

Curriculum Management Plan

2001–2005

**Supporting the implementation of curriculum reform
from Elementary Prep to Grade 8**



PAPUA NEW GUINEA
DEPARTMENT OF EDUCATION
WAIGANI

First published in 2001 by the Department of Education,
Papua New Guinea

© Copyright 2001 Department of Education,
Papua New Guinea

All rights reserved.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means electronic, mechanical, photocopying, reading or otherwise without the prior written permission of the publisher.

ISBN 9980-930-53-5

National Library Service of Papua New Guinea

Printed at PNG Printing

Secretary's message

The reform of basic education in Papua New Guinea is critical for the future of our nation. The development of a culturally relevant curriculum and the provision of quality inservice for all elementary and primary teachers are fundamental components in the reform of basic education.

This *Curriculum Management Plan 2001-2005* sets out the curriculum reform priorities and strategies of the PNG Department of Education for the next five years. The main section of the Plan outlines the Curriculum Development Division's plans for curriculum production over the period from 2001 to 2005 in support of curriculum reform in basic education.

The Curriculum Management Plan has been developed in conjunction with the Department's *Inservice Management Plan 2001-2005*, which details the policies and procedures for the provision of inservice in support of the curriculum reform. The Inservice Management Plan will ensure that inservice materials and strategies are available to support the progressive implementation of new curricula as they are released under this Curriculum Management Plan.

It is easy to write a plan. It is much more difficult to implement it successfully. The success of this Plan is critical to the education reform in Papua New Guinea. Its success will be dependent on the commitment of national, provincial, district and school staff involved in curriculum development and distribution. This commitment must be demonstrated through the provision of time, resources and expertise.

The Plan has been developed with the support of AusAID under the Curriculum Reform Implementation Project (CRIP). The implementation of the Plan will be supported by CRIP over the next five years, along with other AusAID education sector projects and other donor programs.

I commend the Plan to you and seek your commitment to its effective implementation so that we can be sure that our children receive the best possible education through the reform curriculum.

PETER M BAKI

Secretary for Education

Contents

Abbreviations	i
Definition of terms	ii
1. Introduction	1
Background to the education reform	1
Purpose of the Curriculum Management Plan	2
Development and distribution of the Plan	3
2. The context of curriculum reform in PNG	4
The policy context	4
Responsibility for curriculum development	4
Status of the curriculum reform	7
Future development needs	9
3. Curriculum reform priorities	12
Key target groups	12
Processes for identifying curriculum reform priorities	12
Curriculum reform priorities 2001-2005	12
4. Curriculum reform development strategies	15
The curriculum development cycle	15
Key principles of curriculum development	15
Key principles of curriculum development	16
Applying the principles to curriculum reform	16
5. Resourcing the Plan	19
Funding sources	19
Guidelines for resource allocation	19
Estimated costs	20
6. Monitoring and evaluating the Plan	21
Monitoring the Plan	21
Evaluating the Plan	21

Contents

Using lessons learned	22
7. Curriculum production plan (2001 - 2005)	23
Elements of the production plan	23
Five-year overview of curriculum development for basic education	24

Tables

1. Learning areas and subjects in the reform curriculum
2. Timeline for reform curriculum materials development and teacher inservice
3. Principles for effective curriculum development
4. Application of the principles to the curriculum development cycle
5. Estimated costs for the implementation of the Curriculum Management Plan
6. A five-year overview of curriculum development for basic education

Figures

1. Cycle of curriculum development in CDD

Appendices

1. Five-year curriculum management plan
 2. Elementary curriculum production plan 2001 - 2005
 3. Lower primary curriculum production plan 2001 - 2005
 4. Upper primary curriculum production plan 2001 - 2005
-

Abbreviations

\$A	Australian dollar
AAG	Activity Approval Group
ATL	Australian Team Leader
AS	Assistant Secretary (of DoE)
AusAID	Australian Agency for International Development
BEICMP	Basic Education Infrastructure Curriculum Materials Project
BOS	Board of Studies
CDD	Curriculum Development Division (of DoE)
CU	Curriculum Unit (of CDD)
CRIP	Curriculum Reform Implementation Project
ETESP	Elementary Teacher Education Support Project
DoE	PNG Department of Education
GoA	Government of Australia
GoPNG	Government of PNG
I&GD	Inspections and Guidance Division (of DoE)
K	PNG Kina
MU	Materials Unit (of CDD)
MSU	Measurement Services Unit (of CDD)
PASTEP	Primary and Secondary Teacher Education Project
PFMD	Planning, Facilitation and Monitoring Division (of DoE)
Plan	The Curriculum Management Plan 2001-2005 (This document)
PNG	Papua New Guinea
PNGEI	Education Institute of Papua New Guinea
Project	The Curriculum Reform Implementation Project (CRIP)
PTC	Primary Teachers College
SAC	Subject Advisory Committee
SDU	Staff Development Unit
TE&SD	Teacher Education and Staff Development Division (of DoE)

