet (2001), but use a different sample and a different measure of vulnerability. They use the same sample as Burnside and Dollar (2000) and measure vulnerability in terms of extreme export price shocks. Their OLS estimation results show that negative shocks have a negative and significant impact on growth, while both the change in the level of aid interacted with negative shocks and the lagged level of aid interacted with positive shocks have a positive and significant effect on

growth. However positive shocks, the change in the level of aid interacted with positive shocks and the lagged level of aid interacted with negative shocks all have insignificant effects on growth. Unlike Guillaumont and Chauvet they also find that aid*policy has a positive effect on growth, which is significant at the 10% level in their baseline model, but is not robust to variations in the sample.

Finally Collier and Dehn estimate an aid allocation equation to assess whether aid flows have been responsive to negative export price shocks. They find no evidence of countries receiving an increase in aid during periods when they suffered a negative export price shock. This result is not necessarily inconsistent with Guillaumont and Chauvet's finding that vulnerable countries receive more aid. Not only do the two papers use different definitions of vulnerability, but Guillaumont and Chauvet's result applies to the level of aid received by a country, while Collier and Dehn are looking at whether countries receive increased aid in periods when they are exposed to a shock. Collier and Dehn conclude by proposing that aid be targeted to countries suffering negative shocks. They note that this was the aim of the EU's Stabex program, but that because aid disbursements were project based the program was unable to respond sufficiently quickly to shocks. In fact, Herman et al. (1990) show that Stabex was actually pro-cyclical.

3.4. Summary

The existing literature does not provide policy makers with a coherent narrative they can use to determine the optimal poverty reducing/growth inducing aid flows. Results which it was hoped could lay the foundation for such a narrative have been shown to be sensitive to the sample used, the specification estimated and the estimation technique utilised. Successive papers have not built on previous results, but have problematised them, suggested fresh areas for investigation and proposed new policy implications. Hansen and Tarp who offer the most incisive analysis of the failings of the aid effectiveness literature argue that it has yet to attain the maturity necessary for it to be used in policy discussions. They caution the reader to wait for further research before drawing any conclusions.

Unfortunately, policy makers do not have the luxury of suspending their decisions until a consensus is reached. They need a "best practice" guide to aid effectiveness based on existing knowledge. What might such a guide say?

a) Aid can have a significant positive effect on growth. This result is common to all the papers surveyed above.
b) The relationship between aid and growth is non-linear and may be effected by country specific factors.
c) There is no causal link from the level of aid flows to the quality of governance in a country.

The three conclusions listed above emerge unambiguously from the aid effectiveness literature. By contrast the statements below are all open to debate. We present them as policy guidelines based on an informed interpretation of the information available. They should be viewed as being subject to a high degree of uncertainty and being open to revision if and when new evidence emerges.

d) Aid has diminishing marginal returns and at sufficiently high levels has a negative marginal effect on growth. The level of aid at which the marginal effect becomes negative is uncertain and may vary across countries.
e) Aid is more effective in a good governance environment.

f) Aid can mitigate the negative effects of adverse external shocks and can increase growth in countries vulnerable to such shocks.

These six points will form the ideological backdrop to the recommendations we present in section 4. However before we proceed with the recommendations we would like to draw attention to a major difficulty in applying conclusions drawn from the aid effectiveness literature to PIF countries: size. In 2003 half of the fourteen PIF developing countries had populations of less than 100,000 and only PNG had a population of greater than 1,000,000.

Above we drew attention to how infrequently any PIF countries were included in the datasets used in the papers under consideration. It is conceivable that the function of aid in very small states cannot be conceptualised in the same way it is in the larger states which have tended to provide the observations on which the aid effectiveness literature is based. Aid to the smallest PIF countries may be concerned as much with ensuring their continuing viability as with promoting long term economic growth and the criteria that guide aid allocation decisions should reflect this. It is also possible that because of fixed costs in implementing aid programs, increasing returns to scale mean that conventional measures of aid levels overstate the effective amount of aid actually received by very small countries. What is certain is that more work is required on aid to small countries. In the absence of such work we stress the importance of detailed country specific knowledge when discussing aid allocations to the smallest countries.

