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**CURRICULUM AND LEARNING IN PAPUA NEW GUINEA SCHOOLS**

**A Study on the Curriculum Reform Implementation Project  
2000 to 2006**

**September 2010**



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The National Research Institute**

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**CURRICULUM AND LEARNING IN PNG SCHOOLS  
A Study on the Curriculum Reform Implementation Project 2000 to 2006**

**by**

**James Olio Agigo**

**NRI  
The National Research Institute**

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## CONTENTS

<b>LIST OF FIGURES AND TABLES</b>	<b>iv</b>
<b>ACRONYMS</b>	<b>vi</b>
<b>ACKNOWLEDGEMENTS</b>	<b>vii</b>
<b>EXECUTIVE SUMMARY</b>	<b>ix</b>
Introduction	ix
Background	ix
Aims of this Study	ix
Methodology and Approach	ix
Selected Major Findings	x
<b>RECOMMENDATIONS</b>	<b>xiii</b>
<b>CHAPTER 1: INTRODUCTION</b>	<b>1</b>
1.1 Background	1
1.2 Curriculum Reform Implementation Project	2
1.3 The National Curriculum Reform	2
1.4 The National Curriculum Goals	3
1.5 Outcome-Based Education	3
1.6 Curriculum and Learning Study	4
1.7 The Aims of the Study	5
1.8 Research Questions	6
<b>CHAPTER 2: RESEARCH METHODOLOGY AND APPROACH</b>	<b>7</b>
2.1 Participants and Sampling	7
2.2 Data Collection	8
2.3 Validity and Reliability of Data	8
2.4 Data Analysis	9
<b>CHAPTER 3: FINDINGS</b>	<b>10</b>
3.1 Respondents' Biography	10
3.2 Types of Curriculum Development Training Conducted at the National and Provincial Levels	11
3.3 Target Groups for Curriculum Development Training	21
3.4 The Impact of Curriculum Development Training on the Curriculum Officers	26
3.5 The Impact of Curriculum Development Training on the Teachers	29
3.6 The Impact of Curriculum Development Training on the Assessors/Trainers	35
3.7 Sustainability of Curriculum Reform Development Training Knowledge and Skills	38
<b>CHAPTER 4: DISCUSSION &amp; CONCLUSIONS</b>	<b>41</b>
4.1 Types of Curriculum Development Training Offered at the National and Sub-national Levels	41
4.2 Groups Targeted in Curriculum Development Training	43
4.3 Impact of Curriculum Development Training on the Targeted Group	44
4.4 Sustainability of Skills and Training	45
4.5 Curriculum Model and Framework	47
4.6 Conclusion	47
<b>REFERENCES</b>	<b>50</b>
<b>APPENDIX A: Teachers questionnaire</b>	<b>53</b>
<b>APPENDIX B: Curriculum officers questionnaire</b>	<b>56</b>
<b>APPENDIX C: Assessors/Trainers questionnaire</b>	<b>60</b>

## LIST OF FIGURES AND TABLES

Figure 1: DoE standard quality assurance process for developing curriculum .....	20
Table 1: An example of a course outline for primary school environmental studies .....	4
Table 2: Trainers/assessors, teachers and curriculum officers' samples by origin and sex .....	7
Table 3: Respondents' marital status and gender .....	10
Table 4: Education qualifications held by the respondents .....	11
Table 5: Number of years working by the respondents .....	11
Table 6: Types of short-term training programs conducted at the national level from 2002– 2005 .....	12
Table 7: Masters program completed by curriculum officers – 2004 to 2006.....	14
Table 8: Elementary curriculum development training – 2002 to 2005 .....	15
Table 9: Lower primary education curriculum development training – 2002 to 2005 .....	15
Table 10: Upper primary curriculum development training – 2002 to 2005 .....	16
Table 11: Lower secondary curriculum development training – 2002 to 2005 .....	17
Table 12: Types of curriculum implementation and development training conducted from 2002–2006 .....	19
Table 13: Target groups trained from 2002 to 2005 .....	22
Table 14: Curriculum officers, teachers, assessors/trainers attendance of curriculum development training from 2002 to 2005 .....	23
Table 15: Training received by assessors, curriculum officers and teachers by curriculum reform subjects.....	24
Table 16: Curriculum reform training provided by training providers from 2002–2005 .....	25
Table 17: Distribution of curriculum development training providers from 2002–2005 .....	26
Table 18: Curriculum officers' perceptions of the completion of training on the development of outcome-based curriculum (% of agreement/disagreement).....	26
Table 19: Curriculum officers' perceptions of the sufficiency of curriculum development training received (% of agreement/disagreement) .....	27
Table 20: Curriculum officers sharing of knowledge and skills with other curriculum officers (% of agreement/disagreement) .....	28
Table 21: Curriculum officers' utilisation of skills learnt to write outcome-based curriculum (% of agreement/disagreement) .....	28
Table 22: Curriculum officers' perceptions of change in their attitude towards curriculum development (% of agreement/disagreement) .....	29
Table 23: Teachers' use of study guides provided to implement the new curriculum (% of agreement/disagreement) .....	30
Table 24: Teachers' sharing of knowledge and skills with other teachers (% of agreement/disagreement) .....	31
Table 25: Teachers' perceptions of use of knowledge and skills acquired to effectively teach the curriculum reform subjects (% of agreement/disagreement).....	32
Table 26: Teachers' perceptions of students' learning under the curriculum reform (% of agreement/disagreement) .....	32
Table 27: Teachers' perceptions on programming and teaching using outcomes-based curriculum (% of agreement/disagreement) .....	33
Table 28: Perceptions of teachers of change in their ways of teaching as a result of their learning about outcomes-based curriculum (% of agreement/disagreement).....	35
Table 29: Assessors/trainers' perceptions of sufficiency of training received on the new curriculum (% of agreement/disagreement) .....	35

Table 30: Assessors/trainers' perceptions of the usefulness of study guides in the conduct of workshops (% of agreement/disagreement).....	36
Table 31: Assessors/trainers' perceptions of the utilisation of skills acquired to assess and train teachers (% of agreement/disagreement).....	36
Table 32: Assessors/trainers' perceptions of teachers' effectiveness in teaching students using outcomes-based curriculum (% of agreement/disagreement).....	37
Table 33: Assessors/trainers' perceptions of change in teachers' teaching attitudes as a result of the curriculum reform (% of agreement/disagreement) .....	37
Table 34: Assessors/trainers' utilisation of curriculum reform knowledge and skills learnt at the workplace (% of agreement/disagreement) .....	38
Table 35: Ongoing training for assessors/trainers on the curriculum reform (% of agreement/disagreement) .....	39
Table 36: Assessors/trainers' perceptions of DoE funding of curriculum reform implementation (% of agreement/disagreement) .....	39
Table 37: Assessors/trainers' perceptions of donor funding of curriculum reform implementation (% of agreement/disagreement) .....	40
Table 38: Assessors/trainers' perceptions of provincial government funding of curriculum reform implementation (% of agreement/disagreement) .....	40

## ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
AusAID	Australian Agency for International Development
BOM	Board of Management
BOS	Board of Studies
CDAD	Curriculum Development and Assessment Division
CRIP	Curriculum Reform Implementation Project
DoE	Department of Education
ECBP	Education Capacity Building Project
EHP	Eastern Highlands Province
FODE	Flexible Open Distance Education
GoA	Government of Australia
GoPNG	Government of Papua New Guinea
HIV	Human Immunodeficiency Virus
HT	Head Teacher
ICT	Information Communication Technology
JICA	Japan International Corporation Agency
LP	Lower Primary
LS	Lower Secondary
NCG	National Curriculum Goal
MSU	Measurement Service Unit
NEMC	National Education Media Center
NES	National Education System
NIP	New Ireland Province
NGO	Non-Government Organisation
NRI	National Research Institute
NZAID	New Zealand Agency for International Development
OBC	Outcome Based Curriculum
OBE	Outcome Based Education
ORCS	Okiyeni Research Consultancy Services
PAU	Pacific Adventist University
PDoe	Provincial Division of Education
PIC	Provincial In-service Coordinator
PPR	Policy, Planning and Research Division
PTC	Primary Teachers College
PNG	Papua New Guinea
PNGEI	Papua New Guinea Education Institute
SAC	Syllabus Advisory Committee
S&GD	Standard and Guidance Division
RISA	Regional In-Service Advisor
SPSS	Statistical Package for Social Sciences
SSM	Secretary's Staff Meeting
TED	Teacher Education Division
TMT	Top Management Team
TOR	Terms of Reference
TSC	Teaching Service Commission
UOG	University of Goroka
UP	Upper Primary
US	Upper Secondary
VSO	Volunteer Service Organisation

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James Olio Agigo  
Principal Researcher



## **EXECUTIVE SUMMARY**

### **Introduction**

In 1992 the Department of Education (DoE) introduced two education reform programs: structural reform and curriculum reform. The structural reform started in 1992 and ended in 2001. Soon after the structural reform was completed, the DoE asked the Australian Government, through the Australian Agency for International Development (AusAID), to fund curriculum reform development programs for elementary, primary, and lower secondary schools.

### **Background**

The Curriculum Reform Implementation Project (CRIP) was established in 2000 and implementation began in 2001. AusAID recruited curriculum specialist consultants who designed the Outcome-based Education (OBE) curriculum model and framework. Based on this new model, the CRIP, in consultation with the DoE, developed curriculum development training programs and implemented them at the national, provincial, and school levels. The training programs targeted curriculum officers, school inspectors, provincial in-service coordinators, lecturers, head teachers, and teachers. The aim of the training was to help the officers to develop an understanding of OBE and its intended outcomes.

### **Aims of this Study**

The aims of the study were to:

- identify the types of curriculum development training at the provincial and national levels;
- identify the target group(s) of training for the development and implementation of the curriculum reform;
- provide an assessment of the impact of the training in curriculum development provided for selected teachers, trainers, and curriculum officers at the national and provincial levels;
- provide an assessment of the sustainability of the skills developed by the curriculum reform development training that was provided for selected teachers, trainers, and curriculum officers at the national and provincial levels; and
- prepare recommendations on specific opportunities for, and barriers to, the continuing development and implementation of curriculum reform training at all levels.

### **Methodology and Approach**

One province from each of the four regions was selected for this study. They were Eastern Highlands Province, New Ireland Province, Madang Province, and Central Province. These provinces were selected on the basis of the Curriculum Reform Implementation Project Implementation Progressive Report, which was presented to the DoE, Top Management Team in 2006. In each province two secondary schools and four primary schools were identified by the Provincial In-Service Coordinators to participate in the study. A total of 24 schools: eight secondary and 16 primary schools participated in the study. Participants included teachers, trainers/assessors, and curriculum officers. A total of 190 participants were identified for the study. Of this figure, a total of 159 informants participated which

constituted a participation rate of 84 percent. Of these participants, 112 were teachers: 50 secondary teachers and 62 primary teachers, 24 trainers/assessors, and 23 curriculum officers.

A questionnaire was administered to curriculum officers, school based trainers/assessors, and teachers. Follow-up interviews were also conducted with the curriculum officers, assessors/trainers, and teachers. Relevant documents were also reviewed to identify the types of curriculum development training programs provided at the national, provincial, and school levels and related issues.

## **Selected Major Findings**

### ***Curriculum Development Training Impact***

The study found that the CRIP made a big impact at the national and provincial levels. Evidence provided showed that curriculum development training equipped curriculum officers' with the required knowledge and skills to design and develop outcomes-based curriculum. The training provided enabled them to develop teachers' guides and syllabi for each sector of the education system.

The study also found that, where it occurred, curriculum development training had some impact on the selected participants in the provinces that participated in the study. The study revealed that officers used the skills and knowledge gained at their workplaces to develop and implement the curriculum reform. The study also revealed that a lot of training is still needed, especially at the provincial, district, and school levels on the OBE curriculum.

The DoE, through the Teacher Education Division (TED) has the responsibility for providing leadership and policy direction on the management and administration of education and training for teachers, including curriculum development and implementation training. However, this study found that the TED's leadership of teacher in-service training on the curriculum reform is lacking. Whilst there is a great need for training, the evidence provided in the report show that it was donor funded programs such as CRIP and Education Capacity Building Program (ECBP) that were providing teacher in-service training programs on the curriculum reform. This was, in most cases, done without the direct involvement of TED. Hence, it was found that the national policy on training relating to the development and implementation of new curriculum was, in most cases, not adhered to by CRIP. These not only impacted negatively on the beneficiaries learning and acquisition of the required knowledge and skills on the curriculum reform but also on the development and implementation as well as the sustainability of the whole outcomes-based curriculum.

### ***Coverage of Training for Targeted Groups***

The data revealed that the training workshops that were conducted benefited only a minority of hand-picked officers from the selected provinces, districts, schools, and communities. It is clear that nation-wide training was lacking. A consequence of this lack of nationwide training was that at all levels there appeared to be a widespread misunderstanding of the principles, practices and intended outcomes of the new model.

The data showed that CRIP training programs were made available to selected provinces, districts, and schools. Teachers in those selected provinces reported some positive outcomes in the development and implementation of the curriculum reform due to CRIP training.

However, the majority of teachers had no access to these training programs, which took place between 2000 and 2005 and hence, had serious problems understanding and implementing the curriculum reform.

### ***Curriculum Model and Framework***

The study revealed that at the beginning of the curriculum design phase, the DoE failed to provide a national curriculum model and framework. It relied instead on the CRIP consultants to develop them. The capacity of the DoE to provide advice and leadership on appropriate curriculum models and frameworks relevant to a PNG context was lacking. The results provided show overwhelming evidence of CRIP curriculum consultants taking the lead in designing the OBE Curriculum model.

The study also showed that the DoE and CRIP failed to provide reasons on why the objective-based curriculum was inappropriate. Evidence from the Education Sector Review (1991), which was the basis for major structural and curriculum reform programs, found that there was nothing wrong with the objective-based model. That review consistently argued that it was the subject content that was irrelevant, because it was based on foreign ideas. It was the content that needed changing, not the model.

In the absence of the DoE leadership, CRIP consultants failed to follow due processes and procedures for the design, development, and implementation of the curriculum. For example, the data revealed that CRIP implemented curriculum development training and training for teachers without developing the teachers' guides and syllabi. This was a main issue of concern. Major teacher education institutions in the country were reluctant to change their training programs to OBE specifications (DoE, CRIP RISA Quarterly Report, 2004).

### ***Trialling of OBE Curriculum***

The study revealed that the DoE has an established procedure to develop the curriculum. This includes selecting the curriculum model, designing the curriculum specifications, writing the curriculum, trialling the curriculum for five years, and training the teachers. Full implementation of the curriculum follows these processes and procedures. The study revealed that the OBE curriculum developed for primary schools was never trialled for quality assurance purposes. The DoE has no clear direction on the implementation of the current curriculum.

### ***Curriculum Development Quality Assurance Processes***

The study revealed that the DoE curriculum development quality assurance processes and procedures were either partially followed or never followed. The study identified that the DoE has a stringent quality assurance process for designing and developing the curriculum before implementing it throughout the country. This includes selecting the curriculum model, designing the curriculum specifications, writing the curriculum, trialling the curriculum for the first five years and training the teachers, before the full curriculum implementation begins. The study conclusively found that these quality assurance processes were either partly followed or, in some parts, completely disregarded. The study found that CRIP provided curriculum training to teachers without developing the primary school teachers' guides and syllabi. This may have breached the DoE curriculum development quality assurance processes. This may have resulted in some members of the community and teachers

questioning the essence of the curriculum reform and training at all levels (Bako, 2005; Fae, 2007).

### ***Sustaining the Curriculum Reform***

One of the major findings of the study was that the capacity to sustain and continue the curriculum training programs at the national and provincial levels was weak. The results revealed that the national and provincial governments' lack of funding to support the curriculum reform development and implementation has serious implications for its sustainability. The study revealed that all provincial and school-based teacher training programs were funded by AusAID under the CRIP and ECBP programs. The DoE may find it difficult to sustain the school cluster model of training because it will require a large amount of money to cover all clusters in different sectors of education. This may impede the proper implementation of curriculum reform training at the school level.

### ***Student Learning under OBE***

The study revealed that students' learning was ineffective under the OBE curriculum model, which uses the current student-centred approach to learning. This was due mainly to a widespread lack of teacher's guides and syllabi, student text books, student resource books, lack of access to internet, and lack of library resources.

### ***Teaching Materials and Equipment***

The study revealed that at the time of CRIP teacher training programs there was widespread lack of OBE materials and equipment. The study noted that the DoE has relevant policies to guide the procurement and distribution of teaching materials and equipment to schools throughout the country. These processes and procedures were ignored.

## RECOMMENDATIONS

### The OBE Curriculum

The study revealed that there was widespread opposition and dissatisfaction from the public and teachers on the OBE curriculum model. This study also found that under the OBE curriculum, teachers were overloaded with lesson planning, the student assessment system, and preparation of teaching aids and materials. This may affect the quality of teaching and learning in some provinces.

#### **Recommendation 1a**

That the DoE review the OBE curriculum development process to ascertain whether it has met the DoE curriculum quality assurance processes and procedures.

#### **Recommendation 1b**

That the DoE consider carrying out an independent evaluation study to ascertain the impacts on, and issues for the implementation of the OBE curriculum.

#### **Recommendation 1c**

That DoE consider carrying out an independent impact study on teaching and learning under the OBE curriculum.

### Training Coverage for Targeted Groups

The data presented revealed that the training workshops conducted benefited only a minority of hand-picked officers from the selected provinces, districts, schools, and communities. The data presented revealed that from 2002 to 2005 the majority of the teachers throughout the country missed out on training. Insufficient funds to design and develop programs and conduct teacher training workshops were the main reasons.

#### **Recommendation 2a**

That the DoE, as a matter of priority, review the current curriculum development and teacher training programs.

#### **Recommendation 2b**

That the DoE and Provincial Division of Education (PDoE) consider reviewing the current school clustering model for teacher training and develop appropriate cost effective training approaches.

#### **Recommendation 2c**

That the DoE and PDoE provide sufficient funding to provide teachers with continuous curriculum training in relation to OBE curriculum content, assessment, lesson programming, and child centred teaching.

### Teaching and Learning Materials and Equipment

The study revealed that at the time of CRIP teacher training programs there was a widespread lack of OBE materials and equipment. Data presented in this report revealed that there are acute shortages of teaching and learning materials in schools throughout the country.

**Recommendation 3a**

That the DoE considers producing relevant curriculum materials in relation to teaching, learning, and focuses on the distribution of these materials to schools.

**Recommendation 3b**

That the DoE source adequate funding from the government and donor agencies to procure and distribute curriculum materials.

**Recommendation 3c**

That the DoE consider utilising the internet and other ICT products for the distribution of curriculum materials.

**Piloting and Trialling of OBE Curriculum**

The study found that CRIP started conducting workshops for teachers without developing lower primary, upper primary, and secondary curricula. The DoE curriculum development process requires that a full curriculum is developed before teacher training programs are developed and implemented. The study revealed that the OBE curriculum was never trialled for a period of 5 years as required. The data presented revealed that the OBE curriculum went into full implementation without adequate concern for quality control and assurance.

**Recommendation 4a**

That the DoE investigate whether the OBE curriculum that was developed for primary and secondary education was fully trialled or piloted over a five-year period as required.

**Recommendation 4b**

That the DoE considers trialling the entire OBE curriculum in accordance with the DoE curriculum development quality assurance processes.

