

# **The State of Education in Papua New Guinea**

**March, 2002  
Education Reform Facilitating  
and Monitoring Unit**

**National Department of Education**



## **SECRETARY'S MESSAGE**

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Everybody in Papua New Guinea should be aware that the education system has undergone a period of great change since 1993. What I am not sure of is how many people fully appreciate the size of the task that has been taken on, or what has been achieved so far. I hope that this book will help.

This is the fourth edition of the State of Education in Papua New Guinea that has been produced by the Division of Facilitating, Planning and Monitoring. I find it interesting to read each year of the progress that has been made. There are so many things going on in the education sector and there are so many people that make their own contribution, however small. It is unfortunately impossible to name all of them and it would be unfair to single out individuals.

The book aims to inform people, both those in the 'education industry' and those outside, of the challenges that the country faced in the education sector following Independence. It tackles these issues and views, with a critical eye, the strategies that the Department has put into place in order to achieve its aims.

Finally, I commend this book to all educators and others who have an interest in the progress that Papua New Guinea is making in achieving the objectives of Government in the education sector.

**PETER M. BAKI.**

**Secretary for Education**

**April, 2002**

# CONTENTS

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LIST OF TABLES .....	4
LIST OF FIGURES.....	5
INTRODUCTION.....	6
STEPS TOWARDS EDUCATION REFORM .....	7
<b>THE PRESSURE FOR CHANGE.....</b>	<b>13</b>
UNIVERSAL PRIMARY EDUCATION.....	13
<i>Access</i> .....	14
<i>Retention</i> .....	17
<i>Standards</i> .....	19
SECONDARY EDUCATION .....	20
<i>Lower Secondary</i> .....	20
<i>Upper Secondary</i> .....	22
RELEVANCE.....	24
<b>THE EDUCATION REFORM STRUCTURE.....</b>	<b>26</b>
<b>PLANNING FOR THE EDUCATION REFORMS.....</b>	<b>29</b>
BASIC EDUCATION .....	29
SECONDARY EDUCATION .....	31
<b>IMPLEMENTATION OF THE EDUCATION REFORMS.....</b>	<b>33</b>
ELEMENTARY EDUCATION .....	34
LOWER PRIMARY EDUCATION.....	48
UPPER PRIMARY EDUCATION.....	55
LOWER SECONDARY EDUCATION.....	69
UPPER SECONDARY EDUCATION .....	81
TECHNICAL VOCATIONAL EDUCATION TRAINING .....	92
<i>A Vocational Education</i> .....	92
<i>B Technical Education</i> .....	98
<b>CURRICULUM.....</b>	<b>104</b>
<b>SPECIAL EDUCATION .....</b>	<b>105</b>
<b>MANAGEMENT .....</b>	<b>107</b>
INSTITUTIONAL STRENGTHENING.....	108
COMMUNITY AWARENESS .....	110
DATA COLLECTION .....	113
<b>COST SAVING AND COST RECOVERY MEASURES .....</b>	<b>114</b>
TEACHER DEPLOYMENT .....	114
COMMUNITY INVOLVEMENT.....	116
SELF RELIANCE .....	117
COST RECOVERY .....	117
<b>THE ORGANIC LAW ON PROVINCIAL GOVERNMENTS AND LOCAL - LEVEL GOVERNMENTS.....</b>	<b>118</b>
<b>FINANCING OF EDUCATION IN PAPUA NEW GUINEA .....</b>	<b>119</b>
RECURRENT BUDGET .....	119

DEVELOPMENT BUDGET .....	122
SCHOOL FEE SUBSIDIES .....	125
QUALITY INITIATIVES IN PAPUA NEW GUINEA EDUCATION (QIPE).....	132
<b>EDUCATION PROJECTS.....</b>	<b>134</b>
AUSAID PROJECTS .....	134
WORLD BANK PROJECTS.....	139
NEW ZEALAND AID PROJECTS .....	140
EUROPEAN UNION AID PROJECTS.....	140
ASIAN DEVELOPMENT BANK .....	141
JAPANESE AID PROJECTS .....	141
CHINESE AID PROJECTS.....	142
<b>FUTURE PROJECTS.....</b>	<b>143</b>
<b>REFERENCES.....</b>	<b>144</b>
<b>APPENDIX.....</b>	<b>145</b>
A    ELEMENTARY ENROLMENT BY PROVINCE, 2000 .....	145
B    PRIMARY SCHOOL ENROLMENT BY PROVINCE, 2000.....	146
C    SECONDARY SCHOOL ENROLMENT BY PROVINCE, 2000.....	147
D    VOCATIONAL CENTRE ENROLMENT BY PROVINCE, 2000 .....	148
E    STAFFING BY SECTOR, GENDER AND PROVINCE, 2000 .....	149

## LIST OF TABLES

---

Table 1: Grade 1 to 6 retention, 1995 to 2000, by gender and province.....	18
Table 2: Grade 6 to 7 transition rates, 1999 to 2000 by gender and province .....	22
Table 3: Elementary school enrolment by Grade and Province, 2000.....	34
Table 4: Enrolment, staffing and pupil teacher ratios for elementary schools, 2000 .....	36
Table 5: Elementary school enrolment by gender and grade, 2000.....	40
Table 6: Elementary school staffing by gender and grade, 2000 .....	40
Table 7: Primary school enrolment by gender and grade, 2000 .....	51
Table 8: Primary staffing by gender and grade, 2000 .....	52
Table 9: Female enrolment and staffing in primary education, 2000.....	52
Table 10: Total primary school enrolment, staffing and teacher pupil ratio by province, 2000.....	53
Table 11: Teacher pupil ratios by Grade and province, 2000.....	54
Table 12: Grade 6 to 7 transition rates by gender and year, 1987 to 1999 cohorts.....	55
Table 13: Grade 7 enrolment by type of school, 2000 .....	56
Table 14: Grade 1 to 8 retention, 1993 to 2000, by gender and province.....	57
Table 15: Primary Teachers College enrolment by gender and status, 2001 .....	58
Table 16: Female participation in Grades 7 and 8 by type of school, 2000.....	66
Table 17: Sec School enrolment, staffing and teacher pupil ratio by province, 2000.....	70
Table 18: Lower secondary school enrolment by gender, 2000.....	74
Table 19: Female participation in secondary schools – Grades 7 to 12.....	74
Table 20: Grade 8 to 9 transition by gender and province, 1999 to 2000.....	75
Table 21: Planned and approved Secondary School starts by year .....	82
Table 22: ‘Unapproved’ Secondary School starts by year.....	83
Table 23: G10 to Gr 11 transition rates, 1983 to 2000 by gender.....	84
Table 24: Non moderated HSCE subjects by schools and students, 2001.....	87
Table 25: Upper secondary enrolment by gender, 2000 .....	88
Table 26: Background of PGDE students, 2000 and 2001 .....	90
Table 27: Vocational Centre enrolment by gender 2000 .....	94
Table 28: Vocational Centre staffing by gender and province, 2000 .....	95
Table 29: Vocational Centre enrolment by year and gender, 2000 .....	96
Table 30: Technical Colleges and their specialisation.....	99
Table 31: Technical and Business College enrolments by college, 2001 .....	100
Table 32: TTCs by college .....	100
Table 33: Structure of Department of Education budget .....	119
Table 34: Budget allocations by Program – 1998 to 2002 (K’000) .....	120
Table 35: Budget allocations for education administration by Program – 1998 to 2002 (K’000).....	122
Table 36: Development budget by Program – 1998 to 2002.....	123
Table 37: Description of projects by program, 2001.....	123
Table 38: Percentage of development budget funded by donors by program – 2000 and 2001.....	125
Table 39: Share of Development Budget by donor, 2000 and 2001 .....	125
Table 40: Provincial budget school fee allocations, 2001 (K’000s).....	128
Table 41: 2002 allocation of school fee subsidies .....	130
Table 42: Share of subsidies and projected enrolments by major sector.....	132
Table 43: QIPE expenditure by sector, 2001.....	133

## LIST OF FIGURES

---

Figure 1: 1982 Grade 1 cohort progression .....	24
Figure 2: The education reform structure .....	26
Figure 3 Enrolment comparison – 1992 and 1999 .....	33
Figure 4: Grade 1 enrolment versus 7 year old population.....	48
Figure 5: Grade 1 enrolment by type of school .....	49
Figure 6: Grade 7 enrolment by type of school .....	55
Figure 7: Grade 6 to 7 transition by year and gender, 1988 to 2000.....	56
Figure 8: Mean Lit Skills marks, 1999 .....	63
Figure 9: Mean Num Skills mark,1999 .....	63
Figure 10: Mean Literacy Skills marks by province and type of school, 1999.....	63
Figure 11: Mean Numeracy Skills marks by province and type of school, 1999 .....	64
Figure 12: Mean Lit Skills marks, .....	65
Figure 13: Mean Num Skills marks.....	65
Figure 14: Grade 7 and 9 Secondary School enrolments, 1992 to 1999 .....	69
Figure 15: 2000 G10 SCE results by type of Grade 8 school.....	72
Figure 16: 2001 G10 SCE results by type of Grade 8 school.....	73
Figure 17: Grade 8 to 9 transition by gender, 1993 to 1999 cohort .....	76
Figure 18: Grade 11 enrolment by gender, 1984 to 2000 .....	81
Figure 19: Grade 10 to 11 transition by year and gender, 1984 to 2000.....	85
Figure 20 Teacher pupil ratio by Grade, 2000 .....	115
Figure 21: Department of Education recurrent budget – 1998 to 2002 .....	121
Figure 22: Department of Education ‘administration’ budget – 1998 to 2002 .....	122
Figure 23: Development Budget by sector – 1997 to 2000 (K millions) .....	124
Figure 24: Education subsidy break up by sector, 2002.....	131
Figure 25: Percentage of projected enrolment and subsidies received by sector.....	132

## **INTRODUCTION**

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This book reviews the progress that has been made in reforming the education system in Papua New Guinea. It begins by considering the many important milestones in this process. It looks at the pressures for change that were growing during the 1970s and 1980s. The reform structure, and the rationale behind it, is discussed in the next section. The actual progress made in implementing reform in the various sectors is the most important part of the book. This section includes the major constraints to successful implementation and, most importantly, the lessons that can be learnt from the progress made so far. The cross-sectoral issues of curriculum and management are then briefly discussed. The reforms are going to continue to require a significant financial commitment. The chapter on cost effectiveness is an important one for education administrators to take note of. The book finishes with an overview of the many donor assisted projects that are supporting the Government in achieving its goals in education.

It should be read in conjunction with a number of other documents. Principally, these are the National Education Plan, Parts A and B, the National Education Plan Update Number 1, the Matane Report, the Resource Allocation and Reallocation Study and the National Education Skills Plan, "Enhancing Their Futures". In addition, schools should ensure that they have a complete set of the awareness materials that are available through the Communications Section of the Division of Policy, Research and Communications.

## **STEPS TOWARDS EDUCATION REFORM**

The education reforms have not happened overnight. There are many significant milestones that have occurred over the last 25 years. These include:

1974	Tololo Committee
1985	The Matane Report
1990	The Jomtien Declaration of Education for All (EFA)
1991	The Education Sector Study
1991	Conference of the Council of Education Ministers
1992	The National Education Reform Task Force
1992 and 1994	NEC decisions
1995	The Education Sector Resources Study
1996	The National Education Plan
1995 to 1998	Provincial Education Plans
1998 and 1999	Ministerial Consultations
1998	World Bank Education Sector Study
1998	World Bank Cost Effectiveness Study
1997	Department of Education Corporate Plan
1999	Technical Vocational Education and Training Corporate Plan
1999	National Skills Plan
1999	National Education Plan Update No. 1
2000	World Education For All Conference, Senegal

### ***Tololo Committee, 1974***

Many Papua New Guineans were unhappy with the direction that colonial administrators set for education. In 1974, a committee chaired by the then Director of Education, Alkan Tololo, with an entirely Papua New Guinean membership, drafted a post - Independence five year education plan. It proposed that schooling be community based, the use of vernaculars would be emphasised, and education should be linked to development and more widely and more equally provided. They planned to expand primary schooling to Grade 8 and expand access to Grades 9 and 10. They were also concerned that greater access to education should be given to females and to those from disadvantaged areas. This plan was overturned.<sup>1</sup>

### ***The Matane Report***

This report published in 1985 was entitled '*A Philosophy of Education*'. Some see this as being the birth of the education reforms, in particular the reform of the curriculum.