Definition of terms

Curriculum	A broad term that encompasses all the learning and teaching processes in schools or other educational institutions. It includes the plan of the curriculum (ie curriculum statements, syllabus documents, teacher guides) as well as the plan in action in the classroom (eg teachers' classroom programs and weekly plans, teaching and learning activities).
Curriculum development	<p>The process of planning, designing and writing the curriculum. It can happen at the national level (eg the development of a new syllabus) or it can happen at the school level (eg the development of elementary class programs in the vernacular). Curriculum development is ongoing and requires regular monitoring for relevance and quality.</p> <p>The term 'curriculum development' is also used as a broader term to include the full cycle of planning and writing the curriculum through to its production, printing and distribution.</p>
Curriculum support materials	A generic term used to describe many types of publications and resources, which are developed to support the teaching of syllabuses. These include teacher guides and resources, student texts and other learning materials such as readers, and audiovisual products and materials.
Curriculum materials production	The production and supply of materials once developed. This includes publishing, printing, storage, supply and distribution. The process of curriculum production is often included under the broader term of 'curriculum development'.
Inservice training or inservice	Any structured activity which provides professional assistance to enhance the skills of teachers to teach the reform curriculum. It can take the form of attendance at workshops or courses, school-based or cluster-based learning, peer coaching and mentoring, or self-paced activities.
Reform curriculum	A term used to refer to the new curriculum being put in place to match the aims of the PNG education reform. This initially refers to the development of new curriculum statements, syllabuses and curriculum support materials at the national level, which include new subjects and new approaches to teaching and learning in line with the education reform. Once these new documents reach teachers, the reform curriculum refers to that which is taught in schools.
School community	All those people interested in and/or living near a school, including teachers, parents, students, Boards of Management, ward councillors, Local-level Governments, local churches, businesses, other local leaders and community groups.
Staff development	Activities which enhance the capability of non-teaching staff (ie those in administrative or management positions in national, provincial or district offices) to lead and/or support the curriculum reform process.
Syllabuses	Documents written for each subject at each level of schooling which prescribe the national ground rules for teaching the subject. They outline the rationale, aims, outcomes and main content areas of a subject.

1. Introduction

Background to the education reform

The Government of Papua New Guinea (GoPNG) through the Department of Education (DoE) is reforming the education system. The reform began in 1994 and has as one of its key objectives:

To develop an education system to meet the needs of Papua New Guinea and its people, which will provide appropriately for the return of children to the village community, for formal employment, or for continuation to further education and training. (*National Education Plan*, 1996, p 2)

The key features of the education reform are:

- a new and more relevant curriculum which emphasises skills development and the use and maintenance of the local languages of the community
- nine years of universal basic education implemented nationally by the year 2004
- the establishment of community-based elementary schools (Elementary Prep to E2) that use the community vernacular as the main language of instruction
- converting community schools into primary schools for grades 3-8 and a gradual bridging to English as the language of instruction in the primary school, while maintaining use of the students' vernacular
- the doubling of access to grades 9 and 10 and quadrupling of access to grades 11 and 12.

The purpose of the education reform is to provide a relevant basic education for all young Papua New Guineans and at the same time provide specialist further education and training for those able to use it. The result of the education reform has brought about both the restructuring of the system and reform of the curriculum.

The intention is to phase out the old system and bring in the new over the ten-year period from 1994 to 2004. Some provinces have been phasing in the new system since 1994, while others still have a long way to go.

Structural reforms under the education reform involve:

- the creation of a foundation level of schooling with the establishment of separate elementary schools with three grade levels (EP, E1, E2), building on existing self-help schools such as Tok Ples Skuls
- the removal of grades 1-2 from community schools and the addition of two 'top up' classes after grade 6 from the high schools to create grades 3-8 primary schools, thus providing for nine years of universal basic education
- the addition of grades 11-12 in provincial high schools to create grades 9-12 secondary schools.

Structural reform has progressed a long way. Already over one third of children start elementary school in their vernacular language, instead of English in grade 1. There are now more than 3,600 elementary schools registered and over 150,000 students enrolled in Elementary Prep to grade 2. Over 70% of grade 6 students stay to grade 7 in comparison to less than 40% in 1992. Lower secondary enrolments have doubled since

1992 and upper secondary numbers have increased fourfold. (Planning, Facilitation and Monitoring Division figures, 2001).

The education reform redirects the school curriculum towards education for integral human development rather than for meeting workforce needs only. The result of this is called the *reform curriculum*. The reform curriculum aims to ‘equip students with the knowledge, skills and attitudes for effective communication, resource development, social development and spiritual development’ (*Philosophy of Education*, 1986, p 21).

The reform curriculum has to prepare adequately the majority of school leavers (up to 85%) to return to their communities and community-based subsistence and small-scale commercial enterprises, while at the same time support the other 15% of students who will find paid formal employment or enter tertiary education upon leaving school.

Curriculum reform has commenced. Elementary reform curriculum materials began development in 1993. A full set of the elementary curriculum materials was distributed to all elementary teachers in 2001. The first edition of lower primary (grades 3-5) curriculum materials began development in 1995. Finalised edition 1 syllabuses and some support materials were distributed in 2000 by AusAID as a pre-CRIP activity. Upper primary reform syllabuses commenced development in 2000 and were trialed in Milne Bay and New Ireland provinces in 2001.

Over the last few years, structural reforms have outpaced the development and release of reform curriculum documents and the provision of related teacher inservice. This has resulted in a situation where reform primary schools and classes have been formed, but many teachers have not been trained and some curriculum materials are not available.

Purpose of the Curriculum Management Plan

The *Curriculum Management Plan 2001-2005* for DoE has been developed to support the implementation of the education reform, and in particular, curriculum reform over the next five years. This Plan has been developed in conjunction with the DoE *Inservice Management Plan 2001-2005*. This will enable inservice strategies to be implemented to coincide with the release of reform curriculum documents under the Curriculum Management Plan.

The purpose of the Curriculum Management Plan is to establish and describe policies and procedures for increasing the efficiency and effectiveness of curriculum development within CDD. This will ensure that curriculum reform keeps pace with the structural reforms.

Specifically the Plan will:

- identify an improved and sustainable model for curriculum development
- specify the roles and responsibilities of CDD staff and other stakeholders, including curriculum committees, in the curriculum development process
- outline an integrated five-year timetable for the development of all syllabus documents and associated curriculum support materials for the basic education reform curriculum.

Two support documents have been written to accompany the Curriculum Management Plan and assist CDD to implement the Plan.

The *Curriculum Development Handbook* describes the policy framework within which curriculum development operates in CDD. It details clear procedures, responsibilities, timelines and outcomes for each stage of the curriculum development cycle.

The *Curriculum Writers' Handbook* standardises the writing of syllabuses and other curriculum documents in CDD. It provides curriculum officers with guidelines, templates and checklists to assist them to develop quality curriculum documents in a professional and timely manner.