## CHAPTER 1: INTRODUCTION

This research was conducted by Okiyeni Research Consultancy Services (ORCS) for the National Research Institute (NRI). The study concerns the curriculum development training programs conducted for selected teachers, trainers, and curriculum officers at the national and sub-national levels. The contract required relevant recommendations to emerge from the research findings in order to address the identified issues. The curriculum development training programs were provided under the Curriculum Reform and Implementation Project (CRIP). The Project started in 2000 and ended in 2006. The CRIP program facilitated the development of elementary, lower primary, and lower secondary curricula, carried out bridging workshops for primary school teachers, trained curriculum trainers, trained curriculum writers, and assisted clusters of schools to develop curriculum support materials.

### 1.1 Background

For the last 14 years, the National Education System in PNG has been going through structural and curriculum reforms in all sectors of education as a result of a review of education programs by the PNG Government in 1991 (DoE, 1991). The aims of curriculum reforms were to address the issues that were identified as problematic, including curriculum relevance. The main purpose of curriculum reform is to encourage greater social, political, and economic participation by the people to enable them to contribute positively to the prosperity of their communities.

Many previous studies have revealed that the current curriculum was inappropriate to the country's development needs (e.g. Matane, 1984; Carrier, 1996). For example, many Papua New Guineans interpreted their children's education as equated to getting a paid job (Matane, 1984). A more challenging issue is one of parents integrating children back into the villages. Parents see English education as the only vehicle to access money and develop the country (Agigo, 1999). For example, the curriculum at that time was geared toward passing the national examinations and families equated this with getting paid jobs in towns and cities (Carrier, 1996; Agigo, 1999). This misunderstanding of the goals of education continued to undermine educational development in the rural and remote communities in the country.

To address these issues, it was decided that changes should be made to the curriculum. One change was to design the curriculum, based on the recommendations of the Education Sector Review (DoE, 1991) and the PNG Philosophy of Education (Matane, 1984). This involved the establishment of a curriculum reform model, and would include specifications, frameworks, writing, trialling, and implementation of the curriculum. Furthermore, it was recommended that the subject choices should be broadened to include local cultures, vocational training, and Christian values to develop individuals who are respectful and productive members of their communities (*ibid.*, 1984). Another change involved designing the curriculum development training programs for nominated staff at the national and provincial levels. The aim was to ensure an adequate supply of trained curriculum writers and developers was maintained at the national and provincial levels to improve teacher pedagogical skills through the Curriculum Reform Implementation Project (CRIP) training programs.

## 1.2 Curriculum Reform Implementation Project

The CRIP started in October 2000 and ended in December 2006. The CRIP was a six-year project between the Government of PNG (GoPNG) and the Government of Australia (GoA). The Project was designed to support curriculum reform for all sectors of education. The DoE is the lead implementing agency. The goal of this project was to improve the relevance and quality of education to school students. The project included: designing, developing, and implementing the curriculum reform for elementary, primary, lower secondary, and upper secondary schools.

The project had two phases. Phase One involved designing, developing, and implementing the curriculum reform for elementary and primary grades. The curriculum for elementary and lower primary was completed in 2005 and launched in the same year. The full implementation of elementary and lower primary (Grades 3–6) curriculum started in 2006. The curriculum for upper primary grades (Grades 7–8) was completed in 2008, completing the first phase.

The second phase involved designing and developing of subjects for the lower secondary grades' (Grades 9–10) curriculum. This program began in 2006 and was completed in 2008 with a full implementation in 2009. The curriculum for lower secondary grades was developed two years after the CRIP ceased its operations. Currently, the Curriculum Development and Assessment Division (CDAD) is reviewing upper secondary grades' (Grade 11–12) curriculum. The designing and writing commenced in 2009 and will end in 2011. The launch and full implementation will begin in 2012. The completion of the development of upper secondary curriculum will signal the completion of the curriculum reform from Elementary to Grade 12.

The qualitative data in this study show that CRIP was responsible for designing, developing, and conducting curriculum development training for national, provincial, district, and school education officers. The training involved institutional strengthening and capacity building through training, mentoring, and coaching for curriculum officers, school inspectors, lecturers, assessors, trainers, teachers and head teachers. The training was carried out in selected provinces, districts, and schools.

## 1.3 The National Curriculum Reform

Curriculum reform involves the broadening of subject choices to include local culture, values, attitudes, knowledge, vocational training, and a range of skills that will help students to become self-reliant. The foundation of curriculum reform, as outlined in the National Curriculum Statement, is the promotion of cultures, traditions, Christian principles, national identity and unity, healthy nation and sustainable use of local natural resources (DoE, 2002).

The National Curriculum Statement also outlines that curriculum reform is intended to develop students who are physically, mentally, and spiritually equipped to use the resources within the community to improve their standard of living (*ibid.*, 2002). This includes developing students to participate in community decision making at appropriate levels, live useful and productive lives, and value both rural and urban community development activities in the context of national development. Students are encouraged to participate in further training and to value education as a life-long process. They are expected to relate responsibly to others, participate in the strengthening of social unity in the context of national

development and develop a system of beliefs and values appropriate to their individual rights and those of the community (*ibid.*, 2002).

The curriculum reform emphasises the development of an individual person, equipping them with the skills, knowledge, and attitudes that are important for improving and sustaining their lives in rural and urban areas. It is assumed that the skills acquired will enable them to engage in community-based economic activities (*ibid.*, 2002).

#### **1.4 The National Curriculum Goals**

The National Curriculum Goals (NCG) are consistent with the Papua New Guinea Goals and Directive Principles, Millennium Development Goals, National Education Plan 2005–2014, National Curriculum Statement and community demands as captured in the Education Sector Review (DoE, 1991) and the Philosophy of Education (Matane, 1984). The aim of the National Curriculum Goals is to ensure that students value education as a continuing lifelong process. This includes: students improving their standard of education, developing an understanding of many PNG cultures, developing a sense of identity, developing respect for their people, developing knowledge and respect for their natural environment, developing a culture of hard work, and improving their health and standard of living.

These goals are taught to students through the reformed curriculum subjects. These goals ensure that students acquire relevant knowledge, skills, and attitudes which are important to their communities and which will enable them to live a fulfilling and productive life after they complete formal schooling. The first priority of these goals is to ensure that students understand how their society works and their place in developing PNG. The second goal is to develop the intellectual, emotional, cultural, physical, creative and spiritual potential of students to live a productive life in their communities. The third goal is to ensure that students learn about the importance of hard work and behave the way their society expects them. The fourth goal is to ensure that students develop their own moral values and standards of personal conduct based on personal integrity, respect, and consideration for others. The fifth goal is to ensure students develop healthy practices and are responsible for their health. Teacher training on the reformed curriculum subjects in all sectors of education is vital to preparing students to achieve the National Curriculum Goals. Currently, teacher training on the curriculum reform is continuing.

#### **1.5 Outcome-Based Education**

The DoE adopted ‘Outcome-based Education’ (OBE) as a curriculum model for all sectors of education. Outcome-based Education refers to “...knowledge, skills, attitudes and values that all students should achieve or demonstrate for each grade of schooling from Elementary to Grade 12 in all subjects...” (DoE, 2002, p. 5).

The learning outcomes are student-centred. Each subject syllabus identifies a set of outcomes that students are expected to achieve at each grade (see Table 1). Each outcome is accompanied by a list of indicators that identify examples of knowledge, skills, attitudes and values that students will need to demonstrate in order to achieve the learning outcome. Indicators are used to measure progress toward learning outcomes (see Table 1).

**Table 1: An example of a course outline for primary school environmental studies**

Subject: Environmental studies
<p><i>Strand:</i> Identify different species of plants and animals in the environment.</p> <p><i>Outcomes:</i></p> <ul style="list-style-type: none"> <li>• Identify natural and build changes and their impact on the environment.</li> <li>• Identify and describe links between living and non living things in the environment.</li> </ul>
<p><i>Strand:</i> Identify useful resources in the environment and describe ways to use them wisely.</p> <p><i>Sub-strands:</i></p> <ul style="list-style-type: none"> <li>• Identify types and sources of wastes and their impacts on the environment.</li> </ul>
<p><i>Strand:</i> Describe features of plants and animals that live in the environment.</p> <p><i>Sub-strands:</i></p> <ul style="list-style-type: none"> <li>• Explain how living things interact with the environment to meet basic needs.</li> <li>• Describe the impact of changes to the environment and identify solutions to potentially harmful changes.</li> </ul>

**Source:** Lower Primary School Environmental Studies

Teachers are expected to use the indicators to write learning outcomes when planning lesson programs. This gives the teachers individually or collaboratively, the flexibility to plan lesson programs to meet the differing needs of students. Indicators are used for this purpose. In this way, teachers assess and report on individual student achievements in relation to the learning outcomes periodically. It is assumed that the continuous assessment of students under the outcome-based curriculum helps teachers to monitor individual student progress in relation to the outcomes for each program and unit of work taught (DoE, 2002).

Student-centred learning was endorsed in the National Curriculum Statement as an appropriate teaching strategy to teach outcome-based curriculum. The OBE learning outcomes are student-centred in that they are written in terms that enable students to be in charge of their own learning (*ibid.*, 2002). Student-centred learning recognises that no two students are the same with regard to their learning needs. The aim is to allow teachers to be more flexible in determining the most effective ways to help all students in a class to achieve the learning outcomes set for each subject. This approach to learning recognises the importance of creating a classroom environment that will motivate students to discover new skills and knowledge. For example, a teacher may focus on teaching students how to learn and discover new knowledge by using library books, internet, group work, and teacher-programmed activities as learning resources. The aim is to give teachers the flexibility to devise programs and units of work to meet the differing needs of students at all levels of schooling in a broad range of settings in PNG (*ibid.*, 2002).

## 1.6 Curriculum and Learning Study

The OBE curriculum model is new to PNG. The CRIP team designed and developed OBE curriculum development training programs for selected officers at the national and sub-national levels. The aim was to help the officers to develop an understanding of OBE and its intended outcomes (*ibid.*, 2002).

The introduction of outcome-based curriculum in PNG has met opposition from the public. The public has raised concerns that OBE was designed and developed without reflecting the

needs of Papua New Guineans (Bako, 2005). Several writers have suggested that the implementation of OBE curriculum training programs at the provincial, district, and school levels was unsuccessful. The curriculum development training was initiated on an *ad hoc* basis without long-term commitment and planning (Malpo, 2004; Paul, 2004). The data presented show that CRIP training only covered selected provinces, districts, and schools. Many teachers, school inspectors, lecturers, head teachers, and parents missed out on the training.

Some commentators have suggested that the curriculum development training and the targeted groups lacked continuous support, including finances, materials, and skilled OBE curriculum officers at the national and provincial levels to continue and sustain the program (Wari, 1993; Wari, Rei & Wemin; 1996; Paul, 2004; Bako, 2005).

Many commentators have observed that OBE was forced on to PNG under the AusAID Curriculum Reform Implementation Project without proper research to assess why there was a need to change to the OBE model (Andrew, 2007; Fae, 2007, Kange, 2009). Others have argued that the DoE provided insufficient guidance and direction as to what should constitute a new curriculum model, based on the Education Sector Review (DoE, 1991) and Philosophy of Education (Matane, 1984) recommendations (Pumwa, 2004; Bako, 2005). These challenges need investigation so that appropriate strategies for solving curriculum reform training challenges are designed and implemented (O'Donoghue, 1995). There are clearly problems associated with curriculum reform development, training and implementation in PNG. There is a need for a systematic investigation. It is recognised that such an investigation would be appropriate at a number of levels including the national, provincial, and school levels. The perspectives of curriculum writers, trainers, assessors, and teachers are critical to this investigation.

The DoE and CRIP consultants developed relevant training programs without the statistics on the trends and impact of curriculum development training programs on the targeted groups. The curriculum and learning study is aimed at identifying types of curriculum development training provided to the targeted groups. It also provides an assessment of curriculum development training progress at the national, provincial and school levels.

## 1.7 The Aims of the Study

The five main aims of the study were:

1. To **ascertain the types of curriculum development training** at the provincial and national levels.
2. To **ascertain the target group(s) of training** for the development and implementation of the reformed curriculum.
3. To **provide an assessment of the impact of the skills and the training** in curriculum development provided for selected teachers, trainers, and curriculum officers at the national and provincial levels.
4. To **provide an assessment of the sustainability of the skills and training** on the curriculum reform provided for selected teachers, trainers, and curriculum officers at the national and provincial levels.
5. To **prepare recommendations** on specific opportunities for, and barriers to, the continuing development and implementation of curriculum reform at the national and provincial levels.

### **1.8 Research Questions**

From the aims of the study, four research questions were developed:

1. What are the types of curriculum development training provided at the national and sub-national levels?
2. Who are the target group/s of training for the development and implementation of the curriculum reform?
3. What is the impact of the skills and training provided for the selected teachers, trainers, and curriculum officers at the national and provincial levels?
4. Are the knowledge and skills developed through curriculum development training being used and sustained by those who received the training?

**CHAPTER 2: RESEARCH METHODOLOGY AND APPROACH**

This study employed both the quantitative and qualitative research approaches. These approaches allowed for the required data to be collected as well as in-depth understanding of the types of curriculum development training provided under CRIP, the impact of these training on curriculum development and the sustainability of the knowledge and skills learned at the schools.

**2.1 Participants and Sampling**

The study was carried out in New Ireland, Eastern Highlands, Madang, and Central Provinces. These four provinces, from each of the four regions, were selected using random sampling. The researcher listed the names of all the provinces covered in the CRIP Project. The random sampling method was then used to select the participating provinces. In each province, 4 primary schools and 2 secondary schools were selected using purposive sampling. This method of sampling was used not only because school-based curriculum trainers/assessors were based in those particular schools but also that these trainers/assessors provide a rich source of data on the curriculum development training provided by CRIP. Teachers in these schools who participated in the CRIP curriculum development training were also surveyed and interviewed regarding the impact of the training on curriculum development and the sustainability of knowledge and skills learned. A total of 190 participants were involved in the study. Of this total, 159 were able to complete the questionnaires, 112 were teachers, 24 were trainers/assessors and 23 were curriculum officers.

The number of participants in each province is shown in Table 2. 190 respondents were targeted for participation in the study, representing the core group of officers targeted under the CRIP Project from 2000 to 2005. Of the 190, 159 were able to complete the questionnaires. Of this figure, 112 were teachers, 24 were assessors, and 23 were curriculum officers.

**Table 2: Trainers/assessors, teachers and curriculum officers’ samples by origin and sex**

Origin	Trainers/Assessors				Teachers				Curriculum Officers			
	Male		Female		Male		Female		Male		Female	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
DoE	0	0	0	0	0	0	0	0	13	57	10	43
Eastern Highlands Province	2	33	4	67	12	75	16	25	0	0	0	0
New Ireland Province	1	17	5	83	12	44	15	56	0	0	0	0
Madang	1	14	6	86	13	45	16	55	0	0	0	0
Central	1	20	4	80	13	44	15	56	0	0	0	0
Total	5	21	19	79	50	45	62	55	13	57	10	43

## **2.2 Data Collection**

### **2.2.1 Document Review**

In order to identify the types of curriculum development training conducted at the national and provincial levels across different sectors of schooling (elementary, primary, and lower secondary) relevant policy documents, memorandums, diaries, circulars, and submissions were reviewed. These documents represented a good source of data because they provided written accounts of curriculum reform and training programs conducted under CRIP and the different beneficiaries.

The documents reviewed included: CRIP Secretary's Staff Meeting (SSM) and Top Management Team (TMT) submissions, In-service Management Plan, Teacher In-service Training Manuals, CRIP Project Progressive reports, Curriculum reform training manual, Education Sector, and CRIP Regional In-service Advisor (RISA) quarterly and monthly reports. The types of training — by education sector — were identified using these reports. They were also used to identify issues relating to curriculum development training. The contents of these documents were treated with strict confidence.

### **2.2.2 Questionnaire**

A questionnaire was developed and administered to the teachers, curriculum officers, and school based trainers/assessors. The questionnaire was used to identify successes, issues, constraints, impact, and sustainability of skills and training acquired in the curriculum development training provided to teachers, curriculum officers, and trainers (see Appendix 2, 3 and 4). The questionnaire covered curriculum development training, its impact on the targeted beneficiaries, and how they went about using the knowledge, skills, and experiences learned.

The data from the questionnaire identified impacts and issues in relation to curriculum training and upgrading of qualifications.

### **2.2.3 Follow-up Interviews**

Follow-up interviews were conducted to confirm data or to gain more explanations of the issues identified in the study. In the field research officers skimmed through the key questions. If the majority of the participants indicated that there had been particular successes or failures then follow-up interviews were conducted the same day. For example, if the majority of teachers in a school 'disagreed' or 'agreed' on a given statement, follow-up interviews were conducted with the selected teachers. Responses were used to support the quantitative data.

## **2.3 Validity and Reliability of Data**

### **2.3.1 Pilot Study**

The questionnaires were piloted with selected curriculum writers, trainers, and teachers at Porebada and Wardstrip primary schools in the National Capital District (NCD) before the main field study in order to determine whether the questionnaire was generating appropriate

responses. The pilot also checked item weaknesses so that appropriate changes could be made before the main field study.

The pilot study involved 12 participants: 2 curriculum officers, 2 trainers, and 8 teachers. The participants were selected based on information provided by the curriculum officers.

During the pilot a number of weaknesses were identified. Most weaknesses had to do with the wordings of questions, which were either ambiguous or hard for participants to interpret and understand. This was made obvious when three quarters of the participants asked the researcher to explain the words or explain the entire question.

In addition, questions on the 'impact and sustainability' were open-ended, which required written answers. This failed to generate anticipated responses. These were changed to Likert scale type questions. For example, participants were asked to either answer: *agree, strongly agree, strongly disagree, disagree, or not sure* to indicate their level of agreement to the statements given on the questionnaire.

### **2.3.2 Field Edit**

The field editing of the completed questionnaires involves detecting omissions and inaccuracies in the data while the research team is still in the field. The field edit is done after the questionnaires are collected so that the problems are corrected before the participants leave. For example, the researchers go through each page and check if all questions are filled out correctly. If questions are left blank or omitted that questionnaire is returned to the participants for completion. The researchers explain the question and allow them to complete the questionnaires by filling in the blanks.

### **2.3.3 Office Edit**

The field edit is followed by the office edit. This involves correcting the completed questionnaires. The principal researcher performs this task by assessing which questionnaires contain incomplete answers or answers that reflect lack of interest. For example, questionnaires that omitted complete sections were not included in the study. None of the questionnaires failed in this respect.

## **2.4 Data Analysis**

The quantitative data was coded after the office edit. Coding allows the raw data to be systematically reorganised into a format that is computer readable (i.e. easy to analyse using computers). For example, a code number is given to each variable measured for each question. Coded data was then analysed using the Statistical Package for Social Sciences (SPSS).

Data from the interviews was analysed using the content analysis method. Data gathered were categorised using themes developed from the data.

## CHAPTER 3: FINDINGS

There are nine main parts to this chapter. Section 3.1 gives a summary of the respondents' personal information and characteristics. The characteristics of respondents include respondents' gender, educational qualifications, and the number of years working in their jobs.

Section 3.2 details the types of curriculum development training. This section is divided into two sub-sections that categorise training into the following headings: short-term training and long-term training.