The National Goals as expressed in the National Constitution recognise the importance of:

- Integral Human Development,
- Equality and Participation,
- National Sovereignty and self-reliance,

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<sup>1</sup> This section is taken entirely from a paper entitled '*Redesigning vernacular literacy training programs using lessons from past practice*', by Glenys Waters and published in the Papua New Guinea Journal of Education, Number 2, 1996

- National Resources and Environment, and
- Papua New Guinea Ways.

The Matane Report stressed that the school can help educate children but cannot and should not be regarded as the only agent of education. The home, the churches, the community, the police and the politicians are also influences on a child's life and must all contribute to the integral human development of the child. The attitude that the school is the only agent of education must be changed.

The process of integral human development calls for an education system that helps individuals:

- Identify basic human need,
- Analyse situations in terms of needs,
- See these needs in the context of spiritual and social values of the community,
- Take responsible action in co-operation with others.

The success of such an education system requires the integrated involvement of all the agents of education; home, church, school, community and others. Within that broad educational system the school must integrate knowledge, skills and attitudes to create subject matter appropriate for producing the desired outcome of integral human development.

To achieve the aim of integral human development an individual must live and work with others and accordingly the goals of education should be directed towards socialisation, participation, liberation and equality. The needs of individuals, the educational input from different agents, the learning content and the goals of integral human development are inter-related.

It is instructive to reflect on some of the recommendations of the Matane Report and note just how much has been implemented, either through the education reforms or through other policy measures.

*Recommendation 12*

That the vernacular language be used as the medium of instruction in the early years of schooling and English be used in later years.

*Recommendation 13*

That ways be found to immediately expand upper secondary education

*Recommendation 8*

That funds be redirected from Higher Education towards the goal of Universal Primary Education

*Recommendation 15*

That standards in English and Mathematics be nationally monitored and further improved.

*Recommendation 7*

That those who benefit from upper secondary and tertiary level education should pay a larger proportion of the costs of that education.

### ***A Declaration of Education for All (EFA)***

This declaration was signed in Jomtien, Thailand in 1990. By signing this agreement the National Government, along with other nations of the world, committed itself to providing Education For All.

### ***The Education Sector Study***

This was a major investigation into the state of education in Papua New Guinea. It was carried out at the instruction of the Education Minister. The study identified the problems of the system and then looked at various ways in which those problems could be solved. If the Matane Report can be seen as being the birth of the curriculum reforms, then the Sector Study was the birth of the restructuring of the education system.

Major problems were identified at both the primary and secondary levels. It became clear that the country could never achieve either Universal Primary Education, or its targets for access to secondary education, under the system that was operating at that time. These problems are looked at in more detail in the chapter 'The Pressure for Change'.

### ***The Conference of the Council of Education Ministers, 1991***

The Council met in Madang in 1991 and considered the findings of the Sector Study. The National Minister for Education chaired this meeting. The recommendations of the study were endorsed by the Conference and the Department was tasked to prepare for implementation.

### ***National Executive Council decisions***

In 1991 the National Executive Council made two decisions that paved the way for these first initiatives. These decisions, as part of Decision 183/91, were that NEC:

*Approved in principle the topping up of existing selected Provincial High Schools as a means to rapidly and economically expand the National High School system. This be critically evaluated as part of the revised education structure proposed by the Education Sector Review and the results of this evaluation presented to NEC with recommendations for action;*

*Directed that the recommendations of the Education Sector Study, particularly as they relate to the re structure of the education system, be critically evaluated for implementation resulting in a full report to NEC. Possible projects resulting from the Sector Study be formulated and fully documented for consideration and future funding as some of the donor agencies have indicated interest in funding human resource development related projects.*

### ***A National Education Reform Task Force,***

This Task Force, chaired by the Secretary for Education, was formed to look at ways in which the recommendations of the Conference could be implemented. The Task Force was made up of representatives from the Department of

Education, the provinces and other interested groups. The Task Force met frequently through 1992 and 1993 and decided to start the primary and secondary initiatives in the Madang and West New Britain Provinces.

Provincial Education Reform Task Forces were also formed during 1992 and 1993 to consider ways in which they could implement the reform agenda in their particular provinces. The Department was able to support these Task Forces with small amounts of money to ensure full representation.

### ***National Executive Council decisions***

There were further decisions made by the NEC in 1994 regarding the expansion of access to Grades 7 and 11. NEC Decision no. 68/94 reads:

*On 17<sup>th</sup> May, 1994, Council: -*

- 1. approved the establishment of grade 11 and 12 classes at selected provincial high schools at the rate of at least 3 a year as being a major strategy for increasing access to upper secondary over the next five years;*
- 2. amended its Decision No. 224/90 of meeting No. 64/90 relating to the establishment of five new National High Schools in Western Highlands, Oro and New Ireland Provinces except for those underway for Gerehu in NCD and Markham Valley in Morobe; and*
- 3. approved the establishment of grade 7 and 8 classes at primary schools, as being a major strategy for increasing access to Grades 7 and 8 instead of building new Provincial High Schools (Grades 7 - 10).*

### ***Education Sector Resources Study***

A major study was embarked upon in 1994 and 1995 called the Education Sector Resources Study. This study was co funded by AusAID (or AIDAB as it was called at the time), the Asian Development Bank and the Government of Papua New Guinea.

The reason for this study was that it was realised that there were enormous cost implications involved with the implementation of the education reforms. The Resources Study looked at all of these implications – financial, manpower, infrastructural etc.

A major finding was that, although the education reforms reduced unit costs significantly, there was still a resource gap that needed to be closed. In order to achieve this the country would need to commit itself to a number of cost saving and cost recovery measures.

### ***The National Education Plan, 1995 to 2004***

The National Education Plan was completed in 1996. The Plan leans heavily on the recommendations from the Education Sector Review and the Resources Study. The Plan is in two parts. Part A describes the problems and outlines what would be done. Part B goes into much more detail about what had happened in the past and the reasons behind the education reform programme.

The Plan was forwarded to the National Executive Council for endorsement. The Plan was officially launched by the Prime Minister prior to the January 1998 Conference of the Education Minister's Council that was held in Lae.

The National Education Plan was revised and updated in late 1999. This incorporates many of the lessons learnt from the early years of implementation. It also reflects fully the effects of the passage of the Organic Law on Provincial Governments and Local-level Governments.

### ***Provincial Education Plans***

In a decentralised system, such as that operating in Papua New Guinea, there is no point in having just one national plan. There is a clear need for 20 Provincial Education Plans. Work on these started in 1995 and has been ongoing.

By the end of 2000 all provinces had completed their education plans, along with the implementation schedules. A number of the provinces have gained all required approvals. A few provinces have started the important process of reviewing and amending their plans.

### ***World Bank Education Sector Study***

The World Bank conducted an education sector study in early 1998. This study looked at the implementation of the education reforms. It painted a particularly rosy picture whilst suitably identifying the problems that were being faced by the country. Five key issues were identified in relation to reform implementation:

- Teacher supply,
- Institutional strengthening,
- Assessment,
- Curriculum development, and
- Internal efficiency

These are all considered in more detail later in this book.

### ***Conference of the Education Minister's Council, 1998***

This conference was held in Lae in January 1998. It was the first such gathering since the 1991 conference in Madang. The most important recommendation to come out of this conference was that all provinces should have completed their Provincial Education Plans by September of 1998 and that these plans be consistent with the National Education Plan. This meeting strongly reaffirmed its commitment to the education reform agenda.

### ***World Bank Resource Allocation and Reallocation Study, 1998***

One of the objectives of this World Bank funded study was to look again at measures identified in the Resources Study to allow education services to be provided in a more efficient manner. This study was completed in late 1998. The major recommendation was to look carefully at teacher deployment. Funds saved through a more efficient use of teachers could then be used for a variety of activities such as incentives for teachers to go to more remote areas.

This study builds on the work done during the sector study earlier in 1998 and in particular looks at the internal efficiency of the system. The findings of the study were endorsed by the Senior Education Officers Conference held in Goroka in June 1999.

***Conference of the Education Minister's Council, 1999***

This conference was held in Rabaul in January 1999. The Chairmen of the Education Committee in each province reported on the progress that had been made on their plans. Major decisions were made with regard to a National Education Skills Plan and the state of literacy in the country. The Department was asked to present the completed National Education Skills Plan at the 2000 Ministerial Consultations.

***Department of Education Corporate Plan***

This document was produced following instruction from the Prime Minister's Department. It should be seen as a companion document to the National Education Plan. It is due for update in 2002.

***Technical Vocational Education and Training (TVET) Corporate Plan***

This document was produced for the Ministerial Consultations in Rabaul. At this conference the plan writers were asked to reconsider and to consult more fully with the provinces. It was endorsed at the Senior Officer's Conference in Port Moresby in April, 2000, following an in principle endorsement the previous year. The TVET shows the way forward with relation to the unification of Technical and Vocational education.

***National Education Skills Plan***

This was endorsed at the Ministerial Consultations in 2000. This plan has many objectives, one of which is to identify the skills development for life and living required by young people at each level of schooling.

***National Education Plan Update Number 1***

This was completed towards the end of 1999. This document looked at the progress made in implementing the education reform agenda. It did not propose any new directions but did address some of the issues that have arisen since 1994. This was endorsed by the Conference of the Education Minister's Council in April 2000. It is expected that there will be a further update in 2003 or 2004.

***World Education For All Conference, 2000***

This conference was held in Dakar, Senegal in April. The Minister for Education represented Papua New Guinea. The Conference fully endorsed the progress that has been made towards achieving the objectives set following the 1990 Jomtien Conference.

The Provincial Education Planners workshop held in Lae in October, 2001, considered the objectives set in Dakar and suggested adaptations that could be made to them to make them appropriate for Papua New Guinea. It is intended that these be incorporated in the updated Provincial Education Plans and the National Education Plan.

## **THE PRESSURE FOR CHANGE**

The pressure on the education system had been building for many years and stemmed from the dilemma that has always faced the system. It was this dilemma that provided the backdrop for the 1990 sector review.

The dilemma is that the education system has been expected to provide a relevant education for many different sections of society.

Firstly, there are the approximately 85% of the population who will remain in their own communities. Their major source of employment will be their own subsistence and small community based commercial enterprises. The second group is the 15% or so who will find formal employment in the slowly increasing government, business and service industries. Further to these two major groups there are the small number of children, who, like those of any other country in the world, have the ability to perform at top international standards. It is vitally important that this group, however small, continue to receive the education that they require to fully realise their potential. The final group is the small but growing number of landless urban youth who have no villages to return to and no prospects of formal employment in an urban situation. This is the group that poses the greatest potential for political instability. It is often argued that the increasing law and order problem in the country, in particular in Port Moresby, has been caused by the inability of the education system to adequately cater for this group of people.

This dilemma is summarised by one of the four National Objectives assigned by the National Executive Council to the Department of Education:

*To develop a schooling system to meet the needs of Papua New Guinea and its people which provides appropriately for the return of children to the village community, for formal employment, or for continuation to further education and training.*

In order to fully appreciate the pressures there needs to be a thorough understanding of a long term goal of Government – that of Universal Primary Education (UPE).

### ***Universal Primary Education***

There are three components to Universal Primary Education:

- that all children should enter Grade 1 at the age of seven years,
- that all children complete the primary cycle of education, and
- that all children reach a required standard of literacy and numeracy at the end of this primary cycle of education.

There is, then, one component for access, one for retention and one for quality.