IV. FUTURE AID TO PACIFIC ISLAND FORUM COUNTRIES

In sections 2 and 3 we considered past aid flows to PIF countries and evidence on the effectiveness of aid. In this section we will put forward three recommendations concerning future aid to PIF countries. The first concerns the level of aid that PIF developing countries can realistically target from their fellow PIF members Australia and New Zealand. The second concerns targeting aid at better governed countries and the third concerns targeting aid at countries vulnerable to negative external shocks.

4.1. Level of Aid from Australia and New Zealand

PIF countries should seek the following commitments from Australia and New Zealand:

i. Australia to give at least 0.03% of its GDP and at least 10% of its total aid budget to PIF countries excluding PNG.
ii. Australia to give at least 0.05% of its GDP and at least 15% of its total aid budget to PNG.
iii. New Zealand to give at least 0.08% of its GDP and at least 25% of its total aid budget to PIF countries.

These targets do not represent optimal levels of aid to PIF countries. They are realistic goals based on trends in Australia's and New Zealand's aid to PIF countries over the past twenty-five years. Targets (ii) and (iii) are slightly higher than current aid flows, but lower than receipts during the 1980s and the first half of the 1990s and are intended to stem the long term declines in Australian aid to PNG and New Zealand's aid to PIF countries. Target (i) is higher than current or past levels of aid and aims to build on the recent increase in Australian aid to PIF countries excluding PNG.

PIF countries excluding MMP currently receive two-thirds of their aid from Australia and New Zealand. If Australia and New Zealand were to make and meet these commitments it would

provide PIF countries excluding MMP with 'aid security' by stemming the long term decline in aid and ensuring predictable flows of aid over the medium term. The aid security of MMP obviously depends on the US and will not be affected by aid commitments made by ANZ.

Aid from Australia should be broken down into aid to PNG and aid to PIF excluding PNG because PNG receives two-thirds of all Australian aid to PIF countries. Considering the two simultaneously would risk disadvantaging countries other than PNG since changes in the level of aid to PNG would swamp changes in the level of aid to other countries. If Australian aid to PNG increased it would be possible for Australia to meet its commitment while drastically cutting aid to 13 of the 14 PIF developing countries.

Australian aid to PIF excluding PNG averaged 0.019% of its GDP over 1980-2003, peaking at 0.027% in 2003 due to the effect of RAMSI. Through a period during which total Australian aid almost halved aid to PIF excluding PNG was roughly stable, but showed no signs of embarking on an increasing trend. The target of 0.03% of Australian GDP is higher than was achieved in any year from 1980-2003, but to meet this target in 2003 would only have required a $16 million (2003 US$) increase in aid. The target of 10% of total Australian aid is included to ensure that if the total Australian aid budget were to substantially increase aid to PIF countries excluding PNG would increase commensurately. During 1980-2003 Australian aid to PIF countries excluding PNG averaged 6.15% of Australia's aid budget and exceeded 10% only in 2003. In 2003 Australia gave 0.23% of its GDP as aid, but if total Australian aid exceeded 0.30% of GDP the 10% of total aid target would be higher than the 0.03% of GDP target.

Setting a target for Australian aid to PNG is made more difficult by not knowing whether the Enhanced Cooperation Program (ECP) will be resurrected. If it goes ahead Australian aid to PNG should exceed the current 0.04% of GDP for the foreseeable future. However since our primary interest is in guarding against a further decline in Australian aid to PNG we have recommended a target that is realistic even if the ECP is abandoned. Since 1980 Australian aid to PNG has exceeded 0.05% of its GDP in every year except for 1999 and 2001-03 and has never been less than 15% of its total aid budget. In 2003 meeting the target would have cost Australia an extra $52 million (2003 US$).

New Zealand's aid to PIF is not highly concentrated on a single country. Therefore, we do not consider it necessary to have multiple targets for New Zealand's aid to different subsets of PIF countries. The recommendation of 0.08% of GDP and 25% of total aid ensures that Australia and New Zealand are asked for comparable commitments. With the steady decline in New Zealand's aid to PIF countries the 0.08% of GDP target has not been met since 1995, but the 25% of total aid target was met every year from 1980-2003. Achieving the 0.08% of GDP target in 2003 would have cost New Zealand an extra $18 million (2003 US$).