Section 3.3 outlines the target groups of training and is divided into two sub-sections. First sub-section identifies training at the national level. The second sub-section identifies target groups who received training at the provincial level.

Sections 3.4, 3.5, and 3.6 detail the impact of curriculum development training on teachers, trainers, and curriculum officers.

Sections 3.7, 3.8, and 3.9 present the findings on the sustainability and continuity of skills acquired on the curriculum development. This part constitutes a discussion on the sustainability of the skills acquired by teachers, trainers, and curriculum officers. This part also discusses how the acquired skills are used and practiced in the field of work.

### 3.1 Respondents' Biography

#### 3.1.1 Marital Status

Of the 159 respondents more than half (55%) were females and 45% were males. In terms of category, 134 were married, 7 were sole parents, 4 were widows, and 14 were single. In general, the data show that CRIP curriculum development training at the national and provincial levels involved more females than males.

**Table 3: Respondents' marital status and gender**

Gender	Married		Sole Parent		Widow		Single (never married)		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Males	63	55	3	43	1	25	5	36	72	45
Females	71	45	4	57	3	75	9	64	87	55
Total	134	100	7	100	4	100	14	100	159	100

#### 3.1.2 Education Qualifications

One of the objectives of the CRIP was to support the DoE to upgrade and improve the qualifications of teachers, curriculum officers, and assessors in order to meet the new curriculum reform demands. Data in table 4 shows that 37% of the respondents hold a Certificate in Primary Teaching while 63% hold qualifications ranging from a Diploma in Teaching to a Masters in Education. Participants who hold diplomas and certificates are primary school teachers and assessors. In order to ensure effective curriculum development, teachers must be enabled to acquire higher qualifications.

**Table 4: Education qualifications held by the respondents**

Qualifications	Number	Percentage
Masters	3	2
Bachelor of Education Honours	6	4
Bachelor of Education	29	18
Diploma	62	39
Certificate	59	37
Total	159	100

### 3.1.3 Number of Years Working

Table 5 shows that 75 or 47% of the participants had working experiences ranging from 11 to 15 and 16 to 20 years. There were fewer officers working beyond 20 years. There are many contributing factors to fewer teachers teaching beyond 20 years. These include poor terms and conditions, low teacher morale and lack of professional support from the Teaching Service Commission and the Department of Education.

**Table 5: Number of years working by the respondents**

Number of years working	Number	Percentage
1 to 5	27	17
6 to 10	30	19
11 to 15	42	26
16 to 20	33	21
21 to 25	14	9
25 and above	13	8
Total	159	100

## 3.2 Types of Curriculum Development Training Conducted at the National and Provincial Levels

### 3.2.1 Training Needs Analysis

It was found from a review of documents on curriculum development training offered under CRIP that in 2002 the CRIP Project team carried out a training needs analysis study. The study revealed that teachers, head teachers, and curriculum officers lacked skills, exposure and experience in designing, developing, and implementing the OBE curriculum (DoE, National Teacher In-service Plan, 2006). Based on this report, CRIP consultants designed and developed the curriculum development skill training programs for selected national and provincial officers, as well as teachers and trainers (*ibid.*, 2006). OBE specialists were recruited from Australia to conduct the training. This was because the DoE did not have OBE specialists to conduct the training. Training of Papua New Guineans in the development and implementation of OBE was essential in its sustainability. The training needs analysis study recommended that short and long-term training programs should be conducted at the national and provincial levels. The training programs were based on the National Curriculum guidelines and framework developed by CRIP and the DoE (DoE, Curriculum Statement, 2002). The findings of the training needs analysis study provided the framework for developing the curriculum training programs for curriculum officers, assessors, lecturers, and teachers.

### 3.2.2 *Types of Training Conducted at the National Level*

#### *Short-term Training*

A review of documents on the CRIP revealed that consultants engaged by the project designed and developed short-term training programs. The short-term training programs constituted workshops, in-house training, and work attachments. The primary aim of these training programs was to equip officers at the national level with appropriate skills and knowledge that would enable them to design and develop curriculum according to the OBE curriculum specifications and framework. A total of 15 different types of short training programs were provided (DoE, CRIP In-service Management Plan, 2001).

In addition, three key teacher education institutions (University of Goroka, Pacific Adventist University, and PNG Institute of Education) were involved in the training. The aim was to increase the teacher education institutions' involvement and participation in designing and developing the OBE curriculum at the institutional level, to encourage institutions to be accountable for their own activities and to develop greater institutional alignment in terms of implementing OBE curriculum goals (DoE, CRIP In-service Management Plan, 2001).

**Table 6: Types of short-term training programs conducted at the national level from 2002–2005**

<b>Types of training offered</b>	<b>Target DoE divisions and National Institutions</b>
OBE Curriculum design and development	CDAD, TED
OBE Curriculum specification and framework	CDAD, PNGIE
Principles and practice of OBE	CDAD, TED, PAU, UOG, S&G
OBE theory and practice	CDAD, TED,
Language bridging	CDAD, PNGIE
Collegial curriculum leadership	CDAD, PNGIE
Assessment and reporting	CDAD, PNGIE, S&G
Philosophy of curriculum reform	CDAD, S&G,
Outcome based planning and programming	CDAD, PNGIE, S&G, TED, UOG, PAU
Elementary, primary, and secondary curriculum reform	CDAD, TED, PNGIE, UOG, PAU
Effective school management	CDAD, PNGIE
Change management	CDAD, PNGIE, UOG, PAU
Core teacher competencies	CDAD, PNGIE, PTC
Teaching and learning	CDAD, PNGIE, PTC
Curriculum writing	CDAD

**Source:** DoE, SSM Information Paper, 2005 – Progressive Report on Curriculum Reform Capacity Building under CRIP Project.

A review of the documents on CRIP revealed that there were serious breaches in the DoE processes and procedures of developing and conducting curriculum development skill training. It was found that from 2000 to 2006, CRIP carried out many training programs for teachers and lecturers, and curriculum, standards and teacher education officers without developing lower and upper primary and lower secondary school curriculum (DoE, CRIP Progress Curriculum Report, 2004). According to the report, the Teacher Education Division (TED) disapproved the CRIP training programs in 2004. This was because primary and

secondary school syllabi and teachers guides were not ready. Despite Teacher Education Division's disapproval, CRIP continued to carry out curriculum development training programs at the national and sub-national levels. This was done outside of the DoE standard procedures for developing and conducting training programs on curriculum reform. This may have caused delays in the implementation of curriculum reform in the schools. It also hindered the development of upper primary (Grades 7 and 8) curriculum reform subjects.

Furthermore, it was found that the TED was not involved in planning the curriculum reform in-service training programs because the curricula for elementary and primary were not ready. In the initial stages the curriculum development training programs were left entirely to CRIP to take charge of and that the DoE's relevant divisions did not take charge of curriculum development training. This led to serious cases of CRIP disregarding the relevant DoE procedures that should be followed when developing curriculum development training programs. One of the contributing factors to CRIP ignoring curriculum training procedures was the lack of leadership within the relevant DoE divisions to provide guidance on DoE's curriculum development and training requirements. For example, one of the procedures is that a curriculum must be trialled before full curriculum training can be carried out at the national and school levels.

Furthermore, it was found that CRIP consultants rarely involved the Teacher Education Division in designing and developing training programs for teachers (DoE, CRIP Progress Curriculum Report 2003–2004). The lack of Teacher Education Division's involvement may have allowed CRIP to conduct trainings whenever they wished.

Teacher education institutions and the Standards and Guidance Division's support is vital to the success of curriculum reform initiatives to improve teachers' pedagogical skills. It was found that teacher education institutions and the Standards and Guidance Division were slow to recognise the need to change their programs to OBE curriculum specifications because relevant curriculum were not developed and made available to them (DoE, CRIP RISA Quarterly Report, 2004). These constraints continued to undermine curriculum reform efforts at the provincial and school levels.

### *Long-term Training*

It was found from a review of documents on CRIP that the project funded long-term training for curriculum officers. Long-term training involved attaining a post graduate degree in education. The training was based on the staff training needs analysis conducted by CRIP consultants. CRIP consultants noted that the DoE curriculum officers lacked fundamental skills in curriculum design and development to write the outcome-based syllabi (DoE, CRIP CDD Staff Training Skill Needs Analysis, 2004). In order to address these issues, a part-time master's degree in "Learning Innovations" program was completed using the distance mode. Table 7 shows that a total of 15 officers were enrolled in the program. Only 14 successfully completed the course. A male candidate withdrew for personal reasons.

However, a total of 10 officers (4 males and 6 females) left the Curriculum Development and Assessment Division (CDAD) after completing their masters program. Of this figure, 6 female OBE qualified officers resigned from CDAD to take up jobs elsewhere. One contributing factor was that the promotion of officers to higher positions within CDAD favoured other officers. At the time of the study, there were a total of 4 officers (3 males and

1 female) still with CDAD. The high loss of OBE qualified staff is a concern for sustaining OBE curriculum at the national level.

**Table 7: Masters program completed by curriculum officers – 2004 to 2006**

Gender	Enrolled	Completed	Withdrawn	Left CDAD	With CDAD now
Male	8	7	1	4	3
Female	7	7	0	6	1
Total	15	14	1	10	4

Source: CDAD data 2009

### 3.2.3 *Types of Training Conducted for Curriculum Officers by Education Sector*

Skills development training for curriculum officers is vital in the writing of curriculum for all sectors of education. It was found that CRIP conducted training programs for elementary, primary, and lower secondary curriculum officers. The aim was to address curriculum writers' specific training needs in order to enable them to write the OBE curriculum. Selected curriculum officers were given training specific to their subject specialisations. The training was based on the curriculum development specification given for each grade by education sector.

Documents reviewed, however, show that the time spent on training of elementary, primary, and secondary curriculum officers was insufficient. This was because CRIP officers were rushing to meet the CRIP Project due date and hence, did not adequately prepare curriculum officers to write OBE curriculum. Most of the training given ranged from 1 to 3 weeks or 1 to 2 months, which was perceived as inadequate to acquire OBE content knowledge and write syllabi, teachers' guides, and student text books.

#### *Elementary Curriculum Development Training*

The curriculum for elementary education is community oriented. It was established from the CRIP document review that elementary curriculum writers were given specific training in the following subjects: culture and community, vernacular language, and cultural mathematics. The aim of the elementary education curriculum is to allow students to continue developing an understanding of and identification with local cultural values, norms, and traditions. It was ascertained from the CRIP documents that the officers were given specific training on writing, consultation, and planning skills. Elementary curriculum writers were required to write programs that related to integrating community-oriented activities taught to students in a language they already speak with oral English, beginning at Elementary Grade 2. This type of training was expected to prepare officers to develop curriculum that is relevant to community settings.

Furthermore, it was ascertained from the CRIP documents that CRIP expatriate officers' involvement in the development of elementary curriculum became a concern, especially on the development of cultural mathematics and vernacular education programs (DoE, SSM CRIP Information Paper, 2004). Moreover, it was found that CRIP expatriate consultants lack understanding and experience of PNG's diverse cultures. This made it difficult for them to develop those programs. As a consequence, the draft cultural mathematics and vernacular programs were rejected by Board of Studies (BOS) in 2003 because the content of the programs was based on foreign ideas (DoE, SSM CRIP Information Paper, 2004). The issue

of curriculum relevance compelled DoE to make a recommendation for CRIP to recruit a Papua New Guinean consultant to help develop the elementary curriculum. A local consultant was then recruited to assist in developing all elementary subjects.

**Table 8: Elementary curriculum development training – 2002 to 2005**

Course	Skill	Duration
<ul style="list-style-type: none"> <li>▪ Culture and community</li> <li>▪ Vernacular language</li> <li>▪ Cultural mathematics</li> </ul>	<ul style="list-style-type: none"> <li>▪ Writing skills</li> <li>▪ Consultation</li> <li>▪ Planning</li> </ul>	1–3 weeks 1–2 months

**Source:** DoE SSM Information Paper, 2005 – Progressive Report on Curriculum Reform Capacity Building under CRIP Project.

#### *Lower Primary Education Curriculum Development Training*

Lower primary education consists of Grades 3 to 5. A review of CRIP documents revealed that lower primary curriculum officers received specific training on curriculum reform, including community living, arts, vernacular language, English, mathematics, health, physical education, and environmental studies. Officers were exposed to writing, planning, consultation, reviewing and data gathering, and basic research skills. The aim was to prepare them to write curriculum that will enable students to continue to learn after Grade 8. The training provided the officers with skills and knowledge to develop core curriculum activities that were geared towards encouraging students to develop confidence and self-esteem so that they will use the skills acquired to improve their standard of living.

**Table 9: Lower primary education curriculum development training – 2002 to 2005**

Course	Skill	Duration
<ul style="list-style-type: none"> <li>▪ Community living</li> <li>▪ Arts</li> <li>▪ Vernacular language</li> <li>▪ English</li> <li>▪ Mathematics</li> <li>▪ Health</li> <li>▪ Physical education and</li> <li>▪ Environmental studies.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Writing skills</li> <li>▪ Consultation</li> <li>▪ Planning</li> <li>▪ Reviewing and data gathering</li> </ul>	1 -3 weeks 1-2 months

**Source:** DoE SSM Information Paper, 2005 – Progressive Report on Curriculum Reform Capacity Building under CRIP.

#### *Upper Primary Education Curriculum Development Training*

Upper primary education consists of Grades 6, 7 and 8. Data from document review show that CRIP consultants provided training in developing upper primary subjects, including arts, social science, science, making a living, English, mathematics, and personal development (which includes health, physical education, guidance and religious education). Training was aimed at helping officers to develop a relevant program for each curriculum subject to ensure students become mathematically and scientifically literate in ways that are relevant to the daily life of PNG communities. Further, the training ensured that officers included the preservation and promotion of students' local cultures, good citizenship, peace and harmony, respect, self-esteem and confidence, national unity and identity in the curriculum. The training exposed officers to writing, consultation, planning, content development, book reviews and data gathering skills, which were essential to designing and writing the

curriculum. The training assumed that the curriculum developed will allow students to understand basic concepts on development taking place at the community, provincial, national and international levels in which they may choose to live and serve in the later part of their lives (DoE, DoE SSM Information Paper, 2005).

The length of time taken to train the officers was insufficient and key programs such as content development and data gathering skill training were left out because CRIP did not have sufficient time to conduct this training. This may have delayed the full curriculum implementation of upper primary curriculum in 2006. The upper primary curriculum was completed in 2007 and full implementation in 2008, two years after the CRIP Project ended.

**Table 10: Upper primary curriculum development training – 2002 to 2005**

Course	Skill	Duration
<ul style="list-style-type: none"> <li>▪ Arts,</li> <li>▪ Social science</li> <li>▪ Making a living</li> <li>▪ English</li> <li>▪ Mathematics</li> <li>▪ Personal development (which includes health, physical education, guidance and religious education)</li> <li>▪ Science</li> </ul>	<ul style="list-style-type: none"> <li>▪ Writing skills</li> <li>▪ Consultation</li> <li>▪ Planning</li> <li>▪ Content development</li> <li>▪ Outlining and formatting</li> <li>▪ Book reviews and data gathering</li> </ul>	1 -3 weeks 1-2 months

**Source:** DoE SSM Information Paper, 2005 – Progressive Report on Curriculum Reform Capacity Building under CRIP.

#### *Lower Secondary Education Curriculum Development Training*

Lower secondary consists of Grades 9 to 10. A review of the CRIP documents show that CRIP consultants provided curriculum development training for arts, social science, science, English, mathematics, environmental science, applied science, business studies, applied social science, agriculture, and design and technology (which includes home economics, practical skills, computing, rural technology, and tourism and hospitality). Other subjects include personal development, health, physical education, guidance, and religious education. These subjects are primarily developed to enable students to be healthy, respectful, creative, innovative, scientifically and mathematically literate, and effective communicators. Officers were given training to develop teachers' guides and syllabi. Specific subject training was provided to the officers to develop programs that assisted students to think for themselves and view learning as a life-long process.

Furthermore, training programs were centred on developing lower secondary curriculum to help students to become rational thinkers in their responses to their communities' social, political, economic, and spiritual problems. It was ascertained from the documents reviewed that there was a serious deficiency in time allocation (one to two months) to train lower secondary curriculum officers. This may have caused delays in the writing and the development of lower secondary curriculum. One contributing factor was that the CRIP targeted elementary and primary curriculum development. The development of lower secondary curriculum was given less attention.

**Table 11: Lower secondary curriculum development training – 2002 to 2005**

Course	Skill	Duration
<ul style="list-style-type: none"> <li>▪ Arts</li> <li>▪ Social science,</li> <li>▪ Business studies</li> <li>▪ Applied social science</li> <li>▪ Agriculture</li> <li>▪ Design and technology (which includes home economics, practical skills, computing, rural technology, tourism and hospitality)</li> <li>▪ English</li> <li>▪ Mathematics</li> <li>▪ Personal development (which includes health, physical education, guidance and religious education)</li> <li>▪ Science</li> <li>▪ Environmental science and</li> <li>▪ Applied science.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Writing skills</li> <li>▪ Consultation</li> <li>▪ Planning</li> <li>▪ Formatting and outlying</li> <li>▪ Data gathering</li> <li>▪ Reviewing and editing</li> <li>▪ Joint planning</li> </ul>	<ul style="list-style-type: none"> <li>1-3 weeks</li> <li>1-2 months</li> </ul>

**Source:** DoE SSM Information Paper, 2005 – Progressive Report on Curriculum Reform Capacity Building under CRIP.

### ***3.2.4 Types of Curriculum Development Training Conducted at the Provincial Level***

Curriculum development training at the provincial level is very important for effective implementation of the curriculum reform. It was ascertained from CRIP documents that the project consultants developed the OBE curriculum development programs and conducted training in selected provinces, districts, schools, and communities. The aim was to involve selected provincial, district, school, and community people to gauge their views on the OBE curriculum content, specifications, and framework. The intention was to prepare provincial education officers to implement and manage curriculum change. The training programs were intended to ensure that officers were competent and confident enough to adopt OBE in their work activities (DoE, DoE-CRIP Progress Curriculum Report 2003-2004). Different training programs were conducted on different topics related to the OBE curriculum principles, practices, planning, implementation, monitoring, and networking.

Nevertheless, it was found that a very small number of provincial, district, and community officers benefited from the training. One contributing factor was that CRIP lacked the funding and personnel to expand the programs to other provinces. Another factor is that the Teacher Education Division, in the initial stages of curriculum development training, did not approve the training programs because relevant curriculum were not ready and consequently refused to participate in the training.

#### ***OBE Curriculum Development Training***

It was deduced from the documents on CRIP that OBE curriculum development training and OBE curriculum implementation training were two common training programs conducted at the provincial, district, school, and community levels. The first part comprised CRIP presenting OBE curriculum content, frameworks, and specifications to the selected participants for discussion, in order to seek their views on the curriculum model change (from the objective-based to the OBE model). Curriculum training exposed officers to provincial

cluster planning, in-service planning, leadership, management, and the monitoring of OBE implementation. However, it was found that selected schools had little to no exposure to OBE curriculum content. The lack of OBE content knowledge hindered teachers and head-teachers in their planning and implementation of the curriculum reform.

The community was not involved directly in the initial curriculum development training and discussions. Community involvement in supporting school management in the implementation of curriculum reform is vital to funding short-term teacher training programs. There seemed to be either limited or no involvement of teachers and the community in developing the content of the OBE curriculum. It was established from the review of CRIP documents that the majority of the CRIP training was spent on other non-curriculum development training programs such as data gathering, HIV/AIDS, monitoring, planning, and gender.