The primary cycle of education has always been considered Grades 1 to 6. This is changing as the system moves into the new structure that offers nine years of basic education – from the Preparatory Grade to Grade 8. For the purpose of this section of the book the primary cycle will be considered as being Grades 1 to 6.

The World Education For All Conference held in Dakar set a target year of 2015 for the achievement of Universal Primary Education. This was considered at the Education Planners workshop in Lae in October 2001 and adapted appropriately for Papua New Guinea. It was understood that in order to achieve Universal education there has to be compulsory education. In order to achieve compulsory education there has got to be free education.

The meeting of the planners considered an objective of reaching UPE by 2015 was too great. Instead, it was suggested that Papua New Guinea aim to achieve three years of universal education by 2015. In effect, this means that there will be compulsory, free education for all six year olds to allow them to complete the elementary cycle of education. It was felt that this was achievable and that the next step should be to reach universal lower primary education – through to Grade 5.

This decision will have to be endorsed by the National Education Board and then the National Executive Council before it can be considered policy.

## Access

The country has for many years managed to get a very large number of children into the system at Grade 1. These numbers were rising at an annual rate of about 4.2% through the 1980s – a growth that was higher than that of the population. There were even some years when the growth in Grade 1 enrolments was even higher than this. 1993 was a particular example of this. Grade 1 enrolments rose by some 11% in that year. This was largely due to the introduction of ‘free education’ by the new Government of Paius Wingti. There is a greater discussion of the effects of free education in the education subsidy section of the chapter on The Financing of Education in Papua New Guinea. There were years when the number in Grade 1 was greater than the number of seven year olds in the country. Seven was the recommended age of entry into Grade 1.

These figures suggest that the country had enough places to satisfy the first of the requirements of UPE. However, the major problem has always been that there have been many 8, 9 and even 10 year old children enrolling into Grade 1. This has been for two main and differing reasons.

Firstly, in the *remote* parts of the country schools, have an intake only every two or three years. These are known as biennial and triennial intakes. Some schools have intake patterns that are even less frequent than this. In fact, only about 40% of primary schools in the country have an *annual intake* pattern, a Grade 1 class being taken each year. The reason given for this has always been that there are insufficient children to make up a class group. The number for a Grade 1 class to be formed has varied from province to province. A rather arbitrary figure, usually 25 or 30, was used in a number of provinces. This figure was intended to be the minimum but over a period it became the norm. The large number of schools without annual intakes means that UPE could never be

achieved in these areas. Education administrators seem to forget at times that they work in what is often termed the Division of Education **Services**. The level of service provided has been inadequate in a number of provinces.

Secondly, in the *urban* areas, and in particular in Port Moresby, there is simply not enough space in the schools for all the children who wish to enrol into Grade 1. This has resulted, again, in many 'overage' children being enrolled. The problem in these areas has been that there are simply just not enough schools and class sizes have risen to an unacceptable level at times. Urban drift, meanwhile, has continued. Further, there have been frequent land problems in urban areas. These militate against plans for the building of new schools.

It must also be accepted that there are still a few areas in the country where children do not have an opportunity to attend school at all. We must always be very careful never to forget these children.

It is unfortunate that education administrators around the country have not shown a great deal of initiative when looking for solutions to these problems. There has been a resistance to change. This is unusual in a country that has gone through a greater period of change than most since the middle of the 20<sup>th</sup> century.

In rural areas there is a need for *multi grade* classes, or composite classes as they are sometimes called. These classes allow for annual intakes at all schools and were common in the 1960s when they were used as a strategy for increasing access opportunities. They were phased out in the mid 1970s following Independence. This was because the primary teaching force was localised and the teacher educators at the time deemed it wise that Papua New Guinean should not be asked to deal with any more than one class group at a time. This may have been the case at Independence but times have changed. Teachers are more qualified now than at any time in the past. In 1975, Grade 8 was the entry requirement for teacher training. This has now been raised to Grade 12, although there are still a few Grade 10 entrants each year. In addition, all pre service training is now for three years leading to a Diploma, as opposed to a two year Certificate qualification.

It is unfortunate that in the years following Independence there has been very little incentive provided for the reintroduction of multi grade classes. It is an unhappy fact that:

- Teachers don't like it (more work)
- Headteachers don't like it (the level of their school, and thus their salary, may go down)
- Communities don't like it (status of their school seen to be being diminished)
- Education administrators don't like it (potential for unsettled teachers pestering them)

It is pleasing, now, to be able to report that the recent progress being made toward the institutionalisation of multi grade teaching that may go some way towards alleviating these problems. Initiatives being taken include the introduction of a multi grade teaching allowance, equivalent to 10% of gross

salary, and the development of an in service course for multi grade teachers. It is hoped that these will convince teachers of the need for multi grade classes and also encourage them to take such classes. There is still, though, a long way to go before it becomes established as the norm. The 2000 Pay Determination agreed to between the Teaching Services Commission and the PNGTA means that teachers in all provinces from 2001 are now eligible for the allowance. It is hoped that this, and the other incentives mentioned elsewhere, will help towards solving the primary teacher deployment problem faced by the country.

One of the objectives of the Primary and Secondary Teacher Education Project (PASTEP) is to introduce multi grade teaching into all pre service courses. It is also being offered at the Papua New Guinea Education Institute as part of the in service Diploma in Education (Primary) program.

In the increasingly densely populated urban areas *shift teaching* should be seen as a way of improving access opportunities. This has been a commonly used strategy all over Asia and has proved highly successful. There has been shift teaching in Papua New Guinea but it has never been particularly well accepted. It has usually occurred in Port Moresby as an emergency measure rather than as a conscious strategy to increase access. The most usual reason has been that buildings have not been completed on time. This has occurred in both primary and secondary schools. In all cases, shift teaching has ceased when the facilities have become available.

The most well known example of shift teaching in the country is at Kokopo High School in the East New Britain Province. Kokopo has always been a large day school catering for children from many parts of the Gazelle peninsula. Rabaul High School was the other major school catering for this part of the population but was destroyed as a result of the Rabaul volcanic eruption in 1994. The Rabaul students were enrolled at Kokopo from 1995. It currently has an enrolment of about 1700 students with some 70 on the teaching staff.

The excellent academic results achieved by students from Kokopo have recently been lauded in the press by East New Britain educationists. It is further encouraging to be able to report that the province is now looking to increasing access to Grades 11 and 12 and one possibility is for Kokopo to continue as a shift school but with Grades 9 to 12.

There are many reasons for encouraging shift teaching. The most compelling is obviously that it allows more opportunity for children to attend school. There will not be a shortage of teachers because shift classes would usually be introduced in the urban areas where there is frequently a surplus of teachers. The second reason would be that it means that facilities could be used for as many hours as possible. This is important because of the expense of specialist facilities, such as science laboratories, that at present are used for only half a day for 40 weeks of the year.

There have always been arguments raised against shift teaching. These objections are usually related to required hours of instruction. It is assumed that

any reduction in the hours of instruction will have an adverse effect on the standard of education provided. Many of the objections have come from urban parents. The children of this group always seem to be able to secure a place in school however great the pressure on spaces. A full secondary education is almost now considered a right by members of the burgeoning Papua New Guinean middle class. It is those unfortunate children from the settlements, where an education is still very much of a privilege, who miss out on educational opportunities.

There are also arguments against shift teaching in Papua New Guinea that may not be relevant in parts of Asia, particularly for primary aged children. The main one of these is that of security. Many parents, particularly in Port Moresby, either drive their children to and from school every day or accompany them on foot. Others insist that young children go to school with older siblings. This is because parents, understandably, are wary of the dangers for young children walking by themselves or using public transport. There would be great resistance to half days at school because this would involve someone having to collect and then mind the child when not at school. There have been moves in the past to introduce a school bus system in Port Moresby and this again reemerged towards the end of 2001. The reason for this is that PMV drivers are notoriously reluctant to pick up school children during the morning and afternoon rush hours.

On the surface, the most suitable level of education in which to introduce shift teaching would be the elementary level. This is because the children only remain at school for four hours a day as it is. One class could be taught between 8 am and 12 noon, with the second between 12 noon and 4 p.m. A second reason would be that there is no shortage of elementary school teachers. They can be trained more quickly and far more cheaply than those in other sectors. To introduce it at the elementary level, however, is not as simple as it might appear. The arguments noted earlier about children traveling to and from school would be particularly relevant. There may also be problems experienced with large numbers of children entering Grade 3. It is still, however, a very good strategy for getting rid of a backlog of children waiting to be enrolled.

An alternative view is that shift teaching would be far better suited to Papua New Guinea at the higher levels – Grades 11 and 12. The reasoning for this is, firstly, that older students are more likely to be able to travel to and from school without their parents. Secondly, students of this age should be encouraged to do a lot of their work independently. Indeed, the National High Schools used to timetable non contact periods for Grade 11 and 12 students.

## **Retention**

We have seen that although access remains a problem it can largely be overcome with some imagination and innovative thinking. The main obstacle to attaining UPE is retention. There are many children starting Grade 1 but large, and increasing, numbers of them have been dropping out before completing the primary cycle. The present figures suggest that less than 60% of children who start Grade 1 manage to complete Grade 6. The biggest intra grade drop out is between Grades 1 and 2. The next highest is between Grades 5 and 6.

The National Education Plan envisages some improvement in the retention rate due to the introduction of the elementary schools. The plan has assumed that the

intra grade retention rates will rise by 2% for those that have been through the elementary schools. It should always be remembered that it will be impossible to have 100% retention between Grades 1 and 6, or Grades 3 and 8 which is now primary, until there is compulsory education.

There are many reasons given for the very high drop out rates experienced in primary education. Some of these are:

- *tribal fighting*, mostly in the highlands region. It is unclear what happens with children affected by the closure of schools due to tribal fighting. Some will of course enrol again. However, whether they re enrol in Grade 1, or continue from where they left off, is not known.
- *the distance to travel to school*. Some provinces have recommended maximum distances, or travel time, that children should be required to walk. If this is too great young children will not be enrolled. There are some parts of the country, often in the maritime provinces, when conditions for traveling to school in certain seasons are so difficult that children miss large amounts of time at school. These are also reasons for children enrolling at a more advanced age than recommended.
- *a lack of interest*. This might be interpreted as meaning that the children did not know what was going on in class, and that this was a language problem.
- *parents taking children out of school during certain times of the year*. The Eastern Highlands is a good example of this when children are taken out during the coffee flush. Some of these will never return.
- *school fee problems*. This is often used as an excuse for children dropping out of school although there will be cases where it is a genuine reason. Many Headteachers will not exclude children for non payment of fees because it is not considered their fault.

The table below shows the most recent retention figures available – for the 1995 cohort who completed Grade 6 in 2000.

*Table 1: Grade 1 to 6 retention, 1995 to 2000, by gender and province*

	<b>M</b>	<b>F</b>	<b>T</b>
<b>Western</b>	82.9	85.5	84.1
<b>Gulf</b>	45.9	46.2	46.0
<b>NCD</b>	78.4	84.2	81.2
<b>Central</b>	61.4	57.9	59.7
<b>Milne Bay</b>	66.7	75.5	70.9
<b>Oro</b>	60.1	63.9	61.8
<b>Southern Highlands</b>	49.1	33.6	41.7
<b>Eastern Highlands</b>	47.6	38.0	43.2
<b>Simbu</b>	51.2	38.4	45.4
<b>Western Highlands</b>	51.4	43.6	47.8
<b>Enga</b>	44.3	36.4	40.8
<b>Morobe</b>	55.8	56.5	56.1
<b>Madang</b>	57.3	56.7	57.0
<b>Sandaun</b>	61.6	64.5	62.9
<b>East Sepik</b>	73.0	69.9	71.5
<b>Manus</b>	85.4	84.8	85.1

<b>New Ireland</b>	62.3	68.6	65.2
<b>East New Britain</b>	73.6	73.1	73.4
<b>West New Britain</b>	59.7	55.2	57.6
<b>Bougainville</b>	67.6	71.6	69.5
<b>KLMD</b>	72.8	72.4	72.6
<b>Total</b>	58.3	55.2	56.8

The figures in this table now include children who have been through elementary schools. In the table above there will be Grade 6 children in both the Milne Bay and New Ireland provinces who have attended elementary schools. It is, unfortunately, not possible to provide comparative retention figures for the two groups of children.