Development and distribution of the Plan

The Curriculum Management Plan and support documents have been developed by CDD staff with support from members of the CRIP team. The Plan was developed:

- following a series of eight one-day workshops with CDD staff to discuss and review key aspects of the Plan such as the curriculum development cycle, the curriculum framework and gender inclusive guidelines
- utilising small writing teams to follow-up each workshop and draft key sections of the Plan for distribution and consultation within CDD
- through regular staff meetings in CDD to provide progress reports and resolve key issues.

Once the Plan was drafted it was distributed for consultation to all CDD staff and other key stakeholders including members of the Boards of Studies (BOS) and Subject Advisory Committees (SAC), senior staff in DoE, inspectors, provincial offices, Primary Teachers Colleges (PTC), AusAID and other AusAID education projects.

The Plan is primarily for use by CDD to guide its core business. Copies will be provided to every officer of CDD involved in the various stages of the curriculum development cycle.

The Plan will also be an important reference point for senior staff of DoE, provinces and PTCs, as well as for other interested stakeholders and donor aid projects. A copy of the Plan will be provided to all these stakeholders as well as to each school, with copies of the handbooks available on request.

2. The context of curriculum reform in PNG

The policy context

The Curriculum Management Plan operates within the policy context of the PNG education reform that emphasises integral human development. The Plan is consistent with and supports the key Government policies related to the education reform, the principal ones being:

- *A Philosophy of Education for Papua New Guinea* - The Matane Report (1986)
- *The Education Sector Review* (1991)
- *The Education Sector Resources Study* (1995)
- *The Education Act, 1983, as amended in 1995*
- *Organic Law on Provincial Governments and Local-level Governments* (1995)
- *National Education Plan 1995-2004* (1996)
- Provincial Education Plans (1995 -)
- *National Education Plan 1995-2004: Update 1* (1999)
- *National Literacy Policy* (1999)
- *Language Policy in all Schools* (2000)
- *National Education Skills Plan* (2000)
- *Education for All: Assessment 2000-Papua New Guinea Country Report* (2000)
- *The State of Education in Papua New Guinea* (2001).

In particular, the Curriculum Management Plan recognises the crucial role that the school curriculum must play in supporting the aims of the education reform. All key reports and plans, from the Matane Report in 1986 through to the *National Education Skills Plan* in 2000, argue for a school curriculum that is based on the knowledge, skills and attitudes relevant to the future lives of the majority of children in Papua New Guinea.

Responsibility for curriculum development

The Plan takes account of and makes explicit the responsibilities of key stakeholders with a role in curriculum development.

At the national level

Section 27 of *The Education Act, 1983, as amended in 1995*, defines responsibility for the curriculum. This Act states that the Minister, after considering the advice given by Boards of Studies appointed for the purpose and after consultation with affected provincial governments, will determine the curriculum in all schools within the National Education System. This includes:

- curriculum content
- curriculum standards and examinations
- minimum age of entry

-
- number of hours of instruction on the curriculum
 - number of days teaching each year
 - maximum pupil-teacher ratio
 - the language of instruction.

However, a provincial government has the power to determine for any subject of the school curriculum not declared to be nationally prescribed the:

- curriculum content
- curriculum standards and examination
- number of hours of instruction
- the language of instruction.

Curriculum Development Division

The Curriculum Development Division (CDD) is the division within the DoE that has the delegated responsibility for all school curriculum matters from Elementary Prep to grade 12 and reports to the Minister of Education through the Secretary for Education.

CDD is responsible for the:

- development of all nationally prescribed school curriculum and curriculum support resources, including audiovisual material, through its Curriculum Unit
- production and distribution of all school curriculum materials nationwide through its Materials Unit
- development and conduct of assessments, national examinations and certification procedures through its Measurement Services Unit.

CDD provides operational support for two types of national committees involved in curriculum development - the Boards of Studies (BOS) and Subject Advisory Committees (SAC).

Boards of Studies

Three Boards of Studies (Elementary, Primary and Secondary) are appointed by the Minister to advise about the curriculum. The Boards of Studies (BOS) review the school curriculum developed by CDD and recommend it to the Secretary for Education for approval. Any locally developed curriculum for nationally prescribed secondary subjects must also be approved in this way.

Subject Advisory Committees

Subject Advisory Committees (SAC) are established to advise on curriculum matters affecting a subject area. They consist of subject experts from different organisations and bodies concerned with the education of children. The SAC makes policy recommendations to the Boards of Studies.

Teacher education staff

Other divisions in DoE play a key role in supporting CDD with curriculum development, in particular, the Teacher Education and Staff Development (TE&SD) Division and the Inspections and Guidance Division (I&GD). TE&SD, including the

Primary Teachers Colleges (PTCs) and PNG Education Institute (PNGEI) are involved in curriculum development through their representation on respective BOS and SAC.

TE&SD also play a critical role in coordinating the development and delivery of teacher inservice on a new syllabus, once it is produced by CDD. This work is coordinated and monitored by an Implementation Support Team comprised of CDD and TE&SD officers. Implementation Support Teams are established during the development stage of a new syllabus to oversee the development of implementation support, including inservice, for the curriculum.

Inspectors

Inspections and Guidance Division (I&GD) is represented on BOS, SAC and Implementation Support Teams. Senior inspectors and district inspectors have a key role in curriculum development, monitoring and teacher inservice. Inspectors:

- help develop the curriculum materials
- promote the new curriculum materials in schools and communities
- support teachers in using the curriculum
- help run teacher inservice
- help monitor the implementation of the curriculum.

Teachers

Teachers are involved in curriculum development at the national level in a number of ways. Experienced teachers and head teachers are represented on the SAC. They also help write the syllabus and teacher materials through their involvement in writing workshops.