Moreover, it was found that many key stakeholders did not participate in the initial design and development of the OBE curriculum. There was a lack of wider consultation with relevant individuals and institutions such as churches, parents, universities, and the public on the evolution of OBE curriculum. In addition, the CRIP Project did not include many of the recommendations of the Education Sector Review (DoE, 1991) and the Matane Report (1986). For example, the Matane Report recommended the designing and teaching of moral values and norms, probably as a subject of its own in primary schools.

#### *OBE Curriculum Implementation Training*

The second part of the CRIP training program at the provincial, district, school, and community levels covered curriculum implementation. This information is presented in Table 12. A review of CRIP documents show that selected provincial and district officers received training on in-service planning, provincial and district cluster planning, communication and networking, monitoring, data gathering and reporting. At the schools, selected teachers were given training on OBE implementation skills and strategies, which included lesson planning and programming, assessment, syllabi and teachers' guide content. Those selected from provinces and districts reported some improvements; however, the training conducted for the teachers was insufficient. It was found that CRIP training on the curriculum reform benefited very few selected provinces, districts, schools, and communities. This means that the majority of core target groups in the provinces had no knowledge of what was happening with the design, development, and implementation of OBE from 2000 to 2006. This is despite evidence from the literature, which indicates that wider participation from the community as well as major players in the development of curriculum reform is important in the implementation process (Slegers *et al.*, 2002). Generally, review of CRIP documents indicate that the project consultants rushed the whole curriculum development and training process to meet their own needs and due dates, although the reform subjects were yet to be developed.

A number of irregularities in curriculum implementation training programs were also identified. For instance, the training programs were carried out despite the fact that elementary, primary, and secondary curriculum was still in the design and development stage (DoE, 'DoE-CRIP Progress Curriculum Report', 2003–2004). The document review shows that CRIP carried out this training without syllabi and teachers' guides. The DoE knew, but did nothing to correct the mistake or stop it from happening. This may have prompted the

Teacher Education Division staff not to be involved in the follow-up training workshops (DoE, 'RISA report on lower primary and secondary CRIP In-service report', 2005).

**Table 12: Types of curriculum implementation and development training conducted from 2002–2006**

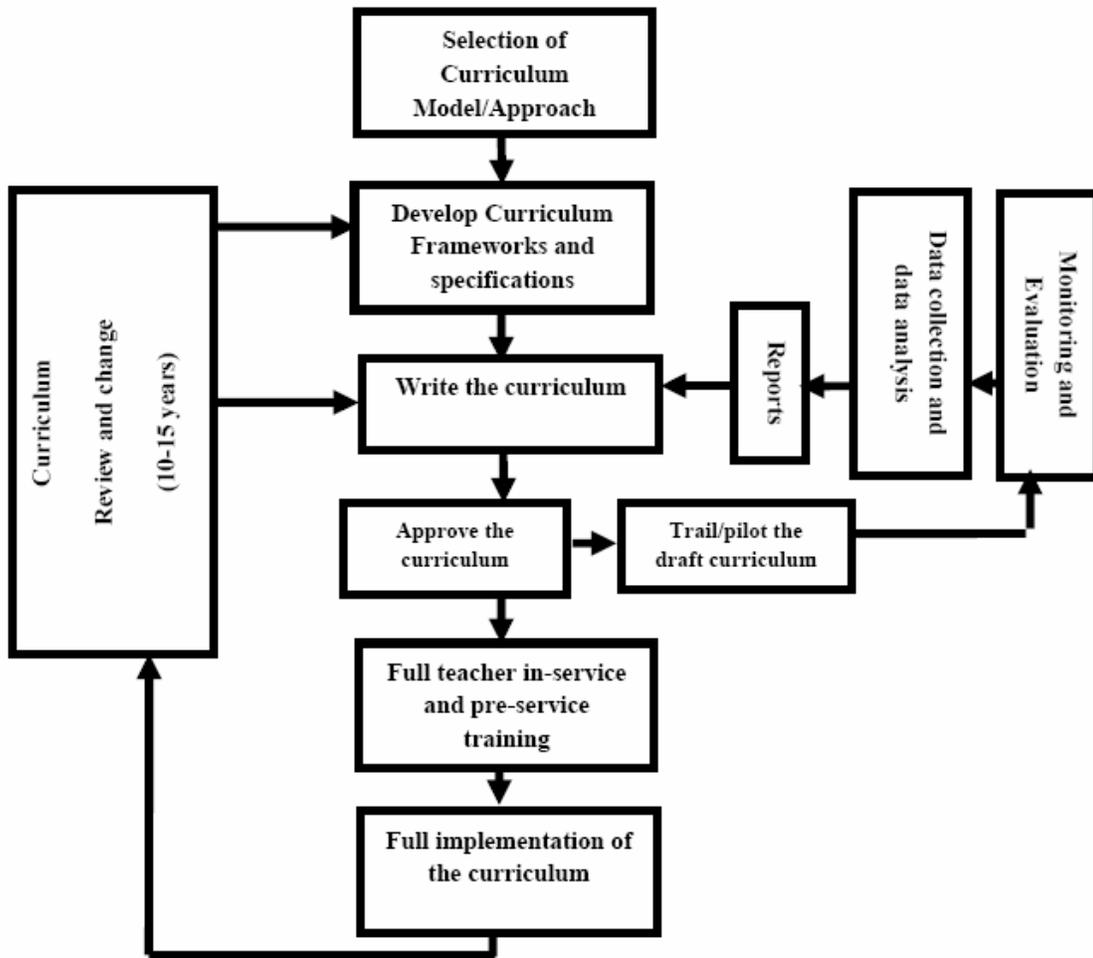
Province	District	School	Community
<b>1. OBE curriculum development training</b>			
<ul style="list-style-type: none"> <li>• OBE curriculum content</li> <li>• Curriculum principles</li> <li>• Curriculum reform planning</li> <li>• Curriculum policies</li> <li>• In-service units</li> </ul>	<ul style="list-style-type: none"> <li>• OBE curriculum content</li> <li>• OBE curriculum principles</li> <li>• OBE implementation skills and strategies</li> <li>• In-service units</li> </ul>	<ul style="list-style-type: none"> <li>• OBE curriculum content</li> </ul>	<ul style="list-style-type: none"> <li>• Community roles and responsibilities</li> </ul>
<b>• 2. OBE curriculum implementation trainings</b>			
<ul style="list-style-type: none"> <li>• Planning workshops</li> <li>• Joint planning</li> <li>• Data gathering</li> <li>• Curriculum supervision</li> <li>• Monitoring and evaluation</li> <li>• Communication and networking</li> <li>• Provincial in-service planning,</li> <li>• Managing grants and funds</li> <li>• Report writing</li> <li>• Conducting workshops</li> <li>• Establishing databases</li> <li>• Developing tools for implementing curriculum</li> <li>• Seminar presentation skills</li> <li>• Monitoring and evaluation</li> <li>• Leadership</li> <li>• HIV/AIDS training</li> </ul>	<ul style="list-style-type: none"> <li>• Joint planning</li> <li>• Data gathering</li> <li>• Supervision</li> <li>• Training of tots</li> <li>• Communication and networking</li> <li>• Collaborative planning</li> <li>• Cluster planning</li> <li>• District in-service planning</li> <li>• HIV/AIDS training</li> <li>• Report writing</li> <li>• Establishing databases</li> <li>• Develop tools for implementing curriculum</li> <li>• Seminar presentation skills</li> <li>• Monitoring and evaluation</li> <li>• Developing district in-service plan</li> <li>• Curriculum reform planning</li> <li>• OBE implementation skills and strategies</li> <li>• Leadership</li> <li>• Managing grants and funds</li> </ul>	<ul style="list-style-type: none"> <li>• Communication and networking</li> <li>• HIV/AIDS training</li> <li>• OBE implementation skills and strategies</li> <li>• In-service units</li> <li>• Student assessment</li> <li>• Lesson preparation</li> <li>• Teaching strategies</li> <li>• School in-service planning</li> <li>• Collaborative planning</li> <li>• Syllabi in-service</li> <li>• Teacher guides in-service</li> </ul>	<ul style="list-style-type: none"> <li>• HIV/AIDS training</li> <li>• Awareness sessions</li> <li>• BOM information sessions</li> </ul>

Source: DoE SSM Information Paper, 2005 – Progressive Report on Curriculum Reform Capacity Building under CRIP.

**3.2.5 DoE Standard Quality Assurance Process for Developing Curriculum**

The DoE has a stringent quality assurance process for developing the curriculum. The DoE follows this process to ensure that the curriculum developed is of a high standard. This information is depicted in Figure 1. First, the curriculum model is selected and approved. Then curriculum frameworks and specifications are developed to help with writing the curriculum. CRIP followed the first stage. The second stage involved the trialling of draft curricula in selected provinces. This is monitored and evaluated constantly. The data suggest that once approved the DoE draft curriculum is trialled for up to 5 years, which involves curriculum officers teaching the draft syllabus. They make the necessary changes, taking into consideration PNG’s developmental needs.

**Figure 1: DoE standard quality assurance process for developing curriculum**



Source: DoE Curriculum Development Division

All OBE curricula developed were yet to be trialled at the time of the study. Elementary and some primary curricula were now in full implementation without a trial. Curriculum trialling is important in identifying strengths and weaknesses as well as making necessary corrections before full implementation, which is one of the quality assurance processes vital to developing a curriculum of a high standard.

The draft curriculum was approved and a full teacher in-service and pre-service training program followed. The training provided teachers with curriculum content knowledge and teaching strategies to support them teach the new curriculum reform effectively. Curriculum is then reviewed after 10 to 15 years of implementation. This process allows the department to check the quality of curriculum produced. Some of the processes involved in the development of the curriculum and training were disregarded under the CRIP Project. An analysis of the CRIP documents revealed that the draft curricula that had been developed were not trialed. The data also suggest that teacher training was conducted without developing the teachers' guides and syllabi.

### **3.3 Target Groups for Curriculum Development Training**

A review of CRIP documents show that selected target groups were given specific curriculum development training. In 2002 CRIP started institutional-strengthening and capacity-building through training, mentoring, and coaching of key officers at the national and sub-national levels. The main purpose of the training was to make target groups aware of the fundamentals of OBE and to impart key skills to them to manage and implement curriculum reform programs.

Table 13 shows the target groups trained from 2002 to 2005 at different levels. A total of 10,993 education personnel received specific training. Of this number, 80.5% (8,852) were teachers, head teachers, and school-based assessors. This was followed by groups trained at the community level (11.3%), district level (3.8%), and provincial level (3.5%). However, not all target groups benefited from the training. Data presented show that only a small selected group of people in the selected provinces was involved. The majority of the core groups of people directly involved in the development and implementation of the curriculum were left out. Teachers play a key role in facilitating and implementing curriculum reform in the classrooms and their non-involvement is a concern.

Most of the training was conducted through workshops at the national, provincial, district, school, and community levels. The training involved key education personnel who were directly involved in the implementation of curriculum reform. A total of 334 workshops were conducted. Of this number, a total of 135 workshops were conducted at the school level. This was followed by 72 workshops conducted at the provincial level, 60 workshops at the community level, and 57 workshops were conducted at the national level. The least number of workshops was conducted at the district level. The data presented shows that curriculum development workshops conducted benefited a minority of the hand-picked provinces, districts, schools, and communities. Therefore, the majority of the provincial education officers lacked proper understanding of the OBE principles, practices, and the intended outcomes of the model for the country.

The length of time spent on training correlates directly with the achievement of quality and effective learning. The data presented shows that from 2002 to 2005, a total of 227 weeks were spent on training the target groups identified as important to developing and implementing the curriculum. Of this, 72 weeks of training weeks were spent training relevant PDoE officers at the provincial level. This was followed by 60 weeks training for school level participants, and 53 weeks training for national officers. At the community level 32 weeks of the total time was committed to training parents and school board members. Only 10 weeks of the total time was committed to training the provincial officers to orient them to the philosophy and practices of OBE curriculum.

**Table 13: Target groups trained from 2002 to 2005**

Target Groups trained by levels	No. of workshops	Length of time	No of participants
<b>National Level</b>	<b>57 (17%)</b>	<b>53 weeks (23%)</b>	<b>99 (1%)</b>
External Assessors – PNG Institute of Education	3	3 weeks	6
University of Goroka – Lecturers	5	3 weeks	5
Pacific Adventist University – Lecturers	5	3 weeks	3
PNG Institute of Education – Lecturers	3	3 weeks	13
DoE Staff – Curriculum Development and Assessment	26	26 weeks	44
DoE Staff – Teacher Education Division	6	6 weeks	5
DoE Staff – Inspection and Guidance Division	4	4 weeks	4
Flexible Open Distance Education Officers – Port Moresby	1	1 weeks	3
DoE Syllabus Advisory Committee Members (SAC)	1	1 week	10
Regional In-Service Support Advisers	3	3 weeks	6
<b>Provincial Level</b>	<b>72 (22%)</b>	<b>72 weeks (32%)</b>	<b>388 (3%)</b>
Secondary School Inspectors	3	3 weeks	22
Primary School Inspectors	2	2 weeks	97
Primary School Senior Inspectors	2	2 weeks	18
Elementary School Inspectors/Coordinators	4	4 weeks	70
Provincial Education Staff – Provincial Education Advisers	4	4 weeks	22
Provincial In-Service Coordinators	46	46 weeks	22
Principals of Primary School Teachers Colleges	2	2 weeks	8
Church Education Secretaries	2	2 weeks	10
Provincial Elementary Teacher Training Coordinators	3	3 weeks	42
Provincial Guidance Officers	2	2 weeks	15
Primary Teachers College Lecturers	2	2 weeks	62
<b>District Level</b>	<b>10 (3%)</b>	<b>10 weeks (4%)</b>	<b>420 (4%)</b>
District Education Coordinators	3	3 weeks	82
Trainers of Trainers – Primary	3	3 weeks	212
District Elementary Trainers	4	4 weeks	126
<b>School Level</b>	<b>135 (40%)</b>	<b>60 weeks (26%)</b>	<b>8,852 (80%)</b>
Assessors – School based/Cluster	3	3 weeks	400
Facilitators - Primary	12	12 weeks	221
Head Teachers – Primary	3	3 weeks	156
Head Teachers – Elementary	1	1 weeks	343
Teachers - Elementary	3	3 weeks	2,300
Teachers – Lower Primary	100	25 weeks	3,600
Teachers – Upper primary	11	11 weeks	1,700
Teachers – Secondary	2	2 weeks	132
<b>Community level</b>	<b>60 (18%)</b>	<b>32 weeks (14%)</b>	<b>1,234 (11%)</b>
Community (parents, school board members)	60	32 weeks	1,234
<b>Total</b>	<b>334</b>	<b>227</b>	<b>10, 993</b>

Source: DoE, 'DoE SSM Information Paper, 2005 – Progressive Report on Curriculum Reform Capacity Building under CRIP', 2005.

Table 13 shows the actual length of time spent on training target groups. Quality time spent on training officers at each level of curriculum development and implementation is fundamental to sustaining and reviewing the curriculum reform at various implementation stages.

Data presented, however, shows that an inadequate amount of time was spent on training education officers at the provincial, district, and school levels. This may have impeded teachers' exposure to outcome-based curriculum principles. Thus, contributing to teachers' view that OBE curriculum is unsustainable and inappropriate for PNG because student learning outcomes were unrealistic, and therefore difficult to achieve and measure (Bako, 2005, Fae, 2007).

### ***3.3.1 Curriculum Development Training Programs Attended by Target Groups***

Teacher in-service training on the curriculum reform is an issue in PNG (Wari, 1993). One of the contributing factors to teachers' lack of participation in curriculum reform training is the lack of funding within the DoE, which is vital to supporting teacher training programs. To gain more information on whether the target groups attended curriculum reform training programs from 2002 to 2005, the participants were asked to indicate their training status. Of the 159 who participated, 157 responded to the question: "Did you attend any training on the curriculum reform?" The data show that 82% of the participants indicated they attended curriculum reform training while 17% did not access the training provided by CRIP. These groups of officers were new employees recently recruited. However, 1% of the participants did not provide answers to the question as required.

**Table 14: Curriculum officers, teachers, assessors/trainers attendance of curriculum development training from 2002 to 2005**

<b>Response</b>	<b>Total number responded (N=159)</b>	<b>Percentage</b>
Yes	130	82
No	27	17
No response	2	1

### ***3.3.2 Curriculum Reform Training Attended by Curriculum Officers, Teachers, and Assessors***

Curriculum reform training is one of DoE's core functions. Data presented in Table 15 shows that teachers in elementary, primary, and secondary schools received some form of curriculum development training on the reform subjects. All teachers in primary schools received an in-service package consisting of self-paced curriculum reform modules. The self-paced in-service units gave teachers background knowledge and strategies to support them to teach the curriculum reform effectively. The data also suggests that CRIP and DoE concentrated on designing and developing elementary and primary curricula, while secondary curriculum remained largely unchanged.

**Table 15: Training received by assessors, curriculum officers and teachers by curriculum reform subjects**

Subjects (Curriculum reform)	Assessors (n=24)	Curriculum Officers (n=23)	Teachers (n=112)	Percentage (n=159)
Cultural mathematics (E)	0	2	6	5.0
Language-vernacular (E)	0	2	6	5.0
Culture and community (E)	0	1	6	4.4
<b>Total Elementary</b>	<b>0</b> (0%)	<b>5</b> (22%)	<b>18</b> (16%)	<b>14</b>
Mathematics (LP)	3	0	5	5.0
Language (LP)	3	1	9	8.2
Environmental studies (LP)	2	2	6	6.3
Community living (LP)	2	3	7	7.5
Arts (LP)	1	0	2	1.9
Health Education (LP)	2	0	4	3.8
Physical Education (LP)	0	0	4	2.5
<b>Total Lower Primary</b>	<b>13</b> (54%)	<b>6</b> (26%)	<b>37</b> (33%)	<b>35</b>
Mathematics (UP)	2	0	6	5.0
Language(UP)	3	0	3	3.8
Science (UP)	0	0	4	2.5
Making a living (UP)	3	2	5	6.3
Social science (UP)	0	2	3	3.1
Arts (UP)	0	0	3	1.9
Personnel Development (UP)	3	3	7	8.2
<b>Total Upper Primary</b>	<b>11</b> (46%)	<b>7</b> (30%)	<b>31</b> (28%)	<b>31</b>
Science (LS)	0	1	3	2.5
Business studies (LS)	0	0	3	1.9
Agriculture (LS)	0	0	4	2.5
Technology (LS)	0	0	3	1.9
English (LS)	0	1	4	3.1
Social Science (LS)	0	1	4	3.1
Mathematics	0	0	2	1.3
Personnel Development (LS)	0	2	3	3.1
Arts (LS)	0	0	0	0
<b>Total Lower Secondary</b>	<b>0</b>	<b>5</b> (22%)	<b>26</b> (23%)	<b>19</b>
<b>Grand Total</b>	<b>24</b> (100)	<b>23</b> (100)	<b>112</b> (100)	<b>159</b> (100)

E=Elementary, LP=Lower Primary, UP=Upper Primary, LS=Lower Secondary

### 3.3.3 Curriculum Reform Training Provided by Training Providers

The Teacher Education Division (TED) is mandated to provide effective curriculum training programs for teachers in all sectors of education. As can be seen in Table 16, 78% of the target groups (teachers, assessors, and curriculum officers) indicated receiving curriculum development training from CRIP consultants. Papua New Guinea Education Institute

(PNGEI) provided the next highest number of training to the teachers with 62%. This was followed by the Curriculum Development Division (CDAD) with 43%. Most of the curriculum officers got their training from CRIP consultants, University of Goroka (UOG,) and CDAD. The Provincial In-service Coordinators (PIC), on the other hand, provided the least number of training to the teachers. One possible reason is that the Provincial In-service Coordinators lacked funding support from CRIP, the provincial governments, and the DoE to conduct provincial in-service training programs on the curriculum reform.