There is still considerable concern over these figures and the Highlands provinces continue to have the worst records in this area. The New Zealand Government, through the New Zealand Overseas Development Agency, has sponsored a major study on retention at all levels of the system. It will look at the extent of and reasons for children dropping out of school at such an alarming rate. It is expected that the findings of the study will be published early in 2002.

## **Standards**

Grade 6 children have traditionally sat each year for the Primary Education Certificate Examination (PECE). Children sit three examinations: two Basic Skills (English, which includes a Written Expression component, and Mathematics) and a Combined Subjects Examination. The two Basic Skills tests are criterion referenced with the Combined Subjects being norm referenced. Provinces use these exams for selection purposes for entry into Grade 7.

The pace of implementing the education reforms means that in many provinces there is now no need for the Grade 6 Examination as selection tool. Provinces that still wish their children to sit for the exam can obtain camera-ready copy of the examination from the Measurement Services Unit. They are then able to print, distribute and mark the exam at their own expense. This decision was reached partly because of the problems that MSU have been facing with the four levels of examination that they are now required to prepare and administer – Grades 6, 8, 10 and 12. They have not been provided with sufficient extra funding and staffing to deal with the added responsibility of the Grade 8 examination.

The Measurement Services Unit Standards Monitoring Project, has indicated that the quality of primary education has gradually improved, although it varies greatly between provinces, and also within provinces.

*‘The Standards Monitoring Project was initiated as part of the World Bank Education II Project in 1982. Using Item Response theory (Rasch Analysis), the Measurement Services Unit compared standards of achievement in English and Mathematics at the grade 6 level from 1982 to 1986.*

*In 1987 the PECE was drastically reformed to place greater emphasis on the assessment of Basic Skills and the application of these Basic Skills. The methodology of the Standards Monitoring Project was also reformed at this time and 1987 becomes the new base line for comparative analysis.’*

Source: *Standards Monitoring Project Report 11 - 1987 to 1992*

The Monitoring Project has suggested over the years that urban schools achieve better average results than rural, and that larger schools do better than smaller ones. Nobody is particularly surprised at these results. It is hoped that a similar monitoring tool can be developed at key points in the new structure of education. It is expected that this will be one of the activities of the CRIP.

## ***Secondary Education***

The other major pressures for change were related to secondary education. The most significant of these was that of access. This was the case at both of the major system interfaces – Grade 7 and Grade 11.

### **Lower Secondary**

The country had been building as many high schools as it could throughout the 1970s and 1980s but this had very little impact on the access rates. Transition rates have traditionally been measured as the percentage of children who complete one cycle of education who move into the next cycle. In this instance, it was the percentage completing Grade 6 who could gain a place in Grade 7. Throughout the 1980s less than 40% of children who completed Grade 6 could be offered a place in Grade 7. Parents were becoming increasingly worried about the lack of opportunity for their children and this was reflected annually in the 'Letters to the Editor' columns of the national newspapers.

Lower secondary education was largely made up of boarding institutions. Approximately 80% of high school students were boarding. This made for the very high unit costs that were consistently noted in reports about education in Papua New Guinea. Efforts were made during the 1970s to introduce rural day high schools as a way in which to cut unit costs. This initiative, however, failed and dormitories were constructed at these schools following pressure from parents. The only one still operating as a day institution is Yangoru in the East Sepik Province.

Pressure from parents and provincial leaders intensified as the transition rate showed little or no sign of improving. Partly as a result of this, the average Grade 7 class size rose to more than 50 in the early 1990s. There were also worrying trends in a number of provinces where schools were being expanded way beyond their capacity. In addition, new schools were being opened with totally inadequate facilities. These last two trends were particularly prevalent in the Highlands region where the demand for education was so high, and opportunities were rather less than in other parts of the country.

The alternative to a high school education is ***distance education***. The College of External Studies, now called the College of Distance Education (CODE), was established for this very reason. It is unfortunate that very few students have actually succeeded through a complete distance education. Research has shown strong links between success in distance education and support via study groups and the like. These support mechanisms still need to be fully developed in Papua New Guinea. The education theme for 2001 was 'Continuing Education through Distance and Open Learning' and the issue was discussed at length during the Senior Officers Conference. All of the right things were said about support for

both CODE and the Institute of Continuing and Distance Education (ICDE) although it must be said that very little has been done as of yet.

The majority of the students who gain good Grade 10 passes through CODE are those who have completed Grade 10 through Provincial High School and simply use CODE to upgrade their marks to allow them to progress into tertiary education. As in all forms of distance education there are very large drop out rates. This is not helped by difficulties caused by poor communications. This is important because it is those in the more remote areas that are the most disadvantaged when it comes to access to the provincial high school system. They are, then, the most in need of an efficient distance education program and those that will be the least likely to succeed through it.

The Manus Province instigated an interesting variation of distance education. In 1992 they started the Manus School of the Air (SOTA). The school was registered as a High School and was accommodated at the Provincial Education headquarters at Lorengau. It was to be based on the successful Australian school of the air model. All Grade 6 leavers were encouraged to enrol. Tutors were identified around the province and equipped with radios.

Staff in the school, who were High School teachers, were required to prepare lessons that were then broadcast over Radio Manus. The teachers would then be available for consultation with their students over the radio. It must be said that the project has not been particularly successful for a number of reasons.

Firstly, the staff has not been trained to produce satisfactory radio programs. Secondly, it has proved enormously expensive with a much lower teacher pupil ratio than regular high schools. Thirdly, the support mechanisms have not really worked. Finally, and probably most critically, the children who are enrolled require much more face to face instruction than those in the high schools. This is because they are the lower ability children. There is not the very wide range of ability that would be seen amongst students in a similar school in Australia.

SOTA has been a worthwhile experiment that should still be considered as one of the many possible modes of delivery of distance education. It may be more appropriate to a higher level of education than Grades 7 to 10.

The table below shows the Grade 6 to 7 transition rates, from 1999 to 2000. These figures include Grade 7 children in both the primary schools and the regular provincial high schools. The figure shows a further increase, although relatively small, over the previous year. The most significant point to note is the increase in female transition. See Table 12 for further information on the change in transition rates by gender over a period of years.

A number of provinces are nearing the 100% transition rate that is one of the objectives of the education reform agenda. Care should be taken, as ever, with these figures.

*Table 2: Grade 6 to 7 transition rates, 1999 to 2000 by gender and province*

	M	F	T
Western	83.4%	77.4%	80.5%
Gulf	84.2%	91.7%	87.6%
NCD	99.3%	95.0%	97.2%
Central	79.8%	79.6%	79.7%
Milne Bay	78.8%	80.3%	79.6%
Oro	68.6%	71.2%	69.9%
Southern Highlands	71.1%	59.5%	66.2%
Eastern Highlands	70.4%	69.0%	69.8%
Simbu	103.2%	97.6%	100.9%
Western Highlands	63.7%	58.6%	61.5%
Enga	88.7%	77.8%	84.5%
Morobe	55.2%	51.2%	53.5%
Madang	67.5%	62.4%	65.1%
Sandaun	53.9%	52.7%	53.4%
East Sepik	66.8%	62.4%	64.8%
Manus	102.4%	97.4%	100.0%
New Ireland	79.2%	79.3%	79.3%
East New Britain	66.7%	68.6%	67.6%
West New Britain	77.8%	71.1%	74.8%
Bougainville	77.1%	82.2%	79.7%
KLMD	94.4%	86.4%	90.9%
Total	73.7%	70.8%	72.4%

## Upper Secondary

The situation regarding access at the upper secondary level was even worse than that at lower secondary. The percentage of children progressing from Grade 10 to Grade 11 had remained constant for many years at about 10%. It was in danger of dropping below that. This was because no new National High Schools were being opened and the number of Grade 10 graduates was rising. The only increase in places in Grade 11 came when the annual intake in each of the National High Schools was raised from 200 to 250. This happened in the mid 1980s. The participation of girls was also an increasing concern with only 30% of the intake being female. This was unlikely to change because of the male / female dormitory situation in the schools.

The NEC made a decision in 1990 to build five new National High Schools. These were to be in the NCD, and the Morobe, Oro, New Ireland and Western Highlands provinces. The implementation of this decision was slow, even by PNG standards and it was rescinded in 1994. The schools proposed for the NCD and Morobe were not included in this decision because negotiations for donor funding were so far advanced that it would be difficult to abort.

The Port Moresby National High School, built with Japanese Government funding, was finally opened in 1995. This was the first National High School to be a day school. In effect, of course, it is a school for those living in Port Moresby rather than catering for students from all around the country. It could be said, contrary to this, that children at schools in Port Moresby come from all provinces in the country and so it is a National High School. The school for Morobe, built with Chinese aid, was completed in 2000. It had its first intake at the start of 2001.

The *Australian Secondary School Scholarship Program* (ASSSP) was initiated in 1989 to alleviate the problem of a lack of places in Grade 11. This allowed a further 200 Papua New Guinean students, equivalent to an intake at an extra National High School, each year to complete their secondary education in Australian schools. There is a similar, albeit much smaller, program working with New Zealand Overseas Development Agency (NZODA).

The procedure for selection for the Australian program was always going to be controversial. Australia wanted the best students. On the Papua New Guinean side there was a fear that such a move would dilute the standards within the existing National High Schools. In addition, some worried that the top students would not return from Australia. A compromise was reached and, initially, the top 20 students in the country, based on science and maths results, were automatically offered a place. The rest were selected at random from all of those eligible with due consideration being given to quotas set. In latter years all have been selected at random with quotas set for each province and with half the students being girls.

This project proved popular. However, it was enormously expensive even when compared with the very high unit costs of secondary education in Papua New Guinea. The fact that the selected students had to repeat Grade 10 and so took three, rather than two, years to reach Grade 12 compounded this. There is little evidence that the students attending the Australian schools achieve any better than their counterparts who remained in Papua New Guinea. Indeed, there have been suggestions that the 'Australian' students were becoming alienated from their own culture. Others, however, argue that these students gain from the experience of living and studying in another country.

The project was finally phased out at the end of 2001, the final intake being in 1999. The advantage for education in Papua New Guinea is that some \$A12m a year of Australian aid that was spent on this scholarship program has now been redirected into other parts of the education program.

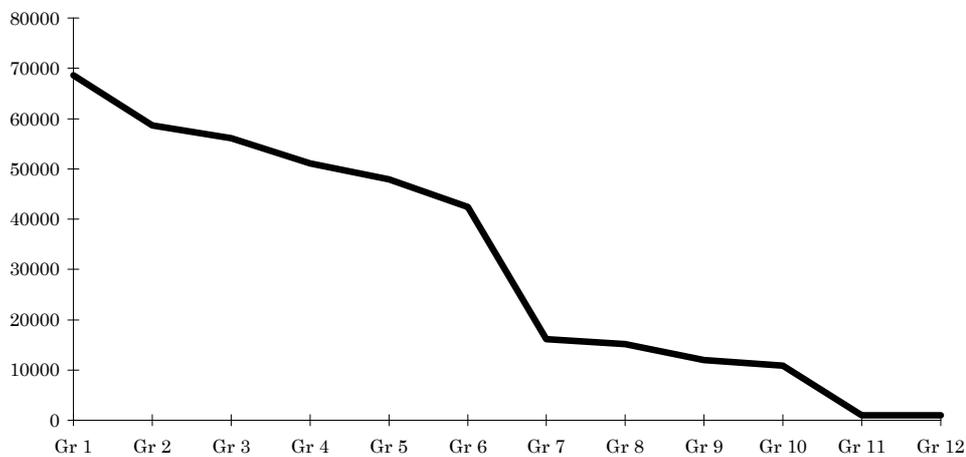
The alternative to a Grade 11 place in a National High School was, again, distance education. University Centres have been established around the country and run matriculation courses. The Institute of Distance and Continuing Education (IDCE), a part of the University of Papua New Guinea, administers these centres. The original intention was that the University Centres would offer degree level courses in distance mode. However, their role had to be changed somewhat due to the small number of students in the country completing a full secondary education. The University of Technology in Lae (Unitech) also offers matriculation through distance education. In future, it is hoped that CODE will

be able to offer matriculation studies and allow the University Centres to concentrate on what they were initially established to do.