Selected teachers, representative of the different regions in PNG, are used to trial draft syllabuses and curriculum support materials in their schools. Teachers may also be involved in regional, provincial or local focus groups and workshops to consult on directions for a new curriculum or provide feedback on draft materials.

At the local level

The elementary curriculum is school-based using nationally developed curriculum frameworks and drawing on local cultures, including cultural events and customs. The language of the community (eg vernacular, or a lingua franca such as Tok Pisin, Motu or English) is the language of instruction. Curriculum materials are developed nationally by CDD to support elementary teachers to design locally relevant stories in their language of choice.

While the primary curriculum is nationally prescribed in a range of lower and upper primary syllabuses, teachers are encouraged to make use of their local community as much as possible. Local events and customs are incorporated into the learning experiences of all subjects and students are encouraged to explore their local community through subjects such as environmental studies, science and making a living.

At the secondary level, schools have been encouraged to develop some courses (eg computer courses and technology courses) to meet their local student needs. These

courses must be submitted for approval by the CDD to the relevant SAC and the Secondary BOS before they can legally be taught in schools.

Aid projects

CRIP

One of the main components of CRIP is the development and distribution of basic education curriculum materials to support the implementation of curriculum reform in PNG. The CRIP team will work closely with CDD in the development, implementation and evaluation of the Curriculum Management Plan.

CRIP will also facilitate and encourage alignment between the curriculum development and distribution process, and the provision of teacher inservice.

CRIP resources and funding are available to support the implementation of the Plan. They will usually be provided on a partnership basis with DoE and specifically CDD.

Other AusAID projects and other aid agencies

The Plan takes into account the work of other projects funded by AusAID, in particular, PASTEP, ETESP and BEICMP. This Plan has been developed in consultation with the team leaders of these projects to ensure a coordinated and complementary approach to support for the curriculum reform.

ETESP will be closely involved in the review and redevelopment of the elementary curriculum. Close links will be made with PASTEP to ensure the alignment of teacher preservice curriculum with the primary reform curriculum. The distribution trial under BEICMP will be used to inform the future distribution of curriculum materials in this Plan.

Other projects funded by a range of donor agencies will provide support for some elements of the Plan. Currently, the United Nations Population Fund's (UNFPA) Population Education Project supports the development of the curriculum for personal development, environmental studies, science and making a living. The World Bank funds the production of teacher and student textbooks. The New Zealand School Journals Project supports the development of school journals.

It will be important to continue to consult and liaise with other donor agencies including the World Bank and those from Japan and New Zealand. They are potential partners in the development and distribution of materials to support the curriculum reform.

Status of the curriculum reform

Subjects in the reform curriculum

Development of the elementary reform curriculum materials commenced in 1993. A full set of the elementary curriculum materials was distributed to elementary teachers in 2001 through the ETESP. The first edition of lower primary (grades 3-5) curriculum materials began development in 1995. Finalised edition 1 syllabuses and support materials were distributed in 2000 by AusAID as a pre-CRIP activity. Upper primary

reform syllabuses commenced development in 1999 and were trialed in Milne Bay Province and New Ireland Province in 2001.

Structural reform has tended to outpace curriculum reform. This has resulted in a situation where reform primary schools and classes have been formed, but many teachers have not been trained and some curriculum materials are not available.

Table 1 identifies the learning areas and nationally prescribed subjects to be studied in each learning area under the reform curriculum for basic education. By the end of 2001 a review of the secondary curriculum will be completed and subjects for the reform secondary curriculum will be identified.

Table 1: Learning areas and subjects in the reform curriculum

Learning area	Elementary	Lower primary (Grades 3-5)	Upper primary (Grades 6-8)
Mathematics	Mathematics	Mathematics	Mathematics
Language	Language (Vernacular)	Language (Bridging to English with vernacular development)	Language (English as language of instruction with continued use of vernacular)
Science	Culture and community	Environmental studies	Science
Culture and community		Community living Arts	Making a living Social science Arts
Personal development		Health education Physical education	Personal development

Assessment and examinations

National examinations are set by the Measurement Services Unit (MSU) in CDD for selection purposes, to monitor standards and to award certificates. The national examinations for general education are:

- the grade 8 examination, the Certificate of Basic Education, that is sat by grade 8 students in both primary and high schools. This examination is used for selection to grade 9
- the grade 10 examination, the School Certificate
- the grade 12 examination, the Higher School Certificate.

Up until 2000 MSU also administered a grade 6 examination, the Primary Education Certificate Examination, which was used for selection to grade 7. From 2001 MSU will produce only a camera-ready-copy of the grade 6 examination for provinces that still need it for selection purposes.

In addition to national examinations, teachers use a variety of methods to assess student achievement such as projects, assignments, practical work, observation, portfolios and classroom tests.

The curriculum reform challenges the current examinations system and calls for greater support for teachers using school-based assessment strategies. While it is envisaged that national examinations for grades 8,10 and 12 will continue, their content will need to change to reflect syllabus changes. Assessment methods will need to address a more skills-based practical curriculum, and teachers will need support with assessing student achievement against syllabus outcomes.

Future development needs

Elementary curriculum

The elementary curriculum is school-based using nationally developed curriculum frameworks and drawing on local cultures for the main content of school programs. Vernacular is the language of instruction.

Curriculum materials are developed nationally by CDD to support elementary teachers to design locally relevant stories in their language of choice. The elementary curriculum statement and scope and sequence were developed in 1995. The elementary curriculum statement, scope and sequence, and a range of teacher resource guides and student readers were printed and distributed by AusAID in 2001.

Future development needs for elementary include:

- to review and evaluate the current scope and sequence
- to develop new elementary syllabuses for the three subjects to replace the scope and sequence. This will provide teachers with more guidance about expected student outcomes for elementary schooling. The syllabuses will be developed using the common and improved format for syllabus development (described in the *Curriculum Writers' Handbook*)
- to develop new teacher support materials to match the new syllabuses, especially in mathematics, an area where teachers are struggling.