**Table 16: Curriculum reform training provided by training providers from 2002–2005**

Training providers	The target groups (N=159)		
	Percent of Teachers (n=112)	Percent of Assessors (n=24)	Percent of Curriculum Officers (n=23)
Teacher Education Division	0	0	0
Curriculum Development Division	13	8	22
School-Based Assessors	27	0	0
University of Goroka	6	4	22
Teachers College Lecturers	4	13	0
School Inspectors	11	8	0
PNG Education Institute	12	50	0
Provincial In-service Coordinators	4	0	0
Head teachers	0	0	0
CRIP consultants	18	17	43
Others	5	0	13
Total	100	100	100

This study revealed that during the CRIP Project period, for some reason, the TED was not involved in providing training to teachers on OBE curriculum and on strategies to teach the reformed syllabi effectively. One of the possible explanations was that TED was reluctant to commit itself to the training because the entire primary curriculum at that time was in the developmental phase and some of the primary curriculum was in the review stage.

### **3.3.4 Curriculum Reform Training Coordination**

It can be seen from Table 17 that 49% of the coordination, administration, and management of curriculum development and initial teacher in-service training were organised by CRIP consultants. Furthermore, the data presented shows that the Curriculum Development Division also organised and managed 23% of the training programs.

Apart from the training provided by CRIP consultants and the Curriculum Development Division, churches and Non-Government Organisations were also involved in coordinating, managing, and administering curriculum reform training programs in their own localities from 2002 to 2005. Data in Table 17 seem to suggest that TED and PNG Education Institute did not fully participate in the planning and coordination of the overall curriculum development training at the national and sub-national levels. This was because during the CRIP Project, TED found it difficult to manage and administer curriculum reform training programs with CRIP consultants. Furthermore, as noted elsewhere in this report, one of the contributing factors was that at the initial stages of the CRIP Project, TED advised CRIP to

cease all curriculum reform training in the provinces and schools because all primary school syllabi were in the early stages of development. Despite the TED instructions, CRIP consultants continued to provide curriculum training to teachers.

**Table 17: Distribution of curriculum development training providers from 2002–2005**

<b>Training coordinators</b>	<b>No.</b>	<b>Percentage</b>
Teacher Education Division	12	7
Curriculum Development and Assessment Division	37	23
CRIP-AusAID	78	49
PNG Education Institute	13	8
Others	19	13
Total	159	100

### **3.4 The Impact of Curriculum Development Training on the Curriculum Officers**

In order to establish the impact of curriculum development and implementation training programs on the curriculum officers, they were asked to indicate their level of agreement/disagreement on the following indicators of curriculum development training impact:

- Satisfactory completion of curriculum development training.
- Sufficiency of curriculum development training.
- Sharing of knowledge and skills with other curriculum officers.
- Utilisation of knowledge and skills to develop curriculum.
- Change in curriculum officers' attitudes towards curriculum development.

#### **3.4.1 Satisfactory Completion of Curriculum Development Training**

Curriculum officers were asked to indicate their level of agreement/disagreement with this statement, "Training on the development of new curriculum was satisfactorily completed." As can be seen from Table 18, 87% of the curriculum officers who responded to the question agreed that training on the development of new curriculum was successfully completed while only 13% indicated that they were unsure if this was the case. The data seem to suggest that despite issues relating to the availability of OBE curriculum materials and lack of enthusiasm by the TED on the provision of curriculum development and implementation training, overall, the provision of training by various providers was satisfactorily completed.

**Table 18: Curriculum officers' perceptions of the completion of training on the development of outcome-based curriculum (% of agreement/disagreement)**

<b>Level of agreement</b>	<b>Number</b>	<b>Percentage</b>
Strongly agree	5	22
Agree	15	65
Disagree	0	0
Strongly disagree	0	0
Not sure	3	13
Total	23	100

### 3.4.2 Sufficiency of Curriculum Development Training

The amount of time spent on training, in order to fully appreciate OBE theory and practice, is seen as a means of achieving effective curriculum learning. Curriculum officers were asked to show their level of agreement/disagreement with this statement, “The training you received on the development of the new curriculum was sufficient.” As shown in Table 19, 74% of the curriculum officers who responded disagreed that the training programs on OBE curriculum were sufficient to equip them with the knowledge and skills they required to develop the OBE curriculum. One possible explanation is that CRIP was running out of time (the project completion date was 2006) and so did not provide adequate training for curriculum development officers on OBE curriculum. As noted elsewhere in this report, from 2002 to 2005 CRIP spent 1 to 2 weeks on training curriculum officers and orienting them to OBE curriculum theory, principles, planning, and programming. This duration of training is perceived by curriculum officers as insufficient in enabling them to develop outcome-based curriculum. It is also not in line with the DoE policy on length of time (2–3 years) required to train curriculum officers and teachers on the development and implementation of a new curriculum.

**Table 19: Curriculum officers’ perceptions of the sufficiency of curriculum development training received (% of agreement/disagreement)**

Level of agreement	Number	Percentage
Strongly agree	0	0
Agree	5	22
Disagree	17	74
Strongly disagree	0	0
Not sure	1	4
Total	23	100

Data from the interviews reinforced the data from the survey in relation to the amount of time spent on curriculum development and implementation training. For example one of the participants had this to say:

...CRIP consultants introduced the Outcome Based Curriculum Model... We were given specific short-term training ranging from 1 to 2 weeks. The length of time was not enough because we had to know the philosophies, principles, and practices of OBE in a short period of time... In contrast, I studied three years at the university to master Objective-based Curriculum... honestly CRIP trainings were insufficient... and did not meet my needs... I thought that they were rushing all the training programs... to meet their own due dates to meet their own needs... (Male Curriculum Officer)

### 3.4.3 Sharing of Skills and Knowledge with other Curriculum Officers

Curriculum officers who were given the opportunity to access OBE curriculum development training had an obligation to organise in-house training to transfer the knowledge and skills that they had gained to other curriculum officers who did not attend curriculum training. This was vital to sustaining the OBE curriculum. Curriculum officers were asked to indicate their level of agreement/disagreement with this statement, “Your section has carried out numerous workshops on the new curriculum reform.” Of the 23 curriculum officers who responded (82.4%) agreed that workshops were organised to share the knowledge and skills they had

gained from curriculum development training with their fellow officers. The data show, however, that some (8.6%) of the curriculum officers disagreed that in-house training within their branches was organised for them to share OBE curriculum development skills with other officers who missed out. One possible explanation could be that the trained curriculum officers were not in a leadership position and so were not empowered to organise and carry out training programs for colleagues within their divisions.

**Table 20: Curriculum officers sharing of knowledge and skills with other curriculum officers (% of agreement/disagreement)**

Level of agreement	Number	Percentage
Strongly agree	15	65.0
Agree	4	17.4
Disagree	1	4.3
Strongly disagree	1	4.3
Not sure	2	9.0
Total	23	100.0

#### **3.4.4 Utilisation of Skills to Develop and Write the Curriculum**

Utilising the skills gained to design, develop, and write the curriculum reform by the curriculum officers is important. Curriculum officers were asked to indicate their level of agreement/disagreement with the statement, “You are using the skills taught to you to write outcome-based curriculum”. From Table 21 it can be seen that 70% of the officers who responded to the question agreed that they applied the skills gained on the job to develop and write outcome-based curriculum. On the other hand, 26% of the curriculum officers indicated that they did not fully utilise the skills gained in developing syllabi and teachers guides. This was because these officers were not provided the required training, especially those from the Media Centre.

**Table 21: Curriculum officers’ utilisation of skills learnt to write outcome-based curriculum (% of agreement/disagreement)**

Level of agreement	Number	Percentage
Strongly agree	0	0
Agree	16	70
Disagree	4	17
Strongly disagree	2	9
Not sure	1	4
Total	23	100

#### **3.4.5 Change of Curriculum Officer’s Attitudes toward Curriculum Development**

The DoE adopted OBE as a model to develop the outcome-based curriculum. The outcome-based curriculum is an approach where the curriculum identifies the knowledge, skills, and attitudes that students need to achieve as a result of learning (DoE, Curriculum Statement, 2002). Curriculum officers were given training on the outcome-based curriculum, which supported them to design and develop new syllabi. Curriculum officers were asked to indicate their level of agreement/disagreement with this statement, “The new curriculum reform has changed your attitudes towards curriculum development.” Data presented in Table 22 show that the majority (70%) of the officers disagreed that the training programs changed their attitudes toward curriculum development. The other 26% of the respondents agreed that their

attitudes towards curriculum development changed as a result of them participating in curriculum development and implementation training. What is perhaps salient is that change in the attitudes of respondents towards curriculum development depended on the length of their training, which was insufficient, and the effectiveness in which their prior perceptions and practices of curriculum were addressed in the training programs (Kukari, 2000).

**Table 22: Curriculum officers' perceptions of change in their attitude towards curriculum development (% of agreement/disagreement)**

Level of agreement	Number	Percentage
Strongly agree	1	4
Agree	5	22
Disagree	14	61
Strongly disagree	2	9
Not sure	1	4
Total	23	100

Male and female officers were interviewed on their change of attitudes and practices from the old curriculum approach to the new approach. These are some of their responses.

A male officer said:

I know previously the content of my subject specialisation area...so I just fit into OBE... The only shift for me was to understand what OBE was all about... OBE is a model used to design the curriculum from which I used my previous knowledge and applied it...

A female officer said:

I say the training conducted by CRIP did not change me because before they came I knew the subject content. They didn't teach the subject content...they introduced the OBE approach in which I used it to write the curriculum content to OBE specifications...

The qualitative data presented shows that curriculum officers did not change their perceptions and practices quickly with regards to designing and developing the outcome-based curriculum. Curriculum officers changing their perceptions and practices from the objective-based curriculum model to the outcome-based curriculum philosophy and practices is central to understanding outcomes-based curriculum. Data seem to suggest that curriculum officers did not make major behavioural changes under the new curriculum approach. The slow pace in which some curriculum officers' change their attitude toward outcome-based curriculum theory and practices raises concerns over its sustainability.

### **3.5 The Impact of Curriculum Development Training on the Teachers**

This section discusses the impact of curriculum development training on teachers at the school level. In order to establish the impact of curriculum development and implementation training on the teachers, they were asked to indicate their level of agreement/disagreement on the following indicators of curriculum development training impact:

- Usefulness of study guides for helping teachers to implement the new curriculum.
- Sharing of knowledge and skills with other teachers.

- Utilisation of knowledge and skills acquired to teach the curriculum reform subjects.
- Student learning under the curriculum reform
- Programming and teaching using the outcomes-based curriculum.
- Impact of training on teachers' teaching practices.

### ***3.5.1 Usefulness of Study Guides for Helping Teachers to Implement the New Curriculum***

The study guides were developed for the teachers' self-learning and improvement as well as a source of information for teachers to conduct school-based in-service training on the various curriculum reform subject areas. Teachers were asked to show their level of agreement/disagreement with this statement, "You are using study guides provided to help you implement the new curriculum." Data presented in Table 23 shows that 69% of the 112 teachers who responded disagreed while 22% agreed that the study guides were useful in their implementation of the new curriculum. One possible explanation is that the study guides were only made available to the teachers who were registered with the Papua New Guinea Education Institute and other teachers colleges. This would include only the teachers who were enrolled to upgrade their teacher education qualifications.

**Table 23: Teachers' use of study guides provided to implement the new curriculum (% of agreement/disagreement)**

<b>Level of agreement</b>	<b>Number</b>	<b>Percentage</b>
Strongly agree	5	5
Agree	19	17
Disagree	73	65
Strongly disagree	5	4
Not sure	10	9
Total	112	100

Follow up interviews were conducted to get more details about why large number of teachers were not using the study guides as expected. The following responses exemplify the responses of the participants.

A head teacher said:

...Study guides are only accessible to teachers who are enrolled with PNGEI Diploma Program in a distance mode under the CRIP Project. The assessors are only interested in those who are enrolled with them as part of their diploma program... Those teachers who are not enrolled do not use the Study Guide book as a tool for training on the curriculum reform. This was the procedure set by PNGEI and CRIP officers...and many teachers missed out.

A senior teacher had this to say:

Not many teachers used the study guide...many teachers gave up because in order to complete their diploma on the OBE or whatever, teachers in the field were asked to pay from their pockets and then the assessor or trainer will issue them with the Study Guide...

Data indicates that one of the common problems for a large number of teachers who were not using study guides to upgrade their knowledge on the curriculum reform is that each teacher was asked to pay course fees. Teachers were asked to pay from their pockets for the self-paced in-service units. The user pay policy may have prevented many teachers from enrolling in the in-service training programs to upgrade their teacher education qualifications and therefore did not have access to study guides.

### 3.5.2 *Sharing of Knowledge and Skills with other Teachers*

Making use of the curriculum development skills that were gained in order to train others is important to sustaining outcome-based curriculum in the work place. The teachers were asked to show their level of agreement/disagreement with this statement, “You are training other teachers using the skills and knowledge you have gained.” From Table 24 it can be seen that 48% of the teachers agreed that they were providing curriculum development training for their colleagues using the knowledge and skills they had learned about outcome-based curriculum development and implementation while the same percentage of respondents disagreed that they were providing training for their colleagues at the school. The data seemed to suggest that there was no consistency amongst the beneficiaries of CRIP curriculum development training in providing training for others at their schools. Data from interviews with teachers revealed that this was due to, amongst other reasons, the lack of support from the administration of some schools.

**Table 24: Teachers’ sharing of knowledge and skills with other teachers (% of agreement/disagreement)**

Level of agreement	Number	Percentage
Strongly agree	5	5
Agree	49	43
Disagree	53	48
Strongly disagree	0	0
Not sure	5	4
Total	112	100

Follow up interviews were conducted to better understand why teachers who attended CRIP training were unable to share their skills with their colleagues. These are some of the responses.

One male teacher said:

...I attended the CRIP initial OBE training. One of the reasons why I didn’t conduct workshop or training for my colleagues was that school administration did not support me...I requested for time to conduct my training and the senior school officers said we have to wait for the province to organise one...

One female teacher said:

...Qualified trainers should conduct in-services...teachers who have the confidence to attend training sessions... only capable teachers to learn and pass on the skills acquired to other teachers... not just anybody should attend... few selected teachers attended the curriculum training workshops and they don’t conduct workshops for their colleague teachers... back at the schools.

The data show that some teachers who were selected to attend training were unable to transfer the knowledge and skills in the work place.

### **3.5.3 *Utilisation of Knowledge and Skills Acquired to Teach the Curriculum Reform Subjects***

Teacher training is seen as a vehicle for improving teaching and learning. Curriculum training is conducted for teachers to improve their competencies and to improve student learning. In addition, teachers are required to assist students to acquire skills and content in all subjects. For teachers to effectively carry out such responsibilities, training and resourcing them with syllabi, teachers' guides, student text books, and other basic curriculum materials is vital. Teachers were asked to indicate their level of agreement/disagreement with this statement, "The training you received on the curriculum reform is helping you to teach the reformed subjects effectively". Only a few (22%) of the 112 respondents agreed that the training received is helping them to teach the curriculum reform subjects. The majority (74%) of the respondents disagreed that training received enabled them to teach the curriculum reform subjects effectively. A possible reason is that many teachers in the provinces were given training without the relevant curriculum materials to support their teaching, but were still expected to teach using outcome-based curriculum.

**Table 25: Teachers' perceptions of use of knowledge and skills acquired to effectively teach the curriculum reform subjects (% of agreement/disagreement)**

<b>Level of agreement</b>	<b>Number</b>	<b>Percentage</b>
Strongly agree	19	17
Agree	5	5
Disagree	19	17
Strongly disagree	64	57
Not sure	5	4
Total	112	100

### **3.5.4 *Students' Learning under the Reformed Curriculum***

Students are the focus of teacher training on the curriculum reform. It was expected that teachers would acquire the appropriate curriculum content knowledge to teach to students. Teachers were asked to indicate their level of agreement/disagreement with this statement, "Students are learning well using the outcome-based curriculum." Table 26 shows that only 9% of the 112 teachers who responded to the statement agreed that students are learning well using the outcomes-based curriculum. The majority (65%) disagreed that this is the case.

**Table 26: Teachers' perceptions of students' learning under the curriculum reform (% of agreement/disagreement)**

<b>Level of agreement</b>	<b>Number</b>	<b>Percentage</b>
Strongly agree	0	0
Agree	10	9
Disagree	68	61
Strongly disagree	5	4
Not sure	29	26
Total	112	100

Possible contributing factors include the lack of outcome-based curriculum materials in the schools, poor language-bridging training at elementary and lower primary levels, and lack of ongoing teacher professional development (Kukari, Paraide & Kippel, 2009). This affects the quality of student learning in primary and secondary schools.

Follow-up interviews were conducted with selected teachers to better understand the nature of students' learning using the outcomes-based curriculum.

One teacher said:

We lack teaching support materials in the schools to go with the syllabus developed...I can't give homework or take away assignments in this remote school because I have no library resources and books for students to do their own research and write...I can give assignment to students but no library resources...

A senior teacher said:

...language is a big problem for students coming from elementary education...they can't understand simple English and write simple sentences. This is taking us backwards and is definitely affecting the quality of student learning...it is also difficult to teach OBE because in this school there are shortages of learning materials...so OBE is not supported...

The qualitative data show that the lack of outcome-based curriculum materials in the schools affected students' learning of the curriculum reform subjects. The data also suggest that teachers were having problems assisting students to bridge what they were learning from the local vernacular to English. As a result, student learning was affected.

### 3.5.5 *Programming and Teaching using the Reformed Curriculum*

CRIP trained teachers in the areas of lesson programming, lesson preparation, student-centred teaching strategy, and student assessment, based on the outcome-based curriculum. The anticipated outcome was that teachers would fully understand the subject content and program, and could effectively teach lessons to the students using the student-centred approach as a teaching strategy. Teachers were therefore asked to indicate their degree of agreement/disagreement with this statement, "The outcomes-based curriculum is easy to program and teach" From Table 27 it can be seen that 78% of the respondents disagreed that outcomes-based curriculum is easy to program and teach. Only 22% of the respondents agreed that programming and teaching using the outcomes-based curriculum was easy.

**Table 27: Teachers' perceptions on programming and teaching using outcomes-based curriculum (% of agreement/disagreement)**

Level of agreement	Number	Percentage
Strongly agree	19	17
Agree	5	5
Disagree	29	26
Strongly disagree	58	52
Not sure	0	0
Total	112	100

One of the possible contributing factors is the teachers' lack of understanding of the outcome-based curriculum (Kukari, Paraide & Kippel, 2009).