In summary, the pressures for change in the general education sector could be described as being retention at the primary level and access at the secondary. The problems of retention were less severe in the lower and upper secondary sectors and the majority of children did get an opportunity to enrol in Grade 1 at some time.

The chart below illustrates these two concerns. It shows total enrolments, by Grade, as the 1982 cohort progressed through the system. There were approximately 70,000 in Grade 1. This number dwindled to only 1000 or so by the time the cohort reached Grade 12 in 1993.

*Figure 1: 1982 Grade 1 cohort progression*



## ***Relevance***

There was a perceived lack of relevance in the formal education system to the life of the majority of the people. This was one of the reasons for the very high drop out rates experienced at the primary level. As we have seen, less than 60% of the children who start Grade 1 complete Grade 6.

Related to this are the unrealistic expectations of children and, particularly, parents who think that education is 'job training' and that education will lead to a job. The numbers gaining a place in either Grade 11 or being admitted to further training courses had not been rising over the years. Coupled with this, the formal sector work force had not expanded in line with the increased output of the school system.

The education system had been geared towards the academic needs of a small minority. The sole purpose of attending school was to achieve good enough results in order to be able to progress to the next level. Barely 1% of Papua New Guinean children were completing Grade 12. These expectations put tremendous pressure on teachers to achieve good marks in the Grade 6 and then the Grade 10

examinations. This led teachers to concentrate on the academic subjects rather than areas that would be of practical use to their students.

The result of this was that increasing numbers of children were, inevitably, being pushed out of the system after Grade 6 and returning to their villages, only to discover that their education had not prepared either themselves or their parents for the reality of life in the village. The education that they received had not prepared them to take advantage of the resource development opportunities available. Another frequent criticism was that when children left Grade 6 they were too young to become involved in entrepreneurial activities. All of these have contributed to young people feeling like failures and no longer valuing village life and traditions. Increasing numbers began to move to the urban areas where there was no work.

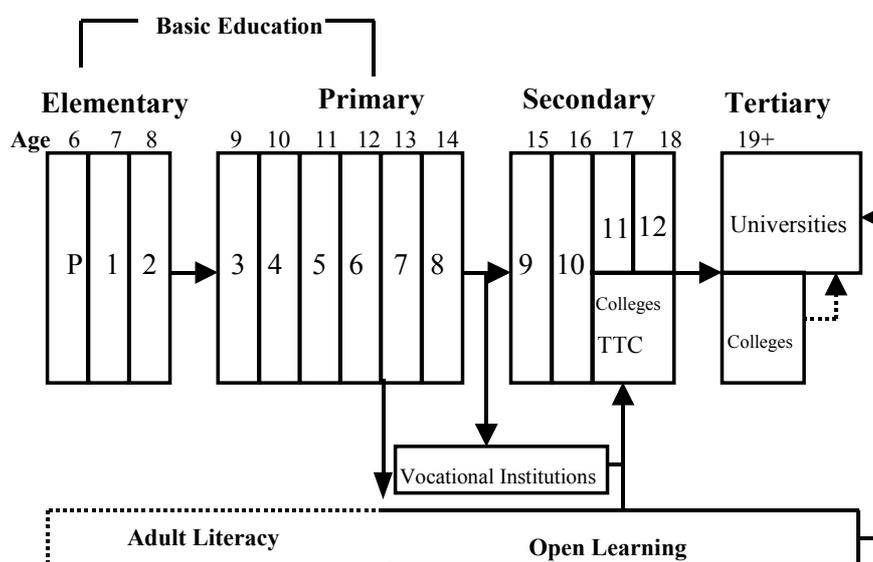
## THE EDUCATION REFORM STRUCTURE

The Education Sector Study looked at these tensions that were building within the system and proposed a totally new structure for education.

The reform involves the restructuring of the formal education system from the pre - primary level through to the upper secondary level. The reform is designed to directly address most of the systemic weaknesses and problem areas identified in the sector review and discussed in the previous chapter.

The 6-4-2 structure had been characterised by high attrition rates at the primary level and a serious access problem at the secondary level. The two major bottlenecks were at Grade 7 and Grade 11.

*Figure 2: The education reform structure*



- Notes:
1. Preparatory: Preparatory class with initial literacy and general education in the vernacular.
  2. Vocational: Two years of lower secondary education with a vocational skills bias.
  3. Other: A wide range of 'permitted' institutions which offer two or more years of secondary education, with a bias determined by the needs and opportunities of the areas which they serve.
  4. Grades 11-12: Upper secondary education or Matriculation will develop particular curriculum biases, for example, academic, agriculture, technical, commercial and so on. The reform structure provides for Grades 11 and 12 in traditionally separate institutions, or added on to existing provincial high schools.

5. TTC: Technical Training Certificates that are two year courses that are taking the place of the one year PETT courses.
6. College: Covers more than sixty non-university 'tertiary' institutions which used to take mainly Grade 10 leavers. They are now in the process of raising their entry level to Grade 12 as the pool of Grade 12 leavers increases.
7. Open learning: College of Distance Education, and other distance education providers.

At the first level, village or settlement-based elementary schools are being formalised. Annual intakes become possible allowing for the reduction of staggered intakes. This, in time, should solve the problem of over age entry. Enrolment at the prep level begins at six years of age. These schools should build on existing Tok Ples Pre Skul (TPPS) initiatives and provide a preparatory year's education (EP) followed by Grades 1 and 2. These are often referred to as Elementary 1 (E1) and Elementary 2 (E2). This is to distinguish them from Grades 1 and 2 in the community schools. The language of instruction in elementary schools is the vernacular. This allows for acquisition of literacy in the language that the children speak. Prep curricula emphasise initial literacy, numeracy, ethics, morality and cultural bonding. To make the curriculum more relevant, expand enrolments, and help improve retention in elementary schools, EP, E1 and E2 have an integrated curriculum based on the child's own culture and community. In many schools, teaching is done by one teacher using multi-grade teaching methods. The transition to English begins in the third year. A new more relevant, integrated activity-based curriculum has been adopted. It should use locally developed materials. An initial literacy kit of eighteen stories has been provided. The school day is of four hours duration.

Elementary teachers are being trained through a three year mixed mode program. The first teachers graduated with a Certificate of Elementary Teaching in early 2000. A system of supervision for elementary school teachers has been developed. Teachers receive a salary appropriate to the training and hours of duty.

The elementary schools act as feeder schools for primary schools. Introducing elementary schools in the villages frees classroom space and other facilities within the primary schools. This allows for the Grades 7 and 8 classes to be relocated from the high schools. There need be no great increase in either the enrolments or number of teachers in the primary schools over the plan period. Six years of primary education can be provided through to Grade 8. All children are expected to be able to continue with their education until Grade 8. It is hoped that this will help overcome the problem of the loss of students, particularly girls, from the system after Grade 6. To improve the quality and relevance of education, the primary curriculum is becoming subject-specific. A strong vocational component is being developed for the upper grades as part of the Curriculum Reform Implementation Project. A new examination system has been formulated for graduation from Grade 8 and to enable selection for Grade 9. Teachers currently within the system are being offered the opportunity to upgrade their qualifications to diploma level through an inservice program. New graduates from the Teachers' Colleges are diploma holders equipped to teach in the upper primary grades.

The facilities freed up by relocating Grade 7 and 8 classes can be used in one of two ways. In the majority of schools there is an immediate increase in the number of Grade 9 and 10 places - up to double in most cases. At the same time Grades 11 and 12 are being developed at selected schools. It has been a government objective to have one such school in each province by 2004. Secondary education therefore consists of four years - Grades 9 to 12. There should be no great increase in either the enrolments or number of teachers in the secondary schools over the plan period. However, additional teachers still need to be trained to fully localise the teaching force. The University of Goroka is expected to develop programmes for the upgrading of the present secondary school teachers.

The curriculum will be broadened to include more technical, agricultural, commercial and scientific content. Some vocational centres will become part of the secondary system. Others will follow a dual system with emphasis on entrepreneurship programs and competencies developed towards trade tests that lead to nationally recognised qualifications. Open learning will provide an alternative opportunity for secondary education.

The net effect of all this on schooling is greatly increased access at all grades. The major expenditures required are the upgrading of facilities and provision of materials at the primary and secondary levels, and the cost of elementary school teacher salaries. The unit costs of education in Grades 7 through to 12 will be reduced through the increased enrolments utilising facilities at existing primary and provincial high schools. This reduction is further enhanced by the almost complete abolition of boarding students in Grades 7 and 8.

The expansion of the system in terms of enrolments and staffing is almost entirely at the low cost elementary end of the system.

A meticulous implementation schedule is essential in order to achieve these targets whilst at the same time benefiting from the significant unit cost savings that are available.

## **PLANNING FOR THE EDUCATION REFORMS**

The planning of the education reform is critical if the targets set by the National Education Plan are to be realised. This chapter is not intended to be a complete guide to education planning in Papua New Guinea. Instead, it aims to identify some of the issues that provincial and district level planners have to contend with in the production of their plans.

The first thing to be understood is that the education reform agenda is a complete package. The various components can not be implemented independently of one another. The link is particularly strong between the elementary and the primary components. If the links are ignored in opening new schools, in particular elementary and upper primary schools, provinces will cause themselves a number of unnecessary problems. These include possible teacher shortages, and the need for extra classrooms and teachers houses.

Planning for the implementation of the elementary, primary and lower secondary components of the education reforms are carried out at the provincial level. The planning for upper secondary education is carried out much more at the national level. This is discussed in detail in the sections on upper secondary. The planning for core Department of Education responsibilities such as curriculum and teacher training are carried out nationally. Members of the Facilitating and Monitoring Unit, and Regional Management and Planning Advisors, support provincial education officers in their endeavours. It is hoped that basic education, elementary and primary will eventually become the responsibility of the District Education Administrator.

### ***Basic Education***

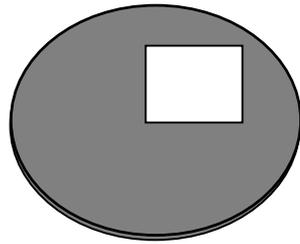
Elementary schools should be opened, and upper primary classes should be established, in an orderly fashion by way of clusters. Each cluster will include one or more elementary schools that will feed into one particular primary school to do Grade 3. Each elementary school in a cluster will normally, although not always, be using the same language of instruction. They should have their first intake in the same year. These clusters of schools are very important as the basis for curriculum development, and for teacher development.

Examples of clusters are shown below. Some of these examples are very straightforward, whilst others are quite complex.