4.2 Increased Aid Flows to Better Governed Countries

The quality of a country's governance should be considered when determining how aid is distributed, with preference being given to better-governed countries.

To implement this principle a measure of good governance is required. Donors will have their own means of assessing quality of governance, but if a transparent, internationally recognised benchmark is required the World Bank's Governance Indicators 1996-2004 dataset could be used. This dataset contains data at two year intervals and measures the quality of governance along six dimensions: Voice and Accountability, Political Stability, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption. Country coverage varies across

years and dimensions, but in total 209 countries are covered, including all 14 PIF developing countries. For the Cook Islands, Nauru, Niue and Palau coverage is patchy, but nine of the ten other countries are rated on at least five of the six dimensions from 1998 onwards.[6]

Table 13 provides an indicator of the quality of governance in different PIF countries. For each year and each governance dimension all countries were ranked and then their percentile rank was calculated (lower percentiles indicating better governance). For the PIF countries we then calculated the average percentile rank for each year from 1998-2004. Table 13 only includes those countries rated on at least five of the six governance dimensions in a given year. The figures in Table 13 should be treated with considerable caution. In addition to the difficulties of aggregating across governance measures in the manner we have chosen and the subjective nature of the assessments on which the ratings are based, we should remember that many of the ratings for PIF countries are based on a single source. They are therefore subject to greater uncertainty than the ratings for countries for which more data sources are available.

Table 13: Governance of PIF countries (average percentile rank)

	1998	2000	2002	2004	Average 2000-04
Fiji	47%	56%	47%	54%	53%
Kiribati	59%	46%	44%	46%	46%
Marshall Islands	58%	62%	55%	51%	56%
Micronesia	56%	57%	50%	41%	49%
Papua New Guinea	65%	67%	71%	76%	71%
Samoa	58%	40%	33%	35%	36%
Solomon Islands	64%	81%	84%	84%	83%
Tonga	64%	60%	64%	58%	60%
Tuvalu		22%	27%	42%	31%
Vanuatu	57%	61%	58%	52%	57%

Subject to the above caveats the first point to note from Table 13 is that by global standards governance in the Pacific is roughly average. If we calculate average percentile rankings based on all available observations from 2000-04 six of the ten countries (Fiji Islands, Kiribati, Marshall Islands, Micronesia, Tonga, Vanuatu) lie between the 45th and 60th percentiles. Two countries stand out as being well-governed: Tuvalu and Samoa. Note that the relative quality of governance in Samoa has increased markedly since 1998, but the relative quality of governance in Tuvalu deteriorated rapidly between 2002 and 2004. Similarly two countries have noticeably lower standards of governance: Solomon Islands and Papua New Guinea.

What is the correlation between aid flows during 2000-03 and quality of governance over 2000-04? We ranked the ten countries included in Table 13 based on their average percentile ranking for governance 2000-04, their aid receipts per capita 2000-03, their aid receipts as a percentage of GDP 2000-03 and their population 2000-03, and then calculated the correlations between the four rankings (Table 14). There is a small positive correlation between aid and governance, but the most important information in Table 14 is the correlation of around -0.8 between population and aid. As discussed previously larger countries receive less aid per capita/aid as a percentage of GDP and this is a key factor driving relative levels of aid receipts across PIF countries.

[6] Tuvalu is rated on at least five of the six dimensions from 2000 onwards.