Follow-up interviews were conducted with selected remote teachers to establish why teachers were having difficulty with lesson programming and planning using the outcome-based curriculum. The following are examples of responses from the teachers:

...In order for me to plan and teach the curriculum reform effectively I will need the support materials...and that I don't have it at this school...for now I'm using objective lesson planning and teacher centred approach because it is easy for me that way...student centred teaching is not appropriate here (remote schools) because of material shortage...in the OBE we are asked to give students homework for students to find knowledge themselves using library for research but my school has no library...in PNG we (teachers) give knowledge which is important to PNG (A remote school teacher).

The data suggest that teachers in geographically isolated schools face real challenges with regard to the shortage of curriculum materials. The lack of curriculum reform materials and teacher training continued to impede teachers programming and teaching of the outcomes-based curriculum.

Follow-up interviews were also conducted with selected urban teachers to establish why teachers were having difficulty with lesson programming and planning, based on the outcome-based curriculum. One of the urban school teachers said:

... Lesson programming takes most of our (teachers) time and family time... Unlike, in the previous system programming was all right... I have to write the outcomes and identify indicators then write each indicator into a lesson plan, which is extra work and overload... I suggest each teacher will need a teaching aid to do the lesson preparation and... we do the teaching...

The data show that lesson programming using the outcome-based curriculum is an issue for teachers because lesson programming and preparation take up most of teachers' time and create extra work for them.

### ***3.5.6 Impact of Training on Teachers' Teaching Practices***

Training programs for the reformed curriculum are provided to teachers in order to change their perspectives and practices of teaching and learning. Training enables teachers to adapt to new teaching approaches. Teachers were asked to indicate their level of agreement/disagreement with the statement, "The curriculum reform has changed my ways of teaching." The majority (70%) of the respondents disagreed that the outcomes-based curriculum had changed their teaching practices. Only 26% of the respondents agreed with the statement. Possible contributing factors highlighted elsewhere in this report, include the limited amount of time spent on the training of teachers on the outcome-based curriculum and the general lack of transfer of knowledge and skills by those who benefited from training to the other teachers in the schools and the clusters.

**Table 28: Perceptions of teachers of change in their ways of teaching as a result of their learning about outcomes-based curriculum (% of agreement/disagreement)**

Level of agreement	Number	Percentage
Strongly agree	5	4
Agree	24	22
Disagree	68	61
Strongly disagree	10	9
Not sure	5	4
Total	112	100

### 3.6 The Impact of Curriculum Development Training on the Assessors/Trainers

The study assessed also the impact of curriculum development training on the assessors/trainers at the school and provincial levels. The assessors/trainers were trained by CRIP and PNGEI to provide basic training and assess the performance of teachers on implementing the curriculum reform. They were also required to provide feedback to the CRIP and PNGEI officers during the period between 2002 and 2005. In order to establish the impact of curriculum development and implementation training on the assessors/trainers, they were asked to indicate their level of agreement/disagreement on the following indicators of curriculum development training impact:

- Sufficiency of training received on the new curriculum.
- Usefulness of study guides for the conduct of workshops.
- Utilisation of knowledge and skills acquired to assess and train teachers.
- Teachers' effectiveness in teaching students using outcomes-based curriculum.
- Change of teachers' attitudes towards the teaching of outcomes-based curriculum.

#### 3.6.1 Sufficiency of Training Received on the New Curriculum

The study wanted to find out whether the training programs received by the trainers under the CRIP were adequate for them to carry out training with teachers in the clustered school groups. The assessors/trainers were asked to indicate their level of agreement/disagreement with this statement, "The training you received on the development of the new curriculum was sufficient." As can be perceived from Table 29, over half (68%) of the assessors/trainers agreed that the training they received was sufficient while 28% disagreed that this was not the case. The respondents' satisfaction of training received reflected both the amount of time spent on training and the availability of training materials. As stated elsewhere, these factors had a bearing on whether or not the assessors/trainers felt competent in disseminating the knowledge and skills acquired to teachers and assess their implementation of the curriculum.

**Table 29: Assessors/trainers' perceptions of sufficiency of training received on the new curriculum (% of agreement/disagreement)**

Level of agreement	Number	Percentage
Strongly agree	3	14
Agree	14	54
Disagree	3	14
Strongly disagree	3	14
Not sure	1	4
Total	24	100

### 3.6.2 *Usefulness of Study Guides for the Conduct of Workshops*

Study guides were developed to help assessors/trainers conduct assessment and carry out curriculum training workshops at the provincial and school levels. Assessors/trainers were asked to show their level of agreement with this statement, “Study guides provided helped you to conduct workshops for teachers.” In response to the statement, 79% of the respondents agreed that the provision of study guides did help them to conduct workshops for teachers. Only 8% of the respondents disagreed that study guides were helpful in their training of teachers. The data does indicate that the study guides develop under CRIP were generally useful in the provision of training workshops.

**Table 30: Assessors/trainers’ perceptions of the usefulness of study guides in the conduct of workshops (% of agreement/disagreement)**

Level of agreement	Number	Percentage
Strongly agree	8	33
Agree	11	46
Disagree	1	4
Strongly disagree	1	4
Not sure	3	13
Total	24	100

### 3.6.3 *Utilisation of Knowledge and Skills Acquired to Assess and Train Teachers*

A lot of workshops were conducted that targeted the assessors/trainers. After the training, they were required to use the skills that they acquired in order to train and assess teachers on the curriculum reform. Assessors/trainers were asked to indicate their level of agreement/disagreement with this statement, “You are using the skills taught to you to assess teachers on the new curriculum reform.” An analysis of the data show that 79% of the respondents agreed that they were using what they learned to assess teachers’ implementation of the outcome-based curriculum. On the other hand, only 17% of the respondents disagreed with the statement. The data does indicate that there was a high rate of knowledge and skill utilisation by the assessors/trainers to train and assess teachers’ curriculum development and implementation competencies. It also suggest that the training provide by CRIP for the assessors/trainers was relevant, enabling the assessors/trainers to effectively function in their roles.

**Table 31: Assessors/trainers’ perceptions of the utilisation of skills acquired to assess and train teachers (% of agreement/disagreement)**

Level of agreement	Number	Percentage
Strongly agree	9	37
Agree	10	42
Disagree	0	0
Strongly disagree	4	17
Not sure	1	4
Total	24	100

### 3.6.4 *Teachers’ Effectiveness in Teaching Students Using Outcomes-Based Curriculum*

School-based assessors/trainers were required to assess the effectiveness of teachers’ teaching of the outcomes-based curriculum. Assessors/trainers were asked to indicate their level of

agreement/disagreement with this statement, “Teachers are teaching students using the new curriculum reform effectively.” Responses to this statement are mixed. Forty-six percent agreed while 54% disagreed that teachers were teaching students effectively using the outcomes-based curriculum. Possible reasons for this mixed response from the assessors/trainers include lack of curriculum reform materials in most schools, poor training of assessors/trainers and lack of ongoing teacher learning of outcomes-based curriculum at the school and cluster levels (Bopi, 2004, Kukari, Paraide & Kippel, 2009).

**Table 32: Assessors/trainers’ perceptions of teachers’ effectiveness in teaching students using outcomes-based curriculum (% of agreement/disagreement)**

Level of agreement	Number	Percentage
Strongly agree	0	0
Agree	11	46
Disagree	13	54
Strongly disagree	0	0
Not sure	0	0
Total	24	100

### 3.6.5 *Change of Teachers’ Attitudes towards the Teaching of Outcomes-Based Curriculum*

The study tried to find out from the assessors/trainers if the curriculum reform training which teachers’ had undertaken had actually changed their attitudes towards the teaching of outcomes-based curriculum. Assessors/trainers were asked to indicate their level of agreement/disagreement with this statement, “The new curriculum reform has changed teachers’ attitudes towards the teaching of outcomes-based curriculum.” Of the 24 assessors/trainers who responded, 70% agreed and 26% disagreed that the new curriculum reform had changed teachers’ attitudes towards the teaching of outcomes-based curriculum. This finding is not surprising because the assessors/trainers tended work only with selected teachers rather than with all the teachers within the clustered schools. Therefore, their views on the change of teachers’ attitudes towards teaching due to the curriculum reform are not a true reflection of the reality in many schools. The findings from a recent study by Kukari, Paraide and Kippel (2009) show that negative attitudes towards the teaching of the reform curriculum were a problem amongst teachers.

**Table 33: Assessors/trainers’ perceptions of change in teachers’ teaching attitudes as a result of the curriculum reform (% of agreement/disagreement)**

Level of agreement	Number	Percentage
Strongly agree	2	9
Agree	15	61
Disagree	1	4
Strongly disagree	5	22
Not sure	1	4
Total	24	100

### 3.7 Sustainability of Curriculum Reform Development Training Knowledge and Skills

To establish the types of activities and programs that were conducted at the national level in order to sustain curriculum development knowledge and skills, assessors/trainers were asked to indicate their level of agreement on the following indicators of curriculum development and knowledge and skills sustainability:

- Utilisation of knowledge and skills learned at the work place.
- Ongoing training on the curriculum reform.
- DoE funding of the implementation of curriculum reform.
- Donor funding of the implementation of curriculum reform.
- Provincial government funding of the implementation of curriculum reform.

#### 3.7.1 *Utilisation of Knowledge and Skills Learned at the Work Place*

Assessors/trainers were asked to show their level of agreement with this statement, “You are using the knowledge and skills you have gained.” As can be perceived from Table 34, all of the participants (100%) who responded to the statement agreed that they were using the knowledge and skills acquired from the curriculum development and implementation training in their work place. The responses from the respondents seem to suggest that training provided by CRIP for assessors/trainers effectively prepared them to perform their roles as assessors/trainers.

**Table 34: Assessors/trainers’ utilisation of curriculum reform knowledge and skills learnt at the workplace (% of agreement/disagreement)**

Level of agreement	Number	Percentage
Strongly agree	2	9
Agree	21	91
Disagree	0	0
Strongly disagree	0	0
Don’t know	0	0
Total	23	100

#### 3.7.2 *Ongoing Training on the Curriculum Reform*

The study tried to find out whether the curriculum development training for assessors/trainers was ongoing. In order to ascertain if their curriculum development training was ongoing, assessors/trainers were asked to indicate their level of agreement/disagreement with this statement, “Training on the curriculum reform for assessors/trainers is ongoing.” The results presented in Table 35 show that the majority (78%) of the respondents disagreed that ongoing training on the development of the curriculum was provided for the assessors/trainers. Only 22% agreed that ongoing training was provided for the assessors/trainers. The data seem to suggest that training on the curriculum reform stopped as soon as CRIP came to an end in 2006. One of the possible factors could be the lack of funding, which is important for providing continued training on short- and long-term basis. This raises an issue about the sustainability of the outcomes-based curriculum at the national and sub-national levels.

**Table 35: Ongoing training for assessors/trainers on the curriculum reform (% of agreement/disagreement)**

Level of agreement	Number	Percentage
Strongly agree	0	0
Agree	5	22
Disagree	14	61
Strongly disagree	4	17
Don't know	0	0
Total	23	100

### 3.7.3 DoE Funding of the Implementation of Curriculum Reform

An adequate level of funding towards the implementation of the curriculum reform is critical to its sustainability. Trainers/assessors were asked to show their level of agreement/disagreement to this statement, “DoE is funding the implementation of the curriculum reform.” Of the 23 assessors/respondents who responded, the majority (73%) disagreed that DoE was funding the implementation of the curriculum reform. Only a small percentage (27%) agreed that DoE was funding the implementation of the curriculum reform. Data seem to suggest that unless DoE continues to fund the implementation of the curriculum reform its sustainability will be in serious doubt.

**Table 36: Assessors/trainers’ perceptions of DoE funding of curriculum reform implementation (% of agreement/disagreement)**

Level of agreement	Number	Percentage
Strongly agree	0	4
Agree	5	23
Disagree	14	64
Strongly disagree	4	9
Don't know	0	0
Total	23	100

### 3.7.4 Donor Funding of the Implementation of Curriculum Reform

The DoE always welcomed donor support in order to fund the training and implementation of the curriculum reform. Without donor support, many of the short and long-term training programs would not have been conducted. Assessors/trainers were asked to show their level of agreement/disagreement with this statement, “Donors fund the implementation of the curriculum reform.” As can be seen from Table 37, 79% of the respondents agreed that the implementation of the curriculum reform is funded by the donors. Only a small percentage (4%) of the respondents held a contrary perspective. This result is not surprising. It is a well known fact that development partners particularly, AusAID, have been funding curriculum reform training since 2000. Donor financing of the reform curriculum development and implementation is unsustainable in the long term. Dependency on development partners to fund the development and the implementation of the curriculum reform does have serious implications on the ability of the PNG government to adequately fund the curriculum reform on a sustainable basis.

**Table 37: Assessors/trainers' perceptions of donor funding of curriculum reform implementation (% of agreement/disagreement)**

<b>Level of agreement</b>	<b>Number</b>	<b>Percentage</b>
Agree	6	26
Strongly agree	12	53
Disagree	0	0
Strongly disagree	1	4
Not sure	4	17
Total	23	100

### **3.7.5 Provincial Government Funding of the Implementation of Curriculum Reform**

The annual budget allocation to education by Provincial Governments is very important for supporting the implementation of the curriculum reform at the provincial level. Assessors/trainers were asked to indicate their level of agreement/disagreement with this statement, "Provincial governments fund the implementation of the new curriculum reform." Of the 24 assessors/trainers who responded, 65% agreed that provincial governments fund the implementation of the curriculum reform while 26% disagreed that this was the case. Data seem to indicate that provinces have taken the responsibility for and ownership of training teachers on the curriculum reform. However, because curriculum is a national function, the national government must play a greater role in the funding of the curriculum reform.

**Table 38: Assessors/trainers' perceptions of provincial government funding of curriculum reform implementation (% of agreement/disagreement)**

<b>Level of agreement</b>	<b>Number</b>	<b>Percentage</b>
Strongly agree	1	4
Agree	15	61
Disagree	3	13
Strongly disagree	3	13
Not sure	2	9
Total	24	100

## CHAPTER 4: DISCUSSION & CONCLUSIONS

This study focused on identifying the types of curriculum development training programs that were delivered under the CRIP Project as well as the different groups that the training programs were targeted at. Based on this information, the study then analysed the impacts of the training programs delivered under the CRIP Project, especially focusing on the sustainability of skills developed. This chapter firstly discusses the main findings of the study. Secondly, the chapter makes certain conclusions about the impact and the sustainability of the curriculum development training at different levels. Finally, appropriate recommendations are made about the curriculum development training programs, based on the issues identified in this study.

The discussion is divided into four sections. Each section is divided into sub-sections which focus on each component in detail. The first section involves a discussion on the types of curriculum reform development training offered at the national and sub-national levels. This is followed by a discussion on the groups that CRIP Project training programs were targeted at. The impact of curriculum development training on the targeted beneficiaries is discussed in section 4. The final section involves a discussion on how curriculum development skills acquired were used and sustained.

### 4.1 Types of Curriculum Development Training Offered at the National and Sub-national Levels

The study found that CRIP consultants designed, developed, and carried out short- and long-term curriculum development training for targeted participants at the national, provincial, and district levels (see Tables 7, 8, 9, 11, 12 and 13). These trainings were provided for selected curriculum officers, assessors/trainers, and teachers as shown in Tables 3 and 14.

Relevant documents reviewed show that the OBE curriculum model was introduced to the DoE by CRIP consultants rather than the DoE developing its own curriculum model. The documents show that CRIP consultants advised the DoE that under the previous objective-based curriculum model, students were not allowed to construct their own knowledge and teachers were seen as the gatekeepers of knowledge. They assumed that this may have been the cause of the poor quality of education in the country, as noted in the Education Sector Review (DoE, 1991). These assumptions are incorrect. It is not the objective-based curriculum model that caused the problem, rather, it was the fact that most of the content of the curriculum was largely unrelated to PNG cultures and experiences, and were inappropriate to the PNG development goals as stated in the Education Sector Review study (*ibid.*, 1991).

Relevant training programs were developed based on this new model. The details of the curriculum training programs that were implemented for the different groups of curriculum developers, implementers, and assessors at various levels are presented here.

#### 4.1.1 Curriculum Development Training at the National Level

CRIP consultants carried out a training needs-analysis study. They identified that curriculum officers lacked the knowledge, understanding, and experience of the OBE curriculum model. The document review revealed that curriculum officers lacked the fundamental skills needed in order to design, develop, and write OBE-based curriculum, including curriculum

frameworks and the actual writing of the teachers' guides and syllabi (see Table 7). There were no OBE curriculum specialists within the DoE. This training involved selected curriculum officers and teacher education officers. The main purpose of the training was to orient curriculum officers on the OBE curriculum philosophies and practices.

Short and long-term training was designed, developed, and delivered to relevant DoE divisions and national teacher education institutions. The short-term training programs were delivered through workshops, work attachments (internal and external/overseas), seminars, and on-the-job training. A total of 15 different short-term training programs were provided to the curriculum officers (see Table 7). The courses offered included curriculum design, curriculum specifications, and curriculum writing. The aim was to develop the capacity of national officers to improve their curriculum design and writing skills.

The study found that CRIP started conducting workshops for teachers without developing the lower primary, upper primary, and the secondary curriculum. This is despite the DoE's curriculum development quality assurance process, which requires that a full curriculum is developed before teacher training programs are developed and implemented (see Figure 1). The study revealed that OBE curriculum was never trialled for a period of 5 years as required. The data revealed that the OBE went into full implementation without a proper trial. Concerns were raised about quality control that was being applied to the OBE curriculum.

The Teacher Education Division is responsible for designing and developing curriculum training programs for the teachers and teacher education institutions in the country. A key finding of this study was that CRIP conducted teacher training workshops without the involvement of key Teacher Education and Teaching Service Commission (TSC) officers. These officers are responsible for teacher education, training and deployment. As revealed in the "CRIP progressive report" (DoE, 2004, see also Table 15), CRIP carried out curriculum development training for teachers without the preparation of relevant teachers' guides and syllabi. In 2005, the Teacher Education Division raised this concern and explained that this failure to adhere to the processes and procedures set in place may undermine curriculum reform training efforts at the provincial and school levels. Although the DoE knew about the issue it did not make an attempt to stop it or correct the mistake.

The study found that three leading national teacher education institutions (University of Goroka, Pacific Adventist University, and PNG Education Institute) were involved in the training. However these institutions were very slow to respond to and recognise the need to change their in-service and pre-service teacher education and training programs to meet OBE specifications. Their slow response was due to CRIP and the DoE not making available completed teachers' guides and syllabi on time.

CRIP provided long-term training programs to selected curriculum officers. The study found that a total of 15 curriculum officers were enrolled to complete a master's degree in "learning and innovations" in distance mode. Only 4 officers currently remain with the Curriculum Development and Assessment Division. The data revealed that 4 men and 6 women left the department and joined other organisations (see Table 8). The officers were specifically trained to sustain the OBE curriculum principles and practices. There is some doubt as to whether the remaining officers will stay with the Division.