The key to each of the cluster diagrams is as below:

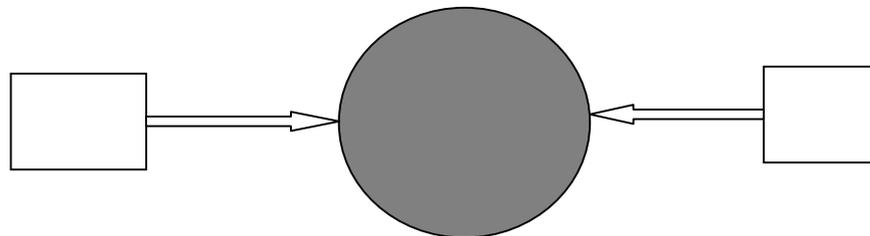
-  Elementary School (Prep to Elementary 2)
-  Primary School (Grades 3 to 5)
-  Primary School (Grades 3 to 8)

**Example 1:** Elementary school on the same campus as primary school.



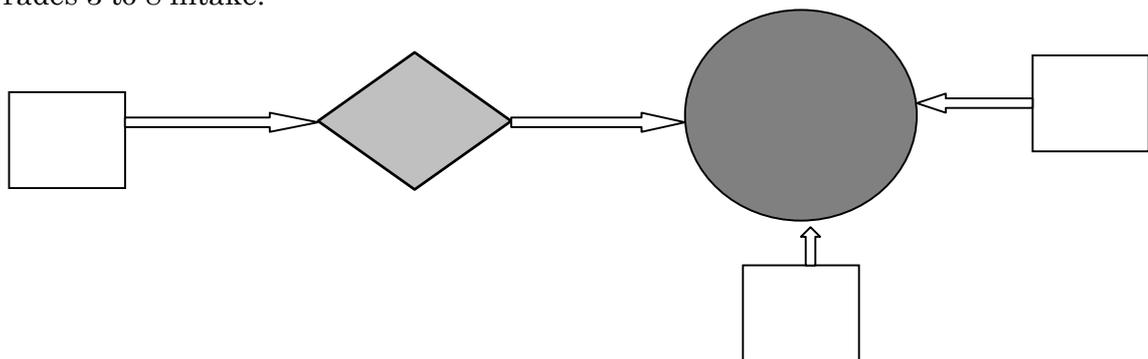
This model was not envisaged in the early planning stages of the education reforms. However, it is now a relatively common model, particularly in urban areas. This is largely because of land problems. There are also a number of schools like this in the rural areas because both the primary and elementary schools are so small that it seems logical to keep them together.

**Example 2:** Two elementary schools feeding into a primary school to complete grades 3-8.



This is an example of the type of arrangement that was recommended in the Sector Study. The elementary schools would not be on the site of the primary but, instead, would be situated in the local communities that have traditionally fed that particular primary school.

**Example 3:** Elementary school feeding into a primary school with Grades 3, 4 and 5 children and then completes Grades 6, 7 and 8 in a primary school with Grades 3 to 8 intake.



This type of model is becoming increasingly common. Many schools are not large enough to justify having Grade 7 and 8 classes themselves. These schools can become lower primary schools, Grades 3 to 5, and then feed into full Grade 3 to 8 primary schools to complete their upper primary education. Example 3 shows one elementary school feeding into a lower primary school and two more feeding the full primary school.

It is most important that the implementation of the elementary and the primary components take place in concert with one another. It is only by doing this that provinces can fully benefit from the in built efficiencies that the education reforms have to offer. As the primary school gains its Grade 7 and 8 classes it

should simultaneously lose its Grade 1 and 2 classes as they are relocated to the elementary schools. The facilities thus vacated, such as the classrooms and teachers houses, can then be used for the upper grades.

Ideally, the elementary school should have their first intake the year before the first Grade 7 classes are taken in the primary school. The table illustrates how a regular annual intake Community School in year 1 transforms into a full primary school with Grades 3 to 8 over a four year period. At the same time as this happens the elementary schools in the cluster are established and built up. There are six grades in the primary school at all times. If a Grade 7 class is taken on at the same time as the elementary prep class is started there will be seven grades in the school. In this situation the school is liable to face problems with classroom availability. This, unfortunately, has been the case in many schools around the country.

	Elem school			Primary school								Comments
<b>Year 1</b>				1	2	3	4	5	6			Annual intake CS
<b>Year 2</b>	P			1	2	3	4	5	6			ES takes 1st prep class. CS takes final Grade 1 intake
<b>Year 3</b>	P	1			2	3	4	5	6	7		CS becomes PS. Loses Grade 1 and gains Grade 7 class
<b>Year 4</b>	P	1	2			3	4	5	6	7	8	PS loses Grade 2 and gains Grade 8 class.

There are a number of issues that planners should consider when planning for the introduction of elementary and primary schools. This list is not exhaustive but gives an indication of the things that education planners need to take into account.

- The number of elementary schools that can be opened each year is dependent upon the capacity of the trainers to be able to both train and supervise them. The ratio of trainees to teachers is recommended to be no more than 30:1.
- There should be equity across the province and between agencies.
- The opening of Grade 7 and 8 classes should keep in line with the supply of teachers who are capable – not necessarily ‘qualified’ – to teach at the Grade 7 and 8 level.

## ***Secondary Education***

The secondary education sector is divided into lower secondary, which is Grades 9 and 10, and upper secondary, which is Grades 11 and 12.

### *Lower Secondary*

One of the objectives of the restructuring of the education system is to give greater access to secondary education. The pressure in the past has been for places in Grade 7. It can be expected that as the implementation of the education reforms progresses there will be increasing pressure for places in Grades 9 and 10. This is because of the much larger numbers of children completing Grade 8 in both the primary schools and the high schools.

Provincial education planners then have to replace the Grade 7 and 8 classes in the high schools because these classes have been relocated to the primary schools. They can be replaced with Grade 9 and 10 classes or, in a small number of cases, with Grade 11 and 12 classes.

The majority of provinces have started this process with West New Britain and the National Capital District being particularly good examples.

The table below shows how a small Grade 7 to 10 high school with a 3322 class structure can be transformed into a secondary school with five classes in each of Grades 9 and 10 over a five year period. There is a tendency for planners to want to replace all the Grade 7 classes at the same time. This is not necessary.

	<b>Grade 7</b>	<b>Grade 8</b>	<b>Grade 9</b>	<b>Grade 10</b>	<b>Total</b>
<b>Year 1</b>	3	3	2	2	10
<b>Year 2</b>	2	3	3	2	10
<b>Year 3</b>	1	2	4	3	10
<b>Year 4</b>	0	1	5	4	10
<b>Year 5</b>	0	0	5	5	10

In this particular example the number of Grade 9 and 10 classes has more than doubled with no need for any extra classrooms or other facilities.

#### *Upper Secondary*

This is Grades 11 and 12. The control for the establishment of Grade 11 and 12 classes within Secondary Schools remains more in the hands of the National Department than is the case with the other sectors. The National Education Board still has the responsibility for endorsing all selections to Grade 11.

The recommendation of schools to establish Grade 11 and 12 classes at a school is made by the *Provincial Executive Council* of the province concerned. The Secretary for Education and the Implementation and Monitoring Group then considers this request. If it is considered that the school should go ahead approval will be given and the Department of National Planning and Monitoring will be approached to find a donor for the upgrading work that is required.

The provinces have got to plan for the phasing out of the Grade 7 and 8 classes. This is important because unlike the lower secondary explained earlier all Grade 7 classes should go at the same time. The table below shows how a Grade 7 to 10 school with four classes in each Grade can become a full secondary school over a three year period.

	<b>Grade 7</b>	<b>Grade 8</b>	<b>Grade 9</b>	<b>Grade 10</b>	<b>Grade 11</b>	<b>Grade 12</b>	<b>Total</b>
<b>Year 1</b>	4	4	4	4			16
<b>Year 2</b>		4	4	4	4		16
<b>Year 3</b>			4	4	4	4	16

A number of schools, often those that have started without sufficient planning have started with just two Grade 11 classes and have retained one or two Grade 7 classes for one year after implementation.

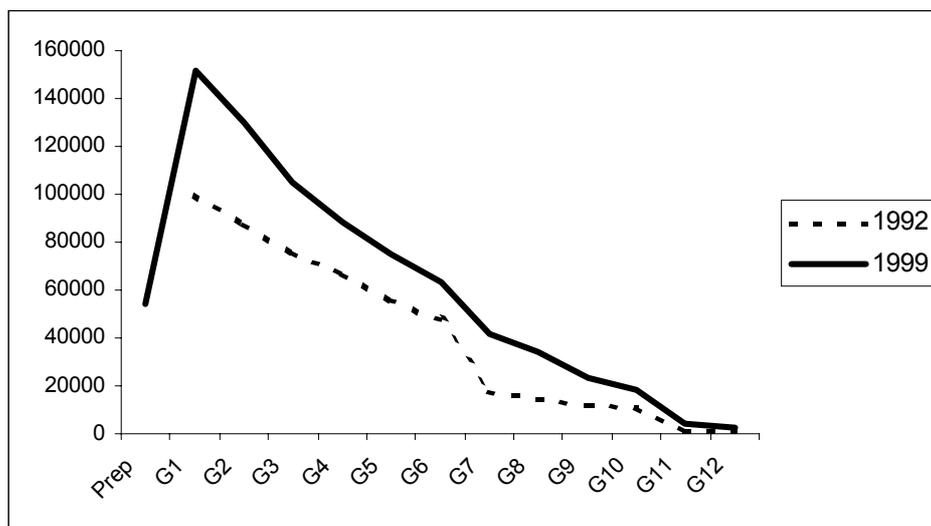
## IMPLEMENTATION OF THE EDUCATION REFORMS

The implementation of the education reforms has generally been satisfactory in terms of access. The elementary and primary figures are about one year behind those suggested in the National Education Plan. Enrolments in Grade 11 are ahead. Three points, using 2000 enrolment figures, illustrate the advances that have been made:

- Approximately 40% of the children entering school are in the elementary preparatory grade, as opposed to grade 1 in the community schools.
- There are now three times as many children in Grade 7 in the primary schools than there are in the high schools.
- There are now three times as many students in Grade 11 in the Secondary Schools than there are in the National High Schools.

The chart below shows, for 1992 and 1999 the numbers enrolled in the education system by grade. Enrolment figures in Grades 1 and 2 include those in both the elementary and the primary schools. Enrolment figures in Grades 7 and 8 include those in both the primary and the secondary schools.

*Figure 3 Enrolment comparison – 1992 and 1999*



There are a number of noteworthy comments that can be made from this chart:

- The huge rise in Grade 1 enrolment.
- The continuing evidence of large drop out rates through the primary cycle of education.
- The significant increase in enrolment in all Grades beyond Grade 6.

## *Elementary education*

### **Access**

Elementary schools started as a pilot in 1994 in Milne Bay province with nine schools. This was followed in 1995 by New Ireland province and by 1998 all provinces had elementary schools operating.

The table below shows the enrolment by Grade and province for 2000.

*Table 3: Elementary school enrolment by Grade and Province, 2000*

	Prep	G1	G2	Total
Western	1060	1603	1710	4373
Gulf	2320	1845	1405	5570
NCD	5746	5295	4507	15548
Central	5685	4258	3161	13104
Milne Bay	2176	2022	1675	5873
Oro	2732	2211	977	5920
Southern Highlands	2555	2323	1658	6536
Eastern Highlands	3619	3492	2723	9834
Simbu	4557	3182	2049	9788
Western Highlands	3699	2808	1761	8268
Enga	2922	2427	1868	7217
Morobe	3380	2986	1969	8335
Madang	3333	2859	2379	8571
Sandaun	2218	1235	751	4204
East Sepik	2331	1980	1576	5887
Manus	784	434	267	1485
New Ireland	1191	1001	858	3050
East New Britain	4683	3020	2129	9832
West New Britain	2288	1731	1321	5340
Bougainville	1986	1856	2380	6222
KLMD	1556	1562	733	3851
<b>Papua New Guinea</b>	<b>60821</b>	<b>50130</b>	<b>37857</b>	<b>148808</b>

A major surprise has been the high take up rate by communities around the country. It was anticipated that this sector of education would only be introduced following considerable persuasion from education authorities. The challenge is now seen as being holding back provinces and ensuring an ordered implementation and steady rises in enrolment as anticipated in the National Education Plan.