Table 14: Aid flows and governance (rankings)

	Governance 2000-04	Aid per capita 2000-03	Aid/GDP 2000-03	Population 2000-03
Fiji	5	10	9	2
Kiribati	3	6	3	8
Marshall Islands	6	1	1	9
Micronesia	4	2	2	6
Papua New Guinea	9	9	8	1
Samoa	2	5	7	5
Solomon Islands	10	8	4	3
Tonga	8	4	5	7
Tuvalu	1	3	n/a	10
Vanuatu	7	7	6	4

Correlations	Governance 2000-04	Aid per capita 2000-03	Aid/GDP 2000-03	Population 2000-03
Governance 2000-04	1			
Aid per capita 2000-03	0.42	1		
Aid/GDP 2000-03	0.10	0.80	1	
Population 2000-03	-0.58	-0.84	-0.80	1

To assess whether there is a relationship between aid allocation and governance levels we will therefore focus on three similarly sized PIF countries. Samoa, Tonga and Vanuatu had populations in 2003 of 178,000, 102,000 and 210,000 respectively. They all received average per capita aid over 2000-03 in the $14-15 range. However the governance data indicates that Samoa had by far the highest level of governance of these three countries. It ranked at the 36th percentile, compared to the 57th and 60th percentiles for Vanuatu and Tonga respectively. The clearest policy implication of a decision to allocate aid based on governance criteria would be that Samoa should receive a higher share of aid than it currently does. Tuvalu, the other leading candidate for a high share of aid, received $667 of aid per capita per year during 2000-03, probably as a consequence of its small population (12,000 in 2003).

The level of uncertainty in the governance data makes us reluctant to draw conclusions on an appropriate governance based allocation of aid amongst the six countries with governance rankings between the 45th and 60th percentiles. The two least well-governed countries, Solomon Islands and Papua New Guinea, already receive lower levels of aid than most of their fellow PIF members; they are also two of the three most populous PIF countries. Since both these countries are frequently characterised as fragile states the results of Chauvet and Collier (2004), which were discussed in section 3.1, should be considered before taking any decision to reduce aid to Solomon Islands and PNG because of their poor governance.

4.3. Increased Targeting of Aid to Mitigate the Adverse Effects of Negative External Shocks

Two of the papers discussed above suggest that aid is more effective when used to mitigate shocks. Guillaumont and Chauvet (2001) find that aid is more effective in countries vulnerable to external shocks and Collier and Dehn (2001) find that countries benefit from receiving increased aid when suffering a negative external shock. By virtue of their size PIF countries are among the group of countries most vulnerable to external shocks. Guillaumont and Chauvet's work suggests that their vulnerability might provide a rational for PIF countries receiving higher levels

of aid than otherwise comparable countries. Collier and Dehn's findings indicate when a country experiences a severe negative shock the response of donors should be a rapid aid injection.

More work is required to test the robustness of these results and to establish the mechanisms by which any aid-vulnerability synergy may occur. Subject to the findings of any such work we recommend the establishment of a program to target aid at countries experiencing a negative external shock. The program must be able to release funds rapidly if it is to achieve its aim of providing anti-cyclical disbursements.

Appendix: Aid Flows by Country

Cook Islands

The Cook Islands currently[7] receive around $4.5 million per year of aid. In the first half of the 1990s the Cook Islands received $13 million per year, but receipts have rapidly declined over the past ten years. Around 80% of aid to the Cook Islands comes from Australia and New Zealand. Of this 70% comes from New Zealand with which the Cook Islands are in free association. The decline in total aid to the Cook Islands is mainly due to a fall in aid from New Zealand from $12 million in the first half of the 1980s to $2.5 million currently.

The Cook Islands currently receive $210 per capita per year in aid, down from $627 per capita in the first half of the 1990s. All of the four other PIF developing countries with populations of less than 50,000 currently receive in excess of $600 per capita per year of aid. No GDP data for the Cook Islands is available.

Fiji Islands

Fiji Islandscurrently receives around $33 million per year of aid. Aid to Fiji Islands has gradually declined from $56 million per year in the first half of the 1980s to its current level. Aid from Australia and New Zealand increased in the first half of the 1990s to $22 million per year, but has since declined to $12 million per year leaving the share of Australia and New Zealand in total aid to Fiji Islands at around one-third, roughly what it was during the 1980s. Of the share from Australia and New Zealand about three-quarters comes from Australia.

Aid to Fiji Islands is currently around 2% of GDP, lower than the approximately 3% of GDP Fiji Islands received throughout the 1980s and the first half of the 1990s. Fiji Islands has the smallest aid to GDP ratio of all the developing PIF countries, a fact that has been true throughout the past twenty-five years. Fiji Islands currently receives $40 per capita per year in aid, a figure that has steadily been falling from a high of $85 per capita in the first half of the 1980s. This is the lowest aid per capita of all PIF developing countries. The only other country currently receiving under $100 per capita is PNG at $41 per capita.