#### **4.1.2 Curriculum Development Training at the Provincial Level**

CRIP conducted curriculum development and training programs for assessors, trainers, school inspectors, provincial in-service coordinators, teachers, principals, church education secretaries, lecturers, and guidance officers serving in the provinces. A total of 388 participants attended the workshops conducted by CRIP from 2003 to 2005 (see Table 14). The main focus of training was on planning, data gathering, monitoring curriculum implementation, and leadership (see Table 13). Officers interviewed at the national and provincial levels revealed that the courses were irrelevant and did not help them to appreciate and understand the OBE curriculum. Furthermore, the study found that the majority of the officers at the provincial and district levels did not access those training programs. Only selected officers attended the training workshops. Many key stakeholders did not participate in the initial design and development of OBE curriculum. There was a failure to conduct a wide range of consultations with relevant institutions and the public to gauge the range of views on the OBE model. In addition, the amount of time spent on training was insufficient. This led the provincial, district, and school participants to assume that the OBE curriculum was difficult to implement because of severe shortages of library and basic curriculum learning materials, which are important for improving the quality of teaching and learning (see Table 10).

#### **4.1.3 Curriculum Development Training at the School Level**

According to the data presented, CRIP carried out curriculum development training at the school level. The training programs were conducted for teachers, head teachers, and the boards of management. The intention was to prepare teachers and stakeholders at the school level to manage and implement the curriculum change. Teachers were given specific training in the areas of OBE implementation, student assessment, lesson planning, programming, and collaborative planning. The study revealed that training on the teachers' guides and syllabi was conducted even though these resources were not developed and made available to be included with the training (see Tables 10 and 11). The relevant data show that CRIP training programs were only made available to selected provinces, districts, and schools. Although teachers in those selected provinces reported some improvements, there was insufficient training for teachers in the rest of the country in the period between 2002 and 2005 (see Tables 10 and 11). This is despite evidence from the literature which indicate that teacher participation in the early stages of the development of a new curriculum is important to sustaining the reform within the schools (Sleegers *et al*, 2002).

The study found that the communities (i.e. parents and citizens, school boards, and the public) were not directly involved in the initial stages of curriculum development training. This is despite the Education Sector Review (DoE, 1991) recommending that the community should fully participate in the development and implementation of the curriculum.

### **4.2 Groups Targeted in Curriculum Development Training**

The study showed that CRIP carried out training for targeted groups at the national, provincial, district, school, and community levels. There were 33 different groups that the CRIP curriculum development training targeted for training (see Table 14). Of these groups, a total of 10,993 people benefited. A total of 334 workshops were conducted for selected officers at each level. The data revealed that the training workshops that were conducted benefited only a minority of hand-picked officers from the selected provinces, districts,

schools, and communities. Nationwide training was inadequate. The interpretation of this data is that at all levels there was a widespread misapprehension of OBE principles and practices, and the intended outcomes of the curriculum reform.

The study, however, found that CRIP established a core group that constantly received training. These were curriculum officers, assessors/trainers, and teachers in the selected provinces (see Tables 16 and 17). The main group of people who were directly involved in the development of the curriculum was largely ignored and left out for unknown reasons. The data presented revealed that from 2002 to 2005 the majority of the teachers throughout the country missed out on training because there were no province-, district-, and school-based assessors/trainers to design and run programs, as well as conduct workshops.

### **4.3 Impact of Curriculum Development Training on the Targeted Group**

The majority of the participants indicated that the curriculum reform development training carried out under CRIP project did not make an impact on their work (see Tables 19, 20, 21, 23, 24, 25, 26). The impacts of CRIP curriculum development training are presented next.

#### **4.3.1 Impact on Curriculum Officers**

The study revealed that CRIP curriculum development training made a big impact on the curriculum officers (see Tables, 19, 20, 21, and 22). They used the skills that they gained to design and develop teachers' guides and syllabi for each sector of education. The officers also carried out curriculum development training, which benefited selected provincial officers and teachers. The main focus of the training was the OBE curriculum principles and practices.

The study also revealed that the curriculum development training conducted for the curriculum officers was insufficient. It did not meet demands and expectations (see Table 23). Curriculum officers believed that the training was rushed in order to meet CRIP's own 'due dates', rather than in line with the DoE's established systems and procedures for designing, developing, trialling, training, and implementing the curriculum reform (see Figure 1).

Furthermore, the study also revealed that curriculum officers did not use the skills that they acquired to train other officers. It seems that those who had the opportunity to access CRIP training programs did not organise in-house training workshops to transfer skills to fellow officers (see Table 21).

The majority of the curriculum officers revealed that they were applying the skills they learnt in their daily work (see Table 29). However, in spite of this short- and long-term training, the curriculum officers did not change their behaviour or their attitudes toward the OBE curriculum philosophy and principles (see Table 23). Their view was that the training was a transfer of skills rather than changing their whole approach. The curriculum officers argued that they used their previous knowledge and skills, gained under the previous objective-based curriculum model and applied it to OBE curriculum specifications (see Table 23). The interpretation is that the CRIP curriculum development training programs only enhanced what the skills officers had previously gained under the old model.

### **4.3.2 Impact on Assessors/Trainers**

The study revealed that the majority of the assessors/trainers benefited from the CRIP training (see Table 30). The study found that the training they received was making an impact on their work. This is because the training received was adequate and sufficient for them to carry out teacher training and assessment tasks on curriculum development and implementation in the classrooms (see Table 34). The data also revealed that assessors and trainers were using the study guides to help them to conduct curriculum training workshops for selected teachers (see Table 31).

According to the trainers/assessors, the training they received from CRIP helped them to train teachers to improve their performance in programming, lesson planning, and teaching (see Table 34). However, this finding only applied to the selected teachers that the assessors/trainers selected and trained. The majority of the teachers argued that although training was carried out, the training received from the assessors/trainers under the CRIP Project was ineffective. The study revealed that the assessors/trainers lacked OBE curriculum content knowledge and did not perform to expectations (see Table 24).

Training is intended to improve workplace performance. The data presented revealed that the majority of the assessors/trainers were using the skills they acquired (see Tables 30, 31 and 32). The data showed that assessors/trainers exposed teachers to some of the training programs that the teachers did not otherwise have the opportunity to access.

### **4.3.3 Impact on Teachers**

The majority of teachers revealed that the training they received under the CRIP Project was making an impact on their work (see Tables 24 and 25). However, the data presented revealed that teachers who attended the CRIP training programs lacked the confidence and subject content knowledge to effectively conduct school-based training programs as a way of sharing skills and knowledge with other teachers (see Tables 25, 26). The teachers argued that the training they received did not help them to teach the curriculum reform effectively (see Table 26). There is a severe lack of curriculum support materials, which made the teaching of the curriculum reform more difficult (see Table 26). As a consequence, students' learning did not improve significantly under the curriculum reform (see Table 27).

The study found that the new curriculum reform is creating some difficulties for teachers in terms of programming and teaching effectively (see Tables 26 and 28). Teachers argued that lesson planning and developing teaching materials and aids takes up most of their time, unlike under the previous objective-based curriculum. The data presented show that there was a widespread lack of support materials in the schools, and this affected the implementation and teaching of the curriculum reform (see Tables 27 and 28).

## **4.4 Sustainability of Skills and Training**

The study found that the skills and knowledge gained during the CRIP project was not being sustained (see Tables 36, 37, 39, 47). A discussion of the sustainability of curriculum reform development training at the national, provincial, and school levels is presented below.

#### ***4.4.1 Sustainability of the Skills and the Training Provided to Curriculum Officers at the National Level***

The study found that the majority of curriculum officers were constantly applying the skills and the knowledge gained during training at their work places (see Table 35). However, training on the OBE curriculum ceased soon after CRIP ended its contract in 2006 (see Table 36). The data showed that the DoE did not take the full responsibility of funding any further curriculum development training programs on OBE (see Table 37). The DoE's lack of funding did not stop the donor agencies from providing funding to implement the curriculum training programs for the national officers. This raises the issue of sustaining the curriculum training in the short- and long-term at the national and provincial levels (see Tables 37 and 38).

#### ***4.4.2 Sustainability of the Skills and the Training Provided to Trainers/Assessors at the Provincial Level***

It is pleasing to note that provincial governments are supporting ongoing teacher training at the provincial level (see Table 39). The study revealed that assessors/trainers continuously used the skills that they gained during training, when they returned to their work place and that they provided training to teachers (see Tables 40 and 41). Many teachers, however, argued that assessors/trainers targeted teachers who had enrolled with them as part of the PNGEI diploma program, rather than involving all teachers (see Table 40). The data presented suggest that the majority of the teachers did not access the training programs conducted under the CRIP project.

#### ***4.4.3 Sustainability of the Skills and the Training Provided to Teachers at the School Level***

The study found that teachers were sharing and transferring skills amongst themselves on the key features and elements of the OBE curriculum (see Table 43). It is pleasing to note that training on the curriculum reform is an ongoing activity amongst the teachers and schools covered by this study. In order to sustain the OBE new teaching techniques and methodologies, and school-based in-service is crucial.

The clustering concept for training teachers in small groups at the school level is not working. This is shown in Table 45. The majority of the teachers argued that cluster-based in-service teacher training is inappropriate because it is serving the needs of only a few teachers (see Table 46). The study also revealed that provincial and school-based assessors/trainers lacked the required subject content knowledge and the confidence to effectively deliver the training programs to teachers (see Table 48).

In relation to the financing of the curriculum training programs, school administration and management supported teacher training on curriculum related activities (see Table 46). This result is pleasing. Implementation of the curriculum reform takes place at the school level and therefore direct support from the school management is needed. However, the data also revealed that provincial governments did not fully fund teacher training programs. Instead they subsidised fees for long-term training (see Table 47). The lack of support by provincial governments in funding these programs can impede the effective implementation of the curriculum reform at the provincial and school levels.

#### 4.5 Curriculum Model and Framework

The study found that the DoE lacked the leadership capacity to deal with the CRIP Project consultants and to be involved in the design and development of the curriculum model and framework. Evidence provided show that the DoE did not propose a curriculum model, but relied on the model proposed by the CRIP consultants. The CRIP consultants, with the support of the DoE, introduced the OBE curriculum model. In other words, the DoE did not provide leadership, direction, and guidance on the development of a PNG curriculum model and framework. The CRIP curriculum consultants took the lead in designing the OBE curriculum model. The DoE and CRIP did not provide reasons to support why the objective-based curriculum was inappropriate.

The Education Sector Review (DoE, 1991) provided the basis for major structural and curriculum reform programs. However the evidence in that report showed that there was nothing wrong with the objective-based model. The Education Sector Review (*ibid.*, 1991) consistently argued that it was the subject content, and not the model that was irrelevant. This is because the subject content was based on foreign ideas. Since the DoE did not take the lead, CRIP consultants ignored due processes and protocols for the design, development, and implementation of the curriculum. The data revealed that CRIP implemented curriculum development training for the teachers without developing the teachers' guides and syllabi. This is a major concern. The key teacher education institutions in the country were reluctant to change their training programs to OBE specifications (CRIP RISA Quarterly Report, 2004).

The data show that the DoE did not provide sufficient guidance and direction on what should constitute a new curriculum model, based on the Education Sector Review (DoE, 1991) and the Philosophy of Education (Matane, 1984) recommendations. The qualitative data also showed that not all education stakeholders were consulted. As a result, the introduction of the OBE curriculum in PNG met opposition from the public.

The study found that the OBE model seemed to have been forced on to PNG under the CRIP Project without proper research to assess whether the model and its principles and practices were relevant to PNG's development and its cultural needs. The OBE model is unsustainable and not appropriate for the country. Students cannot create their own knowledge and learning using library and internet resources, because in most cases these resources are not available in the schools.

#### 4.6 Conclusion

This report reviewed a range of documents including reports and submissions from the CRIP curriculum development training programs that took place in the period between 2002 and 2005. This document review revealed that CRIP carried out training programs at the national, provincial, district, and school levels in a selected few provinces. The trainings provided made a lot of impact on the targeted officers. For example, the curriculum officers used the skills they gained through the training to develop teachers' guides and syllabi.

However, the study also revealed that many of the training programs that were carried out did not follow the DoE curriculum development quality assurance process that had been put in place for designing, developing, trialling, training officers and teachers, and implementing the curriculum.

The data presented in this report also show that training was conducted for teachers and assessors/trainers without developing teacher guides and syllabi, which are needed to successfully conduct curriculum training. The study revealed that the DoE did nothing to correct this weakness in the curriculum development training.

One of the key components of curriculum development is that the draft curriculum should be trialled for up to 5 years. Trialling the curriculum is one of the core functions of the DoE in order to ensure that the quality assurance processes are followed. The study revealed that the current OBE curriculum was never trialled. As a result, there is still confusion within the curriculum and the teacher education divisions of the DoE whether the current OBE implementation is in the trial phase. Interviews conducted with key DoE curriculum and teacher education officers revealed that CRIP and the DoE went into full implementation of the curriculum without an OBE curriculum trial. This raises the issue of maintaining quality and standards and this may affect teaching and learning in the long-term.

In relation to the groups that were targeted for receiving training, the research found that only 33 groups (which equated to 10,993 participants) were targeted in a few selected provinces. The majority of key groups across the nation did not receive training. Many provinces missed out on receiving training on the OBE curriculum frameworks and specifications. As a consequence, there have been significant misunderstandings of the OBE curriculum model. What is of concern is the public opposition to the OBE curriculum model. One of the contributing factors is that, in the first place, CRIP and the DoE were not transparent to the teachers and the public on the development of the OBE curriculum.

CRIP selected three core groups for its own purposes: curriculum officers, assessors/trainers, and teachers. These groups, based in the selected provinces, were given continuous training. The research found that the training conducted by CRIP benefited this minority of hand-picked provinces, districts, schools, and communities, whereas the coverage of training nationwide was lacking. It is possible to suggest that this impeded the proper appreciation and understanding of OBE principles, philosophies, and practices as well as the outcomes and goals of the OBE curriculum.

In terms of the impact on the targeted groups, the research found that CRIP curriculum development training programs made a big impact on the participants. The study revealed that the job of training teachers on the curriculum reform was given to the provincial and school-based assessors/trainers. The DoE need to review this arrangement and develop appropriate training strategies to meet the teacher training needs on the curriculum reform. The majority of the participants revealed that the assessors and trainers were ill equipped to provide effective and quality training, especially at the school level where the curriculum is implemented. The poor quality of training given slowed down the implementation of curriculum reform in schools.

The sustainability of the CRIP curriculum development training at the national, provincial, district, and school levels is a major issue. The national and provincial governments have no funding to sustain training programs. On the other hand, school administrations provided financial support for curriculum-related activities for the teachers. The lack of national and provincial government funding to extend the curriculum training programs throughout the country is a major issue. This has an immediate negative effect on the quality of teaching and learning in the schools.

In relation to sustaining the training programs in the work place, the data presented revealed that the great majority of participants applied skills gained in their daily work. The study found that at the provincial and school levels, the assessors, trainers, and teachers shared their skills through school based in-service training programs. There is also evidence that curriculum officers relied heavily on CRIP to provide relevant training programs on the OBE curriculum at the national level. However curriculum officers did not organise in-house training to share knowledge and skills gained with their colleagues.

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## APPENDIX A: TEACHERS QUESTIONNAIRE

### Introduction

This research is carried out by the National Research Institute and Department of Education. The aim of the research is to assess the **impact and sustainability** of the new curriculum reform development training program that was provided to you. Answer each question to the best of your ability. There is no right or wrong answers. Please answer all questions. Your answers will be kept confidential and only used for this study.

There are three parts to this questionnaire:

- Part A. Personal Information
- Part B. Impact by curriculum reform skills and training and
- Part C. Sustainability of curriculum reform skills and training

### Part A: Personal Information

N0	QUESTION	ANSWERS
1	Gender ( <i>Circle one answer</i> )	1=Male, 2=Female
2	What type of school is your school? ( <i>Circle one answer</i> )	1=Elementary, 2=Primary, 3=Secondary
3	Province ( <i>Circle one answer</i> )	1=MBP, 2=Central, 3=EHP, 4=NIP, 5=Madang
4	Marital status ( <i>Circle one answer</i> )	1=Married, 2=Single, 3=Sole parent, 4=Widow
5	What is your age? ( <i>Write in the space</i> )	
6	How many years have taught? ( <i>Write in the space</i> )	
7	In which of the region is your school located? ( <i>Circle one answer</i> )	1=NGI, 2=MOMASE, 3=Highlands, 4=Southern
8	What is your current position in the school? ( <i>Write your response in the space</i> )	
9	How long have you been in this position? ( <i>Write your response in the space</i> )	
10	Which of the following qualifications do you possess? ( <i>Circle the highest qualification only</i> )	1=Master of Education, 2=Bachelor of Education Honors, 3=Bachelor of Education, 4=Diploma, 5=Certificate, 6=Others, specify here-----
11	Which grade are you teaching? ( <i>Circle whichever is appropriate to you</i> )	1=Elementary – Preparatory, 2=Elementary – Grade 1, 3=Elementary – Grade 2, 4=Grade 3, 5=Grade 4, 6=Grade 5, 7=Grade 6, 8=Grade 7, 9=Grade 8, 10=Grade 9, 11=Grade 10, 12=Grades 11, 13=Grades 12
12	How many students are in your class?	Boys:                      Girls:
13	What agency does your school belong?	1=Government, 2=Church, 3=Others, specify here
14	Have you attended any new curriculum reform development training programs over the last five years? ( <i>Tick only one</i> )	1=Yes, 2=No
15	In which of the following curriculum reform did you receive training? ( <i>Tick all that apply to you</i> )	<p><b>Elementary curriculum reform</b></p> <p>1=Mathematics 2=Language (Vernacular) 3=Culture and community</p> <p><b>Lower Primary curriculum reform-Grades 3-5</b></p> <p>4=Mathematics 5=Language (Bridging to English with vernacular development) 6=Environmental studies 7=Community living 8=Arts 9=Health Education 10=Physical Education</p> <p><b>Upper primary curriculum reform-Grades 6-8</b></p> <p>11=Mathematics 12=Language-English as the language of instruction with continued use of vernacular 13=Science 14=Making a living 15=Social science 16=Arts 17=Personnel Development</p>

N0	QUESTION	ANSWERS
		<b>Lower Secondary curriculum reform-Grades 9-10</b> 18=Science 19=Business studies 20=Agriculture 21=Technology 22=English 23=Social Science 24=Mathematics 25=Personnel Development 26=Arts
16	Who provided the training on the curriculum reform? (Circle all that applies)	1=Department of Education, 2=Provincial Division of Education, 3=Donor agency e.g. AusAid, 4=Head teacher, 5=School inspector, 6=Provincial In-service Coordinator, 7=Trained Assessor 8=Others, specify here
17	Which of the following curriculum reform training programs did you attend over the last 5 years? (Circle all that apply to you)	1=Assessors training, 2=Cluster In service or district based 3=School based in service, 4=Curriculum reform workshops conducted by DOE
18	How many training programs did you attend on the curriculum reform over the last 5 years? Write the number in the space.	