### **Teacher training**

The Elementary Teacher Education Support Project (ETESP) has been enormously successful. Teacher training at the start of the year for new teachers has become firmly established. The project was due to be completed at the end of 2000 but agreement was reached between the Department and AusAID for a two year extension. The construction of houses and the orthography development required under the initial project is continuing as a part of the extension period. Thirteen houses have now been completed. Forty five orthographies were

completed during the original project and it is anticipated that a further fifteen will be completed by the end of 2002

The teacher training course takes three years and leads to a Certificate of Elementary Teaching (CET) that is awarded by the Papua New Guinea Education Institute (PNGEI). In August 2001 there were 5877 teachers undertaking the Certificate of Elementary Teaching (CET). There were

- 2034 in Year 1,
- 2153 in Year 2 and
- 1690 in Year 3.

It is expected that there will 1200 new teachers starting their training in 2002.

There are three components to this course.

Firstly, there are the workshops that are run each year at the district level. These are held during the long Christmas vacation. In addition to these workshops the project also funds cluster workshops during the year for elementary school teachers.

Secondly, the teachers are expected to complete a series of Self Instructional Units (SIUs).

Thirdly, the elementary teacher trainers should closely supervise the teachers. The trainees should be visited on a regular basis and trainers will watch the teacher in the classroom. They should check up on the progress of the teacher with the SIUs. They should also provide any advice and support that the trainee might require. Trainee teachers should be visited at least once a term by the trainers.

Entrants to the teacher-training course should be nominated by their own community. They should have a minimum of a Grade 10 formal education, although special provision can be made for those who have other related qualifications, such as experience of teaching in a *tok ples pre school*. The major qualification is that they should be literate in their own language and extremely knowledgeable in the culture of their area.

There are currently 208 trainers in the field, which includes the trainers trained in 2001. This gives a trainee teacher to trainer ratio of about 28:1, which is rather higher than was originally anticipated although considerably better than has been the case in recent years. It is anticipated that there will be a further 23 trainers trained in 2002. The trainers are trained at the PNGEI through an initial twenty week course. This is followed by a period of fieldwork that should include the running of a teacher training workshop. The trainers are also trained to acquit funds because they have substantial amounts of money sent to them to run their workshops. This is followed by a series of workshops held on a regional basis. The trainees must submit a number of field work reports, one of which is concerned with awareness. Successful trainers receive a Certificate of Elementary Teacher Training (CETT) awarded by the PNGEI.

Multi grade teaching is an integral part of the elementary teacher education training program. It is intended that this will become an accepted feature of the elementary school system. There is still reluctance amongst some provincial officers to accept the need for such classes. New Ireland has been an exception to

this reluctance. They have been at the forefront in the introduction of multi grade teaching in the elementary schools, particularly amongst the small island communities of New Hanover. A number of other provinces have said that they will introduce multi grade on a large scale when the majority of their teachers are fully qualified and registered.

This project has alleviated a lot of the concerns that have been expressed with respect to teacher training. Funding for training has been made available to all provinces. This is based upon approved plans and the capacity of the province to support the teachers.

There is not any shortage of teachers, or potential teachers, at this level. However, the schools have not been established long enough to learn anything meaningful from the teacher pupil ratios. The reason for this is that many new schools have large intakes in their first year or so of operation. In many cases this drops away in future years. It is often not until the fourth or fifth year of operation that a consistent enrolment pattern becomes apparent.

Table 4 shows total enrolment, staffing and teacher pupil ratios for 2000.

*Table 4: Enrolment, staffing and pupil teacher ratios for elementary schools, 2000*

	<b>Enrolment</b>	<b>Teachers</b>	<b>TP ratio</b>
Western	4373	199	22.0
Gulf	5570	205	27.2
NCD	15548	439	35.4
Central	13104	472	27.8
Milne Bay	5873	262	22.4
Oro	5920	231	25.6
Southern Highlands	6536	272	24.0
Eastern Highlands	9834	278	35.4
Simbu	9788	330	29.7
Western Highlands	8268	256	32.3
Enga	7217	240	30.1
Morobe	8335	221	37.7
Madang	8571	237	36.2
Sandaun	4204	154	27.3
East Sepik	5887	213	27.6
Manus	1485	69	21.5
New Ireland	3050	171	17.8
East New Britain	9832	261	37.7
West New Britain	5340	225	23.7
Bougainville	6222	250	24.9
KLMD	3851	208	18.5
<b>Papua New Guinea</b>	<b>148808</b>	<b>5193</b>	<b>28.7</b>

The overall figure of the pupil teacher ratio is slightly lower than it was in 1999. This may simply be due to a more accurate gathering of data. In 1999 a number of provinces, and Morobe in particular, reported impossibly high ratios. The figure for 2000 is similar to that planned for in the National Education Plan, which was 1 to 26. It might be expected that the ratio would drop in future years as elementary schools begin to become established in some of the more remote

parts of the country. This will be the case if multi grade teaching is not widely utilised.

### ***Materials***

AusAID supplies materials for elementary schools through a Commodity Assistance Support Program (CASP) mechanism. Each school receives five kits. There are three literacy kits – one for each of the three grades – and two numeracy kits. The initial kits are supplied in a patrol box that also contains a silk screen printer and consumables of sufficient quantity to allow the school to start. It is expected that the teachers themselves will produce the bulk of the materials that are required for their classes. There is an important need for schools and Local – level Governments to ensure that money is budgeted for the purchase of basic school materials.

There is a library kit in production that includes 25 picture stories in English. There are blank books with just the pictures in and a space for the text. Teachers are required to translate the English text into the language of instruction and to copy this into the blank books. Teachers also have to produce small books for each of the stories that they translate. The children use these small books.

The elementary schools received a boost at the start of the 2000 school year when the Department of Education, with the support of AusAID, provided a large number of textbooks and other school materials. The AusAID contribution consisted of the printing and distribution of curriculum materials developed by the Curriculum Development Division. The printing was all carried out locally. This support amounted to approximately K2m. However, there is still a great need for the production of vernacular materials.

The Literacy And Materials Production (LAMP) centres are, with a few honourable exceptions, not coping with the demand for vernacular materials from the different language groups in each province. It is critical that these centres be rehabilitated, or alternative strategies put in place, in order to ensure that sufficient quantities of relevant materials can be produced for the schools. Provinces are recognising this and two of the five provinces that qualified for the Incentives Fund awards, that were later withdrawn, nominated their LAMP centres to receive part of the awards. One of the problems faced by many provinces has been the sophistication of the equipment that was initially supplied by JICA to form the LAMP centres. There are examples around the country of the reisographs breaking down and nobody being available to maintain them. In the future, provinces should think carefully when considering the re-equipping of their LAMP centres. They should ensure that the machines that they buy are appropriate for their needs and that there are people available to both operate and maintain them.

### ***Infrastructure***

The responsibility for providing infrastructure in elementary schools rests quite clearly with the communities themselves. This was reinforced in the National Education Plan Update 1. Local – level Governments are providing support to schools in some parts of the country but it is by no means clear that they all recognise the part that they have to play. It is important that all these Governments budget for a small amount of seed money for new elementary schools. In spite of this, communities themselves must be aware that it is they

that carry the burden of responsibility to ensure that adequate facilities are available at their schools. The Office of Rural Development has considered a number of submissions for Rural Development Funds from MPs who wish to support their elementary schools. This is an encouraging sign.

The Basic Education Infrastructure and Curriculum Materials Project will support the elementary schools to a certain extent in the trial provinces. This project is discussed at greater length in the primary sections of this book.

### ***Curriculum***

A scope and sequence book for the elementary level has been completed and replaces the previously developed attainment targets. The scope and sequence book gives the skills that should be mastered by the children at each level of elementary education. Three syllabuses have now been developed and will be distributed to schools in 2003. They are Language (vernacular), Mathematics, and Culture and Community. The curriculum should be community based and developed using the guidelines from the scope and sequence. Further publications to help teachers are now available and include:

- Community and Culture to Curriculum – this show teachers how to relate all of the subjects to the community.
- Community Maths – this helps teachers to identify the mathematical concepts that occur in the cultures and language groups of their particular community. Teachers will use this to teach basic maths concepts to their children.
- Activity and Picture Books 1 and 2 – these books are for teachers.
- Activity Book 3 -- a teachers book that helps the children to learn language through activity.
- Oral English Introduction to Bridging – this is a book for teachers that helps them to slowly bridge from the language in the elementary schools to oral english.
- Planning Book with Theme Web – this book is already with teachers and is a tool to help teachers in the preparation of lessons. It also includes timetabling.

Courses being developed now have strong links with the community and communities are being encouraged to help in the education of their children. During the life of the Curriculum Reform Implementation Project the elementary and primary curricula will be revised, and training workshops for teachers will be run.

### ***Standards***

It is too early yet to be able to form any conclusions about the standards of education at the elementary level of education. It is clear that a major study will have to be undertaken in the near future to show what the effects the reform has had on standards.

The Department has produced an early formative evaluation called '*Elementary Education in PNG: A Formative Evaluation*'. The CRIP impact evaluation is primarily concerned with activities in Grades 3 to 8 but will, inevitably, have to consider certain aspects of the elementary sector.

### ***Inspections***

2000 was the first year in which teachers were going to have to be inspected for registration. The Inspections and Guidance Division (IGD) of the Department of Education put in place an interim inspections system for 2000. This has now been built upon. Thirty eight trainers were identified in 2000 and put through a brief training course at the PNG Education Institute in April, 2000. They were then put on a short attachment with Primary School Inspectors for further exposure and training. This process was repeated in 2001 and there are now 85 officers in the field. The designation is now Elementary Trainer / Inspector. Registration visits and reports were completed in September, 2001. There was one Regional Ratings Conference for the New Guinea Islands Region. If this is deemed to be a success, as is thought likely, it is anticipated that there will be regional conferences throughout the country in future years. The rating of the rest of these reports were undertaken at the provincial level in 2001.

The Department of Personnel Management has recently endorsed a more permanent structure after approval by the Implementation and Monitoring Group. The initial structure has twenty positions. Seventeen of these will be designated Elementary Inspection Coordinators and will be based in the provinces. The other three will be at Headquarters and will include a Superintendent and a Professional Assistant. The level of the Coordinator positions will be Grade 11, which is consistent with those of the primary school inspectors. The rest of the Trainer / Inspector positions are at the provincial level.

### ***Gender issues***

The participation of girls at elementary schools is satisfactory with 47.2% of those enrolled in 1999 being girls. This is similar to the percentage of females in the population as a whole in the 1990 National Census. It is exactly the same as the 1998 figure.

The situation with staffing is not quite as healthy. Only 40.6% of teachers in the elementary schools being female. This is marginally lower than 1998. It remains a slightly higher figure than in the primary sector, but is rather lower than was hoped for at the start of the Elementary Teacher Education Support Project. There is an enormous variation between provinces. The range is from less than one in four teachers being female in Simbu to almost three in four in Bougainville. This is an area that needs to be considered in a number of provinces when they ask communities to nominate their teachers for training.

The two tables below show female participation in both enrolment and staffing.

Table 5: Elementary school enrolment by gender and grade, 2000

	Boys	Girls	Total	%age female
Prep	32395	28426	60821	46.7
Elem Grade 1	26816	23314	50130	46.5
Elem Grade 2	20412	17445	37857	46.1
<b>Total</b>	<b>79623</b>	<b>69185</b>	<b>148808</b>	<b>46.5</b>

Table 6: Elementary school staffing by gender and grade, 2000

	Male	Female	Total	%age female
Prep	1184	881	2065	42.7
Elem Grade 1	1030	730	1760	41.5
Elem Grade 2	817	551	1368	40.3
<b>Total</b>	<b>3031</b>	<b>2162</b>	<b>5193</b>	<b>41.6</b>

### **Constraints to implementation**

At the elementary level, teacher education and teacher supervision are the two biggest concerns. The Elementary School Teacher Education Project has helped to an extent. However, there are still problems which have arisen partly because of the unforeseen explosion in the number of elementary schools. This has been compounded in a number of provinces where expansion has been in an *ad hoc* fashion and has not been linked to the establishment of the primary schools.