Kiribati

Kiribati currently receives around $17 million per year of aid of which $7 million comes from Australia and New Zealand. Total aid to Kiribati dropped by 50% from $28 million per year in the first half of the 1980s to $14 million per year in the second half of the 1990s, but has since stabilised. At the same time aid from Australia and New Zealand has steadily increased from $4 million per year to its current level. Consequently the share of Australia and New Zealand in total aid to Kiribati has increased from 13% to 44%. Australia's share in aid from Australia and New Zealand is around three-quarters.

Aid to Kiribati is currently around 33% of GDP, the same as it was in the second half of the 1990s. However prior to that aid totalled approximately 60% of GDP. Kiribati currently receives $177 per capita in aid, less than half of the $462 per capita it received in the first half of the 1980s.

[7] Average 2000-03.

Marshall Islands

Marshall Islands became independent from the US in 1986 under a Compact of Free Association and its economy is heavily dependent on US aid. Marshall Islands currently receives $63 million of aid per year, approximately the same level it received in the second half of the 1990s. Reliable data on aid flows to the Marshall Islands is not available for years before 1994. Approximately 80% of aid comes from the US, with Australia and New Zealand combined contributing around 1% of total aid.

Marshall Islands currently has an aid to GDP ratio of 61%, the highest of all PIF developing countries. In per capita terms this amounts to $1,200 per person per year. Under the terms of the Amended Compact of Free Association, which entered into force in May 2004, the US will provide millions of dollars per year to the Marshall Islands until 2023, at which time a Trust Fund made up of US and Marshall Islands contributions will begin perpetual annual payouts.

Micronesia

Micronesia became independent from the US in 1986 under a Compact of Free Association and its economy is heavily dependent on US aid. Micronesia currently receives $116 million per year in aid, an increase from $99 million per year in the second-half of the 1990s. Reliable data on aid flows to Micronesia is not available for years before 1994. Approximately 90% of aid comes from the US with Australia and New Zealand combined contributing around 1%.

Aid to Micronesia is around 50% of GDP or $960 per capita. In May 2004 an Amended Compact of Free Association entered into force under which the US guarantees Micronesia millions of dollars in annual aid until 2023, and establishes a Trust Fund into which the US and Micronesia make annual contributions in order to provide annual payouts to Micronesia in perpetuity after 2023.

Nauru

Before 1994 Nauru received negligible amounts of aid. In 1994 aid was $10 million and for the remainder of 1990s it was around $2.5 million per year. Since 1998 aid receipts have trended upwards reaching $13 million in 2003. Average aid for 2000-03 was $9 million per year. Currently around 90% of aid comes from Australia with a negligible amount coming from New Zealand.

Nauru currently receives $718 per capita of aid a year, more than double the $293 per capita it received in the second half of the 1990s. GDP data for Nauru is not available.

Niue

Niue currently receives around $4.5 million of aid per year. This is slightly less than during the 1980s and the first half of the 1990s when it received just over $6 million per year. Niue is self-governing in free association with New Zealand and New Zealand is the source of 85% of Nauru's aid with Australia providing a further 10%. The decline in total aid to Niue since the first half of the 1990s reflects a similarly sized decline in aid from New Zealand.

Niue currently receives around $2350 of aid per capita per year. This is the highest per capita aid level of all the PIF countries. This is partly a reflection of the fact that Niue has a population

of only around 3,000, but it is worth noting that in absolute terms Niue receives around the same amount of aid as the Cook Islands which has a population seven times as large. No GDP data is available for Niue.

Palau

Palau became independent from the US in 1994 under a Compact of Free Association and in 1994 and 1995 received $229 million and $156 million of aid respectively, over 95% of it from the US. Since 1995 aid flows have been substantially lower and Palau currently receives around $31 million of aid per year. The US currently donates 50% of Palau's aid with Australia and New Zealand combined contributing around 1%.