Lower primary curriculum

The reform curriculum for grades 3-5 comprises seven subjects. Syllabuses (edition 1) have been developed for all seven subjects and, along with 68 DoE published teacher and student support materials, were printed and distributed by AusAID to schools in 2000.

Development of the lower primary syllabuses began in 1995. They have been distributed variously to schools in different provinces as they were trialed over the years.

Future development needs for lower primary include:

- to review and evaluate the edition 1 syllabuses in those schools and provinces which have used them for up to five years
- to develop new syllabuses based on the review, using the common and improved format for syllabus development (described in the *Curriculum Writers' Handbook*)
- to develop new teacher and student support materials to match the new syllabuses

-
- to develop teacher and student materials and support mechanisms, which will assist teachers to maintain teaching and learning in children's vernacular.

Upper primary curriculum

The reform curriculum for grades 6-8 comprises seven subjects. Syllabuses for these seven subjects are currently in various stages of development. Draft syllabuses for most subjects have been trialed in Milne Bay Province in 2000 and New Ireland Province in 2001 with teachers currently teaching students who have advanced through the reform curriculum from elementary.

Priority development needs for upper primary include:

- to complete the development and production of the upper primary syllabuses, using the common and improved format for syllabus development (described in the *Curriculum Writers' Handbook*)
- to develop teacher guides and student support materials to match the new syllabuses.

National curriculum statement for PNG

In developing this Plan it was decided to merge the existing curriculum statements and frameworks for elementary, primary and secondary into one *National Curriculum Statement for Papua New Guinea*. This new curriculum statement will describe how the reform curriculum addresses key national policies, initiatives and goals for the education reform.

The completion of the national curriculum statement is a priority because it establishes a common foundation for the development of all new elementary, primary and secondary syllabuses. It is planned to complete the development of the statement in 2002, drawing on existing statements and the review of the secondary curriculum.

The *National Curriculum Statement for Papua New Guinea* will show clearly how the reform curriculum will address the objectives of the key reports and plans of the education reform such as:

- *A Philosophy of Education for Papua New Guinea* - The Matane Report (1986)
- *National Education Plan 1995-2004* (1996)
- *National Education Plan 1995-2004: Update1* (1999)
- *Language Policy in all Schools* (2000)
- *National Education Skills Plan* (2000).

Assessment and examinations

Changes to the curriculum necessitate changes to student assessment and examination systems. An outcomes-based curriculum means changes to how teachers assess students in their classrooms. New subjects and new syllabuses mean that current national examinations need to be reviewed and revised where necessary.

Future development needs for assessment and examinations include:

- to develop a national assessment and examination policy and review the current examinations system to ensure its match with the reform curriculum

-
- to develop assessment advice for teachers and provide them with strategies for student assessment in syllabuses, teacher guides and other support materials
 - to provide teachers with information and ideas for program evaluation and reporting on student achievement through curriculum materials.

3. Curriculum reform priorities

Key target groups

The key groups to be targeted under this Curriculum Management Plan are:

- all officers of CDD because they are responsible for curriculum design, development, production and distribution
- other DoE staff such as inspectors and key stakeholders involved in curriculum development because of their involvement in curriculum committees such as BOS, SAC and writing groups
- teachers from elementary to grade 8 in schools because of their involvement in writing and trialing curriculum materials. In the end they are the most important target group because it is teachers who have to implement the reform curriculum.

Other groups of people such as inspectors, provincial education officers and teacher education staff, whose role it is to support the process of curriculum reform, are targeted for staff development in the *Inservice Management Plan 2001 - 2005*.

Processes for identifying curriculum reform priorities

Curriculum reform priorities have been identified with reference to the:

- objectives of the PNG education reform
- progress of the structural reforms under the education reform
- current status of curriculum development and the demands the progress of the structural reform places on future development needs
- needs of teachers and students for curriculum support
- capacity of CDD to undertake curriculum development.

Curriculum reform priorities 2001-2005

Taking these factors into account, the priorities for curriculum reform for 2001-2005 are:

1. Improved procedures for curriculum development in CDD and capacity building of CDD officers

The support documents to this Plan detail procedures and systems designed to improve the efficiency of curriculum development processes in CDD and the quality of the documents CDD produces as a result of these processes. CRIP will support CDD staff to implement this Plan with a range of training and staff development opportunities.

2. The development of a clear direction for curriculum reform

The *Curriculum Writers' Handbook* details the format for a *National Curriculum Statement for Papua New Guinea*. The aim of this new document is to draw together all the current curriculum statements on elementary, primary and secondary into one common and agreed curriculum framework. The new statement will identify all reform

curriculum subjects from elementary to upper secondary and lay the foundation for the development of syllabuses in these subjects.

3. The development of improved curriculum materials

Based on progress to date described earlier in chapter 2, the priorities for the development of curriculum materials are:

- the development of new elementary syllabuses and curriculum support materials
- the completion of the upper primary syllabuses and curriculum support materials
- the development of improved lower primary syllabuses and curriculum support materials.

The *Curriculum Development Handbook* details clear procedures, responsibilities, timelines and outcomes for each stage of the curriculum development cycle. The *Curriculum Writers' Handbook* describes a common and agreed format for the production of all syllabus documents, teacher guides and implementation support packages to ensure consistency and improve ease of use for teachers.

Table 2 on the next page details the timeline for the development and distribution of reform curriculum materials over the next five years. Critical points in the timeline are:

- the release of the new elementary syllabuses (to replace the scope and sequence) and curriculum support materials by April 2003
- the release of the new upper primary syllabuses and curriculum support materials by April 2003
- the release of the improved and revised (edition 2) lower primary syllabuses and curriculum support materials by April 2004.

4. The development of improved assessment and examination procedures

New subjects and new syllabuses mean that current assessment and examination practices need to be reviewed and revised where necessary.