### Part B: Impact of Curriculum Reform Skills and Training

Read each question carefully. Draw a circle around the answer that describes your level of agreement or disagreement on the curriculum reform training you received. Put a circle around:

- SA** if you **Strongly Agree** with the statement  
**A** if you **Agree** with the statement  
**SD** if you **Strongly Disagree** with the statement  
**D** if you **Disagree** with the statement  
**NS** if you are **Not Sure** about the statement

19	All curriculum reform trainings you received were satisfactorily completed in a year.	1=SA, 2=A, 3=SD, 4=D, 5=NS
20	You are using the <i>STUDY GUIDE</i> provided to help you support the implementation of the curriculum reform	1=SA, 2=A, 3=SD, 4=D, 5=NS
21	You are using <i>STUDY GUIDES</i> as a source of information to conduct school based in-service and cluster in-service on various curriculum reform subjects.	1=SA, 2=A, 3=SD, 4=D, 5=NS
22	There were sufficient training on how to use the <i>STUDY GUIDE</i>	1=SA, 2=A, 3=SD, 4=D, 5=NS
23	You are using <i>STUDY GUIDES</i> for self improvement	1=SA, 2=A, 3=SD, 4=D, 5=NS
24	The training you received on the curriculum reform is helping you to teach reformed subjects effectively	1=SA, 2=A, 3=SD, 4=D, 5=NS
25	You need more training on the reformed subjects	1=SA, 2=A, 3=SD, 4=D, 5=NS
26	All units of various reform subjects is adequately covered	1=SA, 2=A, 3=SD, 4=D, 5=NS
27	Trainings you received so far on the curriculum reform were adequate	1=SA, 2=A, 3=SD, 4=D, 5=NS
28	Students are being taught using the new curriculum reform	1=SA, 2=A, 3=SD, 4=D, 5=NS
29	Students are learning well in the new curriculum reform	1=SA, 2=A, 3=SD, 4=D, 5=NS
30	The new curriculum reform is easy to understand, program and teach	1=SA, 2=A, 3=SD, 4=D, 5=NS
31	The new curriculum reform have changed my way of teaching	1=SA, 2=A, 3=SD, 4=D, 5=NS

Indicate the level of your acquisition of skills and knowledge about the following curriculum reform subjects either through training or use of *STUDY GUIDE* as self help document. Tick the appropriate box that corresponds to you. For example, if you are teaching in elementary school only give answer to elementary reform subjects that is indicated and so on. Tick (✓) only one answer.

	Subjects by schooling sector	Very easy to follow	Sometimes difficult to follow	Very difficult to follow
<b>Elementary curriculum reform</b>				
32	Mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33	Language (Vernacular)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34	Culture and community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Lower Primary curriculum reform-Grades 3-5</b>				

35	Mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36	Language (Bridging to English with vernacular development)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37	Environmental studies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38	Community living	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39	Arts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40	Health Education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41	Physical Education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Upper primary curriculum reform-Grades 6-8</b>				
42	Mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43	Language-(English as the language of instruction with continued use of vernacular )	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44	Science	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45	Making a living	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
46	Social science	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
47	Arts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48	Personnel Development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Lower Secondary curriculum reform-Grades 9-10</b>				
49	Science	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
50	Business studies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
51	Agriculture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
52	Technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
53	English	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
54	Social Science	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
55	Mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
56	Personnel Development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
57	Arts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Part C: Sustainability of Curriculum Reform Skills and Training

The following statements are about how you go about continuing with curriculum reform subjects in your school. Indicate how much you agree or disagree with the following statements. Tick only one box.

	Statements	Strongly Agree	Agree	Strongly Disagree	Disagree	Not Sure
58	You are training other teachers using the skills and knowledge you have gained	<input type="checkbox"/>				
59	Training on the curriculum reform subjects are on going in your school or school cluster or district cluster groups	<input type="checkbox"/>				
60	Teachers are working in cluster groups to implement the new curriculum reform	<input type="checkbox"/>				
61	School administration is very supportive of the new curriculum reform implementation in the school	<input type="checkbox"/>				
62	Provincial government is supporting (funding) the implementation of the new curriculum reform	<input type="checkbox"/>				
63	The assessors continue to provide training on the new curriculum reform	<input type="checkbox"/>				

**APPENDIX B: CURRICULUM OFFICERS QUESTIONNAIRE**

(Elementary, Primary and Secondary Sections)

**Introduction**

This research is carried out by the National Research Institute and Department of Education. The aim of the research is to assess the **impact** and **sustainability** of skills and training on the new curriculum reform development training programs that were provided to you under the Curriculum Reform Implementation Program (CRIP). This program started in 2001 and ended in 2006. Answer each question to the best of your ability. There is no right or wrong answers. Please answer all questions. Your answers will be kept confidential and only use for this study.

There are three parts to this questionnaire.

- **Part A.** Personal Information
- **Part B.** Impact of curriculum reform skills and training
- **Part C.** Sustainability of curriculum reform skills and training

**Part A: Personal Information**

N0	QUESTIONS	ANSWERS
1	Gender ( <i>Circle one answer</i> )	1=Male, 2=Female
2	Marital status ( <i>Circle one answer</i> )	1=Married, 2=Single, 3=Sole parent, 4=Widow
3	What is your age? ( <i>Write in the space</i> )	
4	How many years have you been a curriculum officer? ( <i>Write in the space</i> )	
5	What is your current position? ( <i>Write your answer in the space</i> )	
6	How long have you been in this position? ( <i>Write in the space</i> )	
7	Which of the following qualifications do you possess? ( <i>Circle the appropriate number</i> )	1=Master of Education, 2=Bachelor of Education Honors, 3=Bachelor of Education, 4=Diploma, 5=Certificate, 6=Others, specify here
8	In which section do you work? ( <i>Circle whichever is appropriate to you</i> )	1=Elementary section, 2=Primary section 3=Secondary section 4=Media Centre, 5=Others, specify here
9	Have you attended any new curriculum reform development training programs over the last five years? ( <i>Tick only one</i> )	1=Yes, 2=No
10	If 'Yes' in question --- which of the following curriculum reform development programs did you receive training? ( <i>Tick all that apply to you</i> )	<p><b><u>Elementary curriculum reform</u></b>            1= Mathematics (Cultural)            2=Language (Vernacular)            3=Culture and community</p> <p><b><u>Lower Primary curriculum reform-Grades 3-5</u></b>            4=Mathematics            5=Language (Bridging to English with vernacular development)            6=Environmental studies            7=Community living            8=Arts            9=Health Education            10=Physical Education</p> <p><b><u>Upper primary curriculum reform-Grades 6-8</u></b>            11=Mathematics            12=Language-English as the language of instruction with continued use of vernacular            13=Science            14=Making a living            15=Social science            16=Arts            17=Personnel Development</p> <p><b><u>Lower Secondary curriculum reform-Grades 9-10</u></b>            18=Science            19=Business studies            20=Agriculture</p>

		21=Technology 22=English 23=Social Science 24=Mathematics 25=Personnel Development 26=Arts
10	Which of the following curriculum reform training programs did you attend over the last 5 years? ( <i>Circle all that apply to you</i> )	1=Assessors training, 2=Cluster In service or district based 3=School based in service, 4=Curriculum reform development workshops conducted by CRIP 5=Others, specify here
11	How many training programs did you attend on the curriculum reform over the last 5 years? <i>Write the number in the space.</i>	
12	Which divisions are coordinating the teachers' in-service training programs on the new curriculum reform? ( <i>Circle all that applies</i> )	1=Teacher Education Division 2=Curriculum Development and Assessment Division 3=Donor agency 4=PNG Education Institute (PNGEI) 5=Others, specify here
13	Are you involved in the training of teachers on the curriculum reform? ( <i>Circle only one answer</i> )	1=Yes, 2=No
14	If your answer is 'no' in question 13 please give brief explanations why you were not involved ( <i>Write in the space</i> )	-

At the provincial levels numbers of various interest groups were targeted for curriculum development training. Below list the target group you targeted to provide training and supervision.

	Target Group	Type of training
E.g.	Primary school teachers	Language bridging
15	Target Group	Type of training
15.1		
15.2		
15.3		

**Part B: Impact of Curriculum Reform Skills and Training**

Read each question carefully. Draw a circle around the answer that describes your level of agreement or disagreement on the curriculum reform skills and training you received. Put a circle around:

- SA** if you **Strongly Agree** with the statement
- A** if you **Agree** with the statement
- SD** if you **Strongly Disagree** with the statement
- D** if you **Disagree** with the statement
- NS** if you are **Not Sure** about the statement

16	Trainings on the development of new curriculum were satisfactorily completed	1=SA, 2=A, 3=SD, 4=D, 5=NS
17	STUDY GUIDES were provided to help you develop training programs for teachers	1=SA, 2=A, 3=SD, 4=D, 5=NS
18	The trainings you received on the development of the new curriculum were sufficient	1=SA, 2=A, 3=SD, 4=D, 5=NS
19	STUDY GUIDES provided helped you to conduct workshops for teachers	1=SA, 2=A, 3=SD, 4=D, 5=NS
20	There were sufficient skill trainings on how to use the STUDY GUIDES	1=SA, 2=A, 3=SD, 4=D, 5=NS
21	There were sufficient skill trainings on how to write curriculum reform support materials	1=SA, 2=A, 3=SD, 4=D, 5=NS
22	You are using the skills taught to you to write the new curriculum reform	1=SA, 2=A, 3=SD, 4=D, 5=NS
23	Teachers are in-serviced on how to use the new curriculum reform	1=SA, 2=A, 3=SD, 4=D, 5=NS
24	Teachers are teaching students using the new curriculum reform effectively	1=SA, 2=A, 3=SD, 4=D, 5=NS
25	The new curriculum reform is easy to understand, program and teach	1=SA, 2=A, 3=SD, 4=D, 5=NS
26	The new curriculum reform have changed teachers attitudes to teaching	1=SA, 2=A, 3=SD, 4=D, 5=NS
27	Your section has carried out numerous workshops on the new curriculum reform	1=SA, 2=A, 3=SD, 4=D, 5=NS
28	Students learning has improved using the curriculum reform	1=SA, 2=A, 3=SD, 4=D, 5=NS
29	Did your section has monitored and evaluated the effectiveness of the curriculum reform	1=Yes, 2=No
30	If 'yes' in question 29 how many monitoring and evaluation programs have	

	you carried out over the last 5 years	
31	If 'no' in question 29 provide explanations why the curriculum reform were not monitored and evaluated over the last 5 years (Please, write your answers below)	

You were given numerous trainings on how to develop and write the new curriculum reform. Reflect on those trainings/workshops and give a rating that represents your opinion. Tick only one box.

	How would you rate the:	Very poor	Poor	Average	Good	Very good	Don't know
32	acquisition of skills	<input type="checkbox"/>					
33	materials and equipment provided	<input type="checkbox"/>					
34	length of time allocated for training	<input type="checkbox"/>					
35	curriculum writers trainings/workshops	<input type="checkbox"/>					
36	curriculum development trainings met your needs	<input type="checkbox"/>					
37	presenters level of preparedness	<input type="checkbox"/>					
38	presenters knowledge of curriculum reform	<input type="checkbox"/>					
39	presenters skill as curriculum development trainers	<input type="checkbox"/>					

Indicate the level of your acquisition of skills and knowledge about the following curriculum reform development either through training or use of STUDY GUIDE as self help document. Tick the appropriate box that corresponds to you. For example, if you are in elementary section only give answer to elementary reform subjects that is indicated and so on. Tick (√) answers that apply to you.

	Subjects by schooling sector	Very easy to follow	Sometimes difficult to follow	Very difficult to follow
	<b>Elementary curriculum reform</b>			
40	Mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41	Language (Vernacular)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42	Culture and community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<b>Lower Primary curriculum reform-Grades 3-5</b>			
43	Mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44	Language (Bridging to English with vernacular development)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45	Environmental studies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
46	Community living	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
47	Arts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48	Health Education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
49	Physical Education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<b>Upper primary curriculum reform-Grades 6-8</b>			
50	Mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
51	Language-(English as the language of instruction with continued use of vernacular )	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
52	Science	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
53	Making a living	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
54	Social science	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
55	Arts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
56	Personnel Development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<b>Lower Secondary curriculum reform-Grades 9-10</b>			
57	Science	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
58	Business studies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
59	Agriculture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
60	Technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
61	English	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
62	Social Science	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
63	Mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
64	Personnel Development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
65	Arts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Part C: Sustainability of Curriculum Reform Skills and Training**

The following statements are about how you go about continuing with curriculum reform development activities in your respective sections. Indicate how much you agree or disagree with the following statements. Tick only one box.

***** *	Statements	Strongly Agree	Agree	Strongly Disagree	Disagree	Not Sure
66	You are using the skills and knowledge you have gained in your daily work	<input type="checkbox"/>				
67	Training on the curriculum reform are on going in your section	<input type="checkbox"/>				
68	Teachers are implementing the new curriculum reform as expected	<input type="checkbox"/>				
69	Your division supports the new curriculum reform implementation in the provinces	<input type="checkbox"/>				
70	DOE is funding the implementation of the new curriculum reform	<input type="checkbox"/>				
71	There is continuous training provided to teachers on the new curriculum reform by your section in the provinces	<input type="checkbox"/>				
72	Donors are funding the implementation of the new curriculum reform	<input type="checkbox"/>				
73	National and provincial governments funds the implementation of the new curriculum reform	<input type="checkbox"/>				
74	Curriculum reform is implemented as planned in the provinces	<input type="checkbox"/>				

In the space below, list some of the good things you have learnt from the curriculum development programs and list some of the issues that are threats to continuing the development and implementation of the curriculum reform programs throughout the country. Please, also provide some recommendations on the specific issues you have identified.

*****	<i>List good things you have learnt from the curriculum reform development programs</i>
75	
75.1	
75.2	
*****	<i>List the Issues that threatens the continuity of the development and implementation of the curriculum reform in the country</i>
75.3	
75.4	
*****	<i>List your recommendations to overcome the issues identified above</i>
75.6	
75.7	
75.8	

76. Any other comments you may have, please list them below.

**APPENDIX C: ASSESSORS/TRAINERS QUESTIONNAIRE****Introduction**

This research is carried out by the National Research Institute and Department of Education. The aim of the research is to assess the **impact** and **sustainability** of skills and training on the new curriculum reform development training programs that were provided to you under the Curriculum Reform Implementation Program (CRIP). This program started in 2001 and ended in 2006. Answer each question to the best of your ability. There is no right or wrong answers. Please answer all questions. Your answers will be kept confidential and only use for this study.

There are three parts to this questionnaire.

**Part A.** Personal Information

**Part B.** Impact of curriculum reform skills and training

**Part C.** Sustainability of curriculum reform skills and training

**Part A: Personal Information**

No	QUESTIONS	ANSWERS
1	Gender ( <i>Circle one answer</i> )	1=Male, 2=Female
2	What type of school is your school? ( <i>Circle one answer</i> )	1=Elementary, 2=Primary, 3=Secondary
3	Province ( <i>Circle one answer</i> )	1=MBP, 2=Central, 3=EHP, 4=NIP, 5=Madang
4	Marital status ( <i>Circle one answer</i> )	1=Married, 2=Single, 3=Sole parent, 4=Widow
5	What is your age? ( <i>Write in the space</i> )	
6	How many years have your being an assessor or trainers of trainers? ( <i>Write in the space</i> )	
7	Who provided assessors training? ( <i>Write in the space</i> )	
8	What is your current position? ( <i>Write your answer in the space</i> )	
9	How long have you been in this position? ( <i>Write in the space</i> )	
10	Which of the following qualifications do you possess? ( <i>Circle the appropriate number</i> )	1=Master of Education, 2=Bachelor of Education Honors, 3=Bachelor of Education, 4=Diploma, 5=Certificate, 6=Others, specify here-
11	Have you attended any new curriculum reform development training programs over the last five years? ( <i>Tick only one</i> )	1=Yes, 2=No
12	If 'Yes' in question 10 which of the following curriculum reform development programs did you receive training? ( <i>Tick all that apply to you</i> )	<p><b><u>Elementary curriculum reform</u></b>            1=Mathematics            2=Language (Vernacular)            3=Culture and community</p> <p><b><u>Lower Primary curriculum reform-Grades 3-5</u></b>            4=Mathematics            5=Language (Bridging to English with vernacular development)            6=Environmental studies            7=Community living            8=Arts            9=Health Education            10=Physical Education</p> <p><b><u>Upper primary curriculum reform-Grades 6-8</u></b>            11=Mathematics            12=Language-English as the language of instruction with continued use of vernacular            13=Science            14=Making a living            15=Social science            16=Arts            17=Personnel Development</p> <p><b><u>Lower Secondary curriculum reform-Grades 9-10</u></b>            18=Science            19=Business studies            20=Agriculture            21=Technology</p>



34	length of time allocated for training	<input type="checkbox"/>					
35	curriculum writers trainings/workshops	<input type="checkbox"/>					
36	curriculum development trainings met your needs	<input type="checkbox"/>					
37	presenters level of preparedness	<input type="checkbox"/>					
38	presenters knowledge of curriculum reform	<input type="checkbox"/>					
39	presenters skill as curriculum reform trainers	<input type="checkbox"/>					
40	teachers exposure to the curriculum reform	<input type="checkbox"/>					
41	Students learning under the curriculum reform	<input type="checkbox"/>					

Indicate the level of your acquisition of skills and knowledge about the following curriculum reform development either through training or use of STUDY GUIDE as self help document. Tick the appropriate box that corresponds to you. For example, if you are in elementary sector only give answer to elementary reform subjects that is indicated and so on. Tick (✓) answers that apply to you.

	Subjects by schooling sector	Very easy to follow	Sometimes difficult to follow	Very difficult to follow
<b>Elementary curriculum reform</b>				
42	Mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43	Language (Vernacular)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44	Culture and community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Lower Primary curriculum reform-Grades 3-5</b>				
45	Mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
46	Language (Bridging to English with vernacular development)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
47	Environmental studies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48	Community living	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
49	Arts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
50	Health Education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
51	Physical Education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Upper primary curriculum reform-Grades 6-8</b>				
52	Mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
53	Language-(English as the language of instruction with continued use of vernacular )	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
54	Science	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
55	Making a living	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
56	Social science	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
57	Arts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
58	Personnel Development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Lower Secondary curriculum reform-Grades 9-10</b>				
59	Science	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
60	Business studies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
61	Agriculture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
62	Technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
63	English	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
64	Social Science	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
65	Mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
66	Personnel Development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
67	Arts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Part C: Sustainability of Curriculum Reform Skills and Training

The following statements are about how you go about continuing with the curriculum reform development activities in your respective school sectors. Indicate how much you agree or disagree with the following statements. Tick only one box.

***	Statements	Strongly Agree	Agree	Strongly Disagree	Disagree	Not Sure
67	You are using the skills and knowledge you have gained	<input type="checkbox"/>				
68	Training on the curriculum reform are on going	<input type="checkbox"/>				
69	Teachers are implementing the new curriculum reform	<input type="checkbox"/>				
70	Provincial Division of Education funds the new curriculum reform implementation	<input type="checkbox"/>				
71	DOE is funding the implementation of the new curriculum reform	<input type="checkbox"/>				

72	Training is continuously provided to teachers on the new curriculum reform	<input type="checkbox"/>				
73	Donors funds the implementation of the new curriculum reform	<input type="checkbox"/>				
74	Provincial Governments funds the implementation of the new curriculum reform	<input type="checkbox"/>				
75	Curriculum reform is implemented as planned	<input type="checkbox"/>				
76	You have received training on curriculum reform over the last 5 years.	<input type="checkbox"/>				

In the space below, list some of the good things you have learnt from the curriculum development programs and list some of the issues that are threats to continuing the development and implementation of the curriculum reform programs. Please, also provide some recommendations on the specific issues you have identified.

****	<i>List good things you have learnt from the curriculum reform development programs</i>
78	
79	
****	<i>List the Issues that threats the continuity of the development and implementation of the curriculum reform</i>
80	
81	
****	<i>List your recommendations to overcome the issues identified above</i>
82	
83	

84. Any other comments you may have, please list them below.

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