Aid to Palau is currently around 27% of GDP, down from 69% of GDP in the second half of the 1990s. Palau currently receives around $1,590 of aid per capita per year the second highest after Niue amongst the PIF countries.

Papua New Guinea

PNG currently receives $216 million of aid per year. Aid to PNG has been declining rapidly during the past twenty years and current receipts are a little over half the $411 million per year PNG received during the first half of the 1980s. Around 85% of aid to PNG comes from Australia and New Zealand and more than 95% of this comes from Australia. The decline in aid to PNG is largely due to a decrease in Australian aid from $318 million per year during the first half of the 1980s to $180 million per year currently. However aid from the rest of the world to PNG has actually declined by proportionally more than Australian aid and consequently Australia's share of aid to PNG has increased from 77% during the first half of the 1980s to 83% currently.

Aid to PNG is currently 7% of its GDP. In per capita terms PNG currently receives $41 per year of aid. On both these measures Fiji Islands is the only PIF country to receive less aid than PNG.

Samoa

Aid to Samoa has fluctuated significantly since the 1980s peaking at $48 million per year during the first half of the 1990s, before declining to $28 million per year during the second half of the 1990s. Currently Samoa receives $34 million of aid per year, of which one-third comes from ANZ. Approximately two-thirds of ANZ aid is Australian aid.

Aid to Samoa is currently 14% of GDP, down from a peak of 28% in the first half of the 1990s. Samoa currently receives $197 per capita per year in aid.

Solomon Islands

The increase in aid resulting from RAMSI has seen aid to the Solomon Islands return to levels recorded during the 1980s following a decline in aid flows in the 1990s. Currently the Solomon Islands receives $52 million per year of aid 63% of which comes from ANZ. Aid from ANZ increased from $11 million per year during the second half of the 1990s to $33 million per year currently. This increased the share of ANZ in total aid from under 30% to its current level. Around 85% of ANZ aid comes from Australia.

Aid to Solomon Islands is currently 20% of GDP. This is an increase from 12% of GDP in the second half of the 1990s, but is still below the 24% of GDP received during the 1980s. In per capita terms Solomon Islands receives $120 per year.

Tonga

Tonga currently receives $21 million of aid per year, a marginal decline from receipts of around $25 million per year during the 1980s and 1990s. Aid from ANZ to Tonga has been very stable at around $10 million per year since the 1980s and currently makes up 45% of total aid to Tonga. Around 60% of ANZ aid comes from Australia and the remaining 40% from New Zealand.

As a percentage of GDP aid to Tonga has steadily declined from 28% during the first half of the 1980s to 15% currently. Tonga currently receives $210 per capita per year of aid.

Tuvalu

Tuvalu currently receives $7.7 million of aid per year. Aid to Tuvalu has increased marginally since the 1990s, but is still far below the $15 million per year received during the second half of the 1980s. Just over one-third of Tuvalu's aid comes from ANZ, around two-thirds of which comes from Australia. Aid from ANZ to Tuvalu has been stable at around $3 million per year since the first half of the 1990s.

Tuvalu currently receives $667 per capita per year of aid. As with Niue and Nauru Tuvalu's high per capita aid receipts reflect its small population (estimated at 12,000 in 2003) and do not indicate that it is a recipient of high levels of aid in absolute terms. GDP data for Tuvalu was not available.

Vanuatu

Vanuatu currently receives $33 million of aid per year, a decline from $51 million per year in the first half of the 1980s. By contrast ANZ aid to Vanuatu has steadily increase from $6 million per year in the first half of the 1980s to $14 million per year currently. ANZ now gives 43% of total aid to Vanuatu of which around 70% comes from Australia. The decline in total aid to Vanuatu can be largely attributed to the end of aid from the UK in 1995 and the gradual decline in French aid. From 1980-1995 UK aid to Vanuatu averaged $13 million per year. French aid has declined from $18 million per year in the first half of the 1980s to $6.1 million per year currently.

Aid to Vanuatu is currently 14% of GDP, down from 28% of GDP in the first half of the 1980s. Vanuatu currently receives $165 per capita per year of aid.

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