Priorities for improving these areas are:

- the development of a national assessment and examination policy by December 2001
- the incorporation of assessment information and strategies for student assessment in all new syllabuses and teacher guides
- the incorporation of information and ideas for program evaluation and reporting on student achievement in new teacher guides
- a review of the current examinations system to ensure its match with the reform curriculum.

In addition, ways to administer a national curriculum standards test that will measure and monitor the achievement of student outcomes at key stages of basic education will be investigated in 2001. It is planned to administer the first test in 2003.

5. The coordination of curriculum distribution with the provision of teacher inservice

Strategies and priorities for the development and delivery of teacher inservice activities are described in the *Inservice Management Plan 2001-2005*. The priorities for inservice

and the timing of inservice delivery will be guided by the timeline for curriculum development and distribution in this Plan.

Table 2 also shows how the timing of teacher inservice is planned to match the release of the new curriculum materials.

Table 2: Timeline for reform curriculum materials development and teacher inservice

	Elementary	Grades 3-5	Grades 6-8
2000	Scope and sequence and curriculum support materials distributed	Edition 1 syllabuses and some teacher support materials distributed	Some draft syllabuses on trial in Milne Bay
2001	Scope and sequence reviewed and evaluated. Development of new syllabuses commenced.	Review of edition 1 syllabuses commenced. Catch-up inservice for grades 3-5 teachers on edition 1 curriculum completed.	Trialing continues in Milne Bay and in New Ireland. Development of syllabuses completed.
2002	<i>National Curriculum Statement for Papua New Guinea</i> developed and distributed.		
2002	New syllabuses and curriculum support materials produced.	Edition 1 syllabuses evaluated and teacher needs for support identified. Rewrite of edition 2 syllabuses commenced. Inservicing on edition 1 curriculum continues.	Curriculum support materials for the new syllabuses developed. Preliminary inservice support for teachers with grades 6-8 students.
2003	New set of elementary curriculum materials distributed. Inservicing on new curriculum materials begins.	Development (including trialing) of edition 2 syllabuses completed and new support materials produced. Inservicing on edition 1 curriculum continues.	Set of syllabuses and curriculum materials distributed. Inservicing on new curriculum begins.
2004	Any additional teacher and student materials produced and distributed. Inservicing on new curriculum materials continues.	Set of edition 2 curriculum materials distributed. Inservicing on edition 2 curriculum begins.	Any additional teacher and student materials produced and distributed. Inservicing on curriculum continues.
2005	Inservicing on new curriculum materials continues.	Inservicing on edition 2 curriculum continues.	Inservicing on curriculum continues. Establish evaluation process for review of the syllabuses and teacher needs for support.

Key principles of curriculum development

The principles shown in Table 3 below underpin the selection of strategies to be used as curriculum development proceeds through the six stages of the cycle. These same principles, with different descriptions, underpin the strategies outlined in the *Inservice Management Plan 2001-2005*.

Table 3: Principles for effective curriculum development

Principle	Description
Accredited	The curriculum is approved for all schools and accredited certificates are awarded to those students who satisfactorily complete requirements and reach an approved standard.
Clear roles	Responsibilities under each stage of the curriculum development cycle are clearly defined and allocated to the right person or persons.
Flexible	Staff can access the elements of the curriculum that they need, when they need to and in the sequence they desire to match the needs of their students and their local cultural contexts.
Grounded	The curriculum is school-focused and relevant to the current and future needs of PNG.
Inclusive	The curriculum is available and accessible to all teachers and students regardless of gender, ability, culture, language or location.
Locally-based	The curriculum allows teachers to interpret it to suit local needs and encourages them to draw on local cultural examples and languages for learning activities.
Needs-based	The curriculum is planned and provided on the basis of a sound analysis of the needs of students and PNG's future plans for development.
Supported	Curriculum development is supported with adequate funds and resources, and teachers are supported to implement the curriculum by quality support materials and inservice activities.
Sustainable	Strengthened capacity for curriculum development at the national level helps to build local capacity to develop, deliver and evaluate programs and strategies.
Team-based	Curriculum development at the national level involves teachers and other education stakeholders, and relies on teachers working together at the local level.
Timely	The curriculum is provided on time and in the right amounts to meet the demands of teachers and schools under the education reform.

Applying the principles to curriculum reform

Table 4 on the following pages shows how these principles can be used to guide action at the key stages of the curriculum development cycle. For the purposes of this table, the development stage includes the stages of production, printing and distribution.

The support documents, the *Curriculum Development Handbook* and *Curriculum Writers' Handbook*, provide specific strategies and guidelines to assist CDD staff to apply these principles.

Table 4: Application of the principles to the curriculum development cycle

Principle	Planning	Development	Implementation	Evaluation
Accredited	Accreditation requirements are considered in the planning stage. Those involved in approving curriculum have a say in the planning stage.	Individual activities or courses can build together to form an accredited program. Materials are submitted by SAC, recommended by BOS and approved by the Secretary.	Accreditation tasks are included and can be undertaken as desired. Marking procedures are clear, known and efficient.	Evaluation assesses the extent to which the curriculum meets the needs of students, teachers and the goals of the education reform.
Clear roles	Officers involved in planning are clear about the tasks they have to complete.	Materials and activities specify what roles need to be done.	Roles and tasks are negotiated and agreed.	Evaluation assesses the extent to which activities are efficiently conducted.
Flexible	The curriculum is designed so it can guarantee common standards across PNG as well as be adapted easily by teachers to meet local needs.	Curriculum materials are written to enable teachers and students to access activities in more than one way.	Activities are implemented in different ways to accord with the needs of different student groups and local cultural contexts.	Evaluation assesses the extent to which the curriculum allowed for flexibility at the school level.
Grounded	Needs analysis includes a review of any evaluation reports and key PNG documents to identify current policy directions and future PNG needs.	Curriculum materials reflect PNG context and support local curriculum development.	Activities can be developed drawing on the local cultural events and context. Community members are involved in school programs.	Evaluation assesses the extent to which the curriculum reflected PNG needs and encouraged local curriculum development.
Inclusive	Planning takes account of the issues males and females face and includes strategies for overcoming any constraints to their involvement in curriculum development.	Writing teams should aim to comprise 50% females and 50% males. Materials contain inclusive images, grammar and text.	Materials and activities are implemented so that teachers and students are not excluded on the basis of gender, ability, culture, language or isolation	Evaluation assesses the extent to which women have had fair access to developing the curriculum and the curriculum outcomes for girls.
Locally-based	The curriculum is designed to be flexible and based on an analysis of local and PNG contexts.	Curriculum materials and activities are developed using local expertise and with community involvement.	Curriculum materials encourage and support local curriculum development by school or cluster groups.	Evaluation assesses the extent to which school programs involve their local communities.

Needs-based	Specifications for curriculum materials are based on sound needs analysis.	The curriculum supports needs-based local program design. Support materials help teachers to assess student needs and choose where to start.	Local class programs are based on the needs of the local community.	Evaluation assesses the extent to which the curriculum is needs-based.
Supported	Work plans identify the range of curriculum materials that need to be developed to support the syllabus.	Quality curriculum support materials are developed. Adequate resources are allocated to complete their development.	Curriculum materials assist teachers to understand the new curriculum and to implement it in their classrooms.	Evaluation assesses the extent to which implementation and learning has been enhanced by the quality of the support materials.
Sustainable	The work plan for a new curriculum document is based on the processes in the <i>Curriculum Development Handbook</i> .	Curriculum officers follow the guidelines and processes outlined in this Plan. Teachers are involved in writing so they can support the new curriculum at the local level.	Activities skill staff to increasingly take responsibility for their own and others' development.	Evaluation assesses the effectiveness of the Plan and the extent to which staff development is part of daily practice.
Team-based	Curriculum officers value what teachers and other experts know.	Teachers and key stakeholders with a knowledge and expertise are involved in writing the materials.	The curriculum and the activities in the implementation support package enable and encourage teachers to learn from, and work with, other teachers and their local communities.	Evaluation involves teachers and key stakeholders and assesses the extent to which materials encouraged collegiality.
Timely	The curriculum is planned to be developed and released when it is most needed.	Materials are developed to be available in line with the five-year Plan.	Staff access the activities and materials as they need to develop particular skills.	Evaluation assesses the extent to which the curriculum met teachers' needs.

5. Resourcing the Plan

Funding sources

DoE through CDD is responsible for developing and supplying free copies of all core curriculum materials as an initial issue to all schools when first printed and to new schools as they are established.

The development and distribution of quality curriculum materials to support the reform curriculum requires the provision of sufficient DoE recurrent funds for this purpose. The ongoing nature of curriculum development means that DoE will need to maintain a level of funding each year to CDD to ensure it can meet the continuous demands of curriculum review and development.

Over the next five years, the DoE will be supported in this endeavour by AusAID funds provided by CRIP.

A key objective of CRIP is to build sustainable curriculum development processes and systems. For this reason DoE must take primary responsibility for resourcing the curriculum development activities in this Plan.

CRIP will contribute resources to support the implementation of the Plan. All AusAID funding is to be used in accordance with CRIP's objectives and priorities. Funding for CRIP activities must be approved by the Project's Activity Approval Group (AAG), which comprises representatives from DoE and AusAID. An important consideration in the provision of AusAID funds for CRIP activities is the extent to which DoE funds are committed to each activity.

Guidelines for resource allocation

The following guidelines will be used to allocate resources to implementing the Plan:

- Priority for the allocation of funds will be given to the development of the core teacher curriculum materials - ie syllabuses, teacher guides and implementation support packages, in that order.
- Decisions to develop and/or procure student texts and other teacher support materials and resources will be made after funds are committed to these core materials and after consideration of available funds and funding sources.
- All DoE counterpart funding for CRIP will be fully allocated before AusAID Project funds are committed to curriculum activities.
- CDD will develop quarterly budget projections for DoE funds and, the CRIP Team Leader (ATL) and the Assistant Secretary, CDD (AS CDD) together, will review progress against these projections each quarter.
- The Plan will be reviewed annually and projected budgets revised and updated at this time.

Estimated costs

Table 5 provides an overview of the estimated costs needed to undertake the curriculum development activities detailed in chapter 7 of this Plan.

The cost estimates represent the **minimum** amounts required to undertake the tasks in the Curriculum Management Plan. It is not possible to provide exact costings for all curriculum development activities years in advance. Reasons for this are:

- the exact and full nature of all curriculum materials development is not yet identified. Teacher and student needs for support will emerge as new syllabuses are developed and trailed. Costs for these materials are not included in the estimates
- proposed activities for support by CRIP funds may not be approved by the AAG
- while an inflation factor has been accounted for in the estimates, the cost of development, printing and distribution may vary greatly in years to come.

Table 5 should be used by DoE and CRIP as a guide for planning annual budget allocations.

Depending on CDD's recurrent budget each year and available funds from AusAID, the number and/or nature of the activities may need to be scaled back or revised. After CDD's recurrent budget is known each year, activities will be prioritised and decisions made as to the best use of CRIP funds in support of these priorities.

Table 5: Estimated costs for the implementation of the Curriculum Management Plan

	DoE funded	CRIP (AusAID) funded	Total costs
2001	K 350,000	K 1,100,000	K 1,450,000
2002	K 1,400,000	K 1,800,000	K 3,200,000 *
2003	K 3,500,000	K 5,500,000	K 9,000,000 *
2004	K 1,700,000	K 1,700,000	K 3,400,000 *
2005	K 300,000	K 400,000	K 700,000 *

* Costs do not include:

- additional teacher and student materials, including media resources, for elementary, lower primary and upper primary which will be identified during the development stage of the new syllabuses
- costs of secondary curriculum development
- costs of improving graphics production, as findings of review not yet known
- costs of conducting the curriculum standards monitoring test, as findings of feasibility study not yet known.

6. Monitoring and evaluating the Plan

Monitoring the Plan

Monitoring processes are designed to determine whether what was planned was actually done. In general, this information will be available from records compiled for other purposes and should not require the collection of separate data. CDD work plans from units and individual officers, Board of Studies' minutes, production track sheets, printing requisitions, course attendance lists, financial acquittals and despatch reports will be primary data sources for monitoring the implementation of the Curriculum Management Plan.

In February each year the Plan will be reviewed and updated as necessary. The support documents, the *Curriculum Development Handbook* and the *Curriculum Writers Handbook*, are meant to be daily reference documents for CDD staff. As such, sections will be added to, amended and updated in an ongoing capacity as necessary.

Evaluating the Plan

Evaluation strategies seek to determine the effectiveness of curriculum development activities and strategies. Evaluation will focus on outputs and outcomes.

Evaluation is an important stage in the ongoing cycle of curriculum development. Four to five years after a new syllabus has been implemented in schools it will be evaluated to determine whether it still meets the needs of students and teachers. The *Curriculum Development Handbook* details the specific tasks of this stage.

In addition, under CRIP special impact studies will be undertaken to assess the impact the reform curriculum has had on student learning, curriculum standards and teacher development, as well as the impact of the Project to assist the reform.

Impact Study 1 will evaluate the extent to which the curriculum reform has improved student learning outcomes and changed teacher practice. It will be undertaken over the five years of the Project.

Topics for smaller and more contained short-term studies include:

- Impact Study 2 – An evaluation of the effectiveness of catch-up inservice for teachers of grades 3-5
- Impact Study 3 – An evaluation of local curriculum and inservice initiatives
- Impact Study 4 – An evaluation of CDD's implementation of the DoE Curriculum Management Plan
- Impact Study 5 – Review of the distribution of edition 2 lower primary curriculum materials
- Impact Study 6 – An evaluation of the implementation of the upper primary curriculum.

Each of these impact studies will provide evaluative data on the implementation of various aspects of the Curriculum Management Plan. Impact Study 4 is designed to

focus specifically on evaluating the quality of the Plan, its implementation by CDD and its outcomes.

Using lessons learned

Improvements in any program for future planning will evolve from lessons learned. Being aware and making use of lessons learned from past successes and drawbacks in curriculum development activities will be critical for the long-term success of the Plan and curriculum reform.

Lessons learned will be built into the annual review process for the Plan.

7. Curriculum production plan (2001 - 2005)

Elements of the production plan

This chapter details the core curriculum materials CDD will produce and distribute to schools in support of the curriculum reform of basic education from 2001 to 2005.

Decisions about what materials to include in this Plan have been made after considering the information in the previous chapters on curriculum priorities, principles and processes for curriculum development and resources.

This Plan provides a clear picture of the core curriculum production activities and their timeframes for completion over the next five years.

However, it is not possible to identify all curriculum development activities years in advance. The production plan will change as decisions are made after current materials are reviewed and the level of available funds is determined.

The Plan gives priority to the production of syllabuses, teacher guides and implementation support packages. This set of materials is judged to be the core minimum set of resources teachers will need to teach a subject. As syllabuses and teacher guides are developed and trialed with teachers, new needs will emerge for other teacher and student support materials. As these other support materials are identified, they will be included in each annual update of the Plan, pending the availability of funds.

The Plan also sets timelines for the completion of documents to match up with the key stages of the curriculum development cycle, as identified in the *Curriculum Development Handbook*. While in some instances special circumstances may prevent the completion of a stage on time, every effort should be made to ensure that, wherever possible, materials are developed in line with this Plan.

Table 6 on the next page provides a five-year overview of curriculum development for basic education. Specific details of curriculum production for each level of schooling and each year in the Plan are provided in the following appendices.

- Appendix 1 provides a year by year breakdown of all curriculum development activities from 2001 to 2005.
- Appendix 2 outlines the production plan for elementary curriculum materials (2001-2005).
- Appendix 3 outlines the production plan for lower primary curriculum materials (2001-2005).
- Appendix 4 outlines the production plan for upper primary curriculum materials (2001-2005).

CDD and CRIP will work together to develop work plans for the specific activities identified in the Plan. The work plans will identify the tasks, roles of different individuals and groups, timelines and resources to be provided.

Five-year overview of curriculum development for basic education

Table 6 provides an overview of when the elementary, lower primary and upper primary reform curriculum materials will proceed through each stage of the curriculum development cycle. Appendix 1 details the key activities that will occur each year.

Table 6: A five-year overview of curriculum development for basic education

Elementary

Stage of cycle	Type of material	2001	2002	2003	2004	2005
Planning	Syllabus & teacher guides					
	Other support material					
Development	Syllabus & teacher guides					
	Other support material					
Printing	Syllabus & teacher guides					
	Other support material					
Distribution	Syllabus & teacher guides					
	Other support material					

Lower primary (edition 2)

Stage of cycle	Type of material	2001	2002	2003	2004	2005
Planning	Syllabus & teacher guides					
	Other support material					
Development	Syllabus & teacher guides					
	Other support material					
Printing	Syllabus & teacher guides					
	Other support material					
Distribution	Syllabus & teacher guides					
	Other support material					

Upper primary

Stage of cycle	Type of material	2001	2002	2003	2004	2005
Planning	Syllabus & teacher guides					
	Other support material					
Development	Syllabus & teacher guides					
	Other support material					
Printing	Syllabus & teacher guides					
	Other support material					
Distribution	Syllabus & teacher guides					
	Other support material					

Appendix 1

Five-year curriculum management plan

Appendix 2

Elementary curriculum production plan 2001 - 2005

Appendix 3

Lower primary curriculum production plan 2001 - 2005

Appendix 4

Upper primary curriculum production plan 2001 - 2005