The success of the education reforms largely depends on the success or otherwise of teacher education, and in particular elementary teacher education. This, in turn, relies upon the supervision of teachers in the field. There needs to be a change in the culture of the elementary trainers in a number of provinces. Too many at present remain confined to the office and have neither the inclination nor the motivation to look around for ways in which they can carry out their responsibilities. Money has been made available both through the ETESP and the Government Assistance to Quality Education Program (GAQEP) to ensure that sufficient resources are available for all teachers to be visited at least four times during 2001.

Transport problems, although in some cases genuine, are too often used as excuses for doing nothing. The trainers need to be encouraged and become more innovative. It is encouraging that some provinces are looking to invest in motorbikes to allow their trainers to get around. One province, Simbu, has displayed the type of initiative that is required. They have bought a number of horses to be used in the remote Karamui District. The elementary trainers in the district have been trained to ride the horses and to take care of them.

In the meantime, there needs to be much greater co-operation between the trainers and the inspectors, and, in the districts, between the education division and the District Administrator. It is no longer possible for every officer at the district level to have access to a vehicle. The challenge has got to be to make the most of **all** available resources in order to efficiently provide services to all in the country.

The management of education at the provincial level is a concern that is emerging in a number of provinces. A great deal of the responsibility for all

aspects of elementary education, including the planning, is being laid at the door of the Elementary Coordinator. In the provinces where this is the case, elementary education is seen as being something apart from the normal education system. **This should not be the case.** The Coordinator is a teacher trainer and this is where the major responsibility of the teacher trainers should lie. The planning of the elementary sector should be one of the key responsibilities of the District Education Administrators, the Education Planner in the province and the Reform Coordinator, if there is one. This was one of the primary areas discussed at the Provincial Education Planners workshop held in Port Moresby in July 2000 and again at a meeting of the Elementary Coordinators.

The distribution of the AusAID materials kits has generally been very successful and additional funds were provided for the Sandaun and Oro Provinces and the North Fly District to ensure that kits arrived in the elementary schools.

Efforts are being made to ensure that in 2002 all schools are registered before they are opened and that all new teacher positions have been correctly created. This has meant that a number of provinces have not been able to establish as many schools as they may have wanted. Indeed, one or two provinces have not been allowed to open any new schools at all as a result of the mess that they had managed to get themselves into in previous years. A number of workshops were held towards the end of 2000 and also in 2001 to help provinces in this regard.

A further problem that has emerged recent years is that of land for elementary schools. At the outset it was assumed that communities would quite happily give up a small amount of land for a village based elementary school. This has not been the case in a number of areas. It has been of particular concern in the urban areas. It needs to be stressed that the land issue is a community responsibility and can only be solved at that level.

### ***Implications of progress for future planning***

Two of the senior project officers from the ETESP made a presentation at the Senior Education Officers Conference in Mt. Hagen in April 2001. They spoke of the progress that had been made and of instances of good practice. In addition, they laid down a number of challenges to the Department that had to be met if satisfactory progress were to continue to be made in Elementary Teacher Training. These challenges came in the form of a series of pertinent questions directed towards the Department of Education and the Provincial Divisions of Education.

#### *Challenge #1:*

*Who will provide Trainers with the office space, administrative services, housing, and funding for transportation, accommodation on visits to schools, materials and travelling allowances, that PECs and Trainers need to do their jobs? Who will provide them with professional support and help them with their concerns and their planning?*

#### *Challenge #2:*

*Who will provide Trainers with ongoing professional development? And who is providing ongoing professional development for those trainees who have graduated to continue to develop and implement rich, rigorous and relevant curriculum in their classrooms?*

Teacher Education and Standards have been clearly identified as being part of the core responsibilities of the Department of Education. The supervision and appraisal of teachers is part of standards. The Department has set aside the funds required to allow the recently appointed Elementary Inspectors to visit, and inspect, the graduated teachers. This is a component of the GAQEP and is over and above the allocations made under the ETESP.

The development of a locally produced relevant curriculum is critically important for the success of the reforms. It was intended that local curriculum committees be formed in order to develop such materials. This has only happened in very few areas and is something that CDD with CRIP will need to address.

The provision of housing, office space and administrative support is rather more difficult. The Department would hope that the spirit of partnership between the different stakeholders will mean that the provinces and districts will support their trainers in the same way as they have supported the Primary School Inspectors. This is happening in a few places but there is still a need for a greater acceptance of responsibilities by the District administrations.

In addition, a greater degree of cooperation is required between the Inspectors, the trainers and the District Education Administrators in order to make the best use of the resources that are available. Again, this is happening in a few places but there is a need for a bit of give and take on both sides, as well as a culture change for many of the Primary School Inspectors in the field.

*Challenge #3:*

*Who will provide the resources that both teachers in training and those who have graduated need to do their jobs?*

Elementary schools should be considered in exactly the same way as other schools within the National Education System. These schools should benefit from the education subsidies and other provincial and Local-level Government initiatives in the same way as community and primary schools. This is not the case at present in a number of provinces.

*Challenge #4:*

*While teacher training is a national function, the NDoE management requires additional structures for the Trainers and their new roles. There are many issues surrounding Trainers' positions and salaries. Despite the Secretary's directive for provinces to create these positions at EO 5 level (66/2000), Trainers throughout the country are paid at different levels.*

*Who will deal with the issues surrounding Trainers' roles, their positions and salaries?*

This is one of the more serious problems. In a time of increasing belt tightening provinces have been loathe to create the extra positions, or to redesignate existing positions. This has meant that many trainers are still being employed on Non Institutional Positions. This goes part way to explaining the differing levels of payment. It is doubtful that this would have happened if the Department had been able to create the number of positions required at the PNGEI as was the initial intention.

*Challenge #5:*

*With 6300 Elementary trainee teachers, PNGEI has the biggest teacher training program in the country. In North Solomons Province alone there are 485 trainee teachers – more than any other teacher training college in the country. To ensure sustainability of the CET and the CETT PNGEI must increase its support for the Elementary Unit.*

*However, the Unit is understaffed and has been short of three qualified early childhood lecturers and specialist staff for two years. A temporary waiving of the degree requirement is needed until those with appropriate qualifications and relevant experience can be appointed. This will be addressed when the AusAID funded through PATTAP Bachelor of Education in Early Childhood is introduced in PNG later this year. In 2001 and 2002 another 60 Trainers will be trained and with natural attrition it is anticipated that to reach the target of 16,000 trained teachers there will be an ongoing need for Trainers.*

*Who will ensure that the Elementary Unit, has the resources, that is the lecturers with appropriate and relevant Early Childhood qualifications, the administrative staff and physical resources such as library, vehicle, and well maintained technology required to support the program? Who will ensure that GoPNG Counterpart funding is channelled to the CET and CETT activities as budgeted?*

There are two issues here.

The first is that of Human Resource Development which is widely recognised as being the major issue facing the Department as a whole and not just the Elementary Teacher Training Program. The upcoming Education Capacity Building Program will address some of the deficiencies noted in the planning and management of the education system but by no means all of them. The Primary and Secondary Teacher Education Project is concerned, principally, with the primary teachers colleges. There is now a need for elementary teacher education practitioners to be seriously considered as well. It is encouraging that the Project with the Department has taken the initiative to facilitate the introduction of a relevant BEd program. This will be a two year mixed mode program with residential sessions and distance education assignments to be completed whilst the trainers are in the field. There will be forty trainers, almost half of whom will be women, initially enrolled in this course.

The second is that of the Department making the best use of the human and other resources that it has at its disposal. Although the restructuring that took place in 1999 addressed a number of the issues that have arisen due to the demands of both the education and the Government reforms there is still much to do. This restructuring did not take full account of the increasing needs of the

elementary sector. There have been a few signs of change. The General Education Services Division, previously SALD, have redesignated some positions that were redundant following the passage of the Organic Law as elementary project positions. The Inspections and Guidance Division, as noted earlier, has established an elementary section to deal with the issues raised with the increasing number of certificated teachers.

A lack of housing, as in a number of other parts of the system, is cited as one of the reasons behind this inability to attract suitable staff. It should also be noted that the PNGEI have not prioritised elementary staff when it has come to the allocation of housing.

*Challenge #6:*

*With the creation of 17 Elementary Inspector Coordinator positions this year, two issues have arisen. Firstly, these 17 Trainers who supervised and trained approximately 700 trainees will no longer be delivering the CET.*

*Who will supervise these 700 trainee teachers and who will fund and train replacement Trainers?*

*Secondly with the creation of Provincial Elementary Teacher Training Coordinator positions and Inspections Coordinator positions and the existing PEC positions, the roles and responsibilities of the three must be reviewed.*

*Who is taking on the challenge of coordinating the task of developing and articulating clearly defined duty statements for the Elementary leadership positions?*

As noted elsewhere in this book, the Inspector Trainers are required to continue with their training roles. They are simply elementary trainers that have got the added responsibility of being in a position to be able to recommend registration for newly qualified elementary school teachers. The Elementary Inspector Coordinators are also expected to take part in teacher training as and when required.

*Challenge #7:*

*The involvement of the Adviser Counterparts is an important function of the Elementary Teacher Education Support Project (ETESP) implementation and as such NDoE is required to identify principal Counterparts for the Australian Team Leader, the Deputy Team Leader and all Technical Advisers (including the Financial Administrator).*

*Skill development, long-term sustainability and capacity building within NDoE are critical outcomes for the project and the success of the Counterpart Training Program is key to achieving these outcomes. For months the ATL, DTL and Financial Administrator have been without Counterparts.*

*How can it be ensured that suitable Counterparts are identified? What is needed to make it worthwhile for counterparts to take on these roles?*

This is a very important issue that goes beyond just the ETESP. Similar sentiments have been expressed in relation to other projects. The simple fact is that there are not enough suitably qualified Papua New Guineans to go around and a number of officers are counterparts on two or more projects.

*Challenge #8:*

*Critical to the success of the Elementary Teacher Training program at the district level are collaborative leadership and good management at all levels.*

*At all levels – at the National level, and in the provinces at the provincial, district and local levels, what strategies are needed to ensure that this leadership is provided?*

This is a management and planning issue that has been widely recognised and will be addressed through the Education Capacity Building Program. It is likely that the Executive Development Program will be reintroduced to identify potential education leaders although it may not be in its original form.

*Challenge #9:*

*The Project is providing housing for PECs in each Province. Ten houses have been completed; up to another ten will be built in the next 18 months.*

*Who will own the houses and who will be responsible for their maintenance?*

This is a very simple question to answer in theory. The houses that have been built for education officers can be placed in two categories – those constructed on institutional land and those built outside of institutions.

All of the houses built as a part of this project are in the first category. The Teacher Education and Staff Development Division will own the houses. They will also be responsible for the maintenance needs of the houses. The reality is that when there is no Elementary Coordinator, or the Coordinator has no need for a house, there will be enormous pressure placed for somebody else to use the house. This is a situation that has been faced by the Regional Management and Planning Advisors in regard to a house that has been built in Kokopo as a part of the Education Development Project. Reality and the demand for housing is such that it can be very difficult to remove people.

*Challenge #10:*

*The Project is providing training and support to Elementary Trainers in financial administration.*

*How will this training and support to those who manage training funds, be provided in the future?*

This is an issue that has also been brought up by BEICMP. How will the courses that have been developed and successfully delivered be used following the end of the project? It is hoped that in the case of BEICMP courses that they will be

taken over either by the Staff Development Unit or as a part of the forthcoming Education Capacity Building Program.

*Challenge #11:*

*With a shortage of teachers in other levels of schooling, how will the current number of teachers required for Elementary schools be maintained?*

One of the advantages of the elementary sector of education and the mode of training is that, with a few exceptions, there is very little problem in attracting a suitable number of new teachers each year.

The issue here, however, is of teachers leaving the classroom. These can be placed in two categories. Firstly, there are the ones that leave through normal attrition. Secondly, there have been instances reported of elementary teachers being placed in primary schools due to the teacher shortages in that sector.

*Challenge #12:*

*NGOs are asking if potential teachers and Trainers for their schools can be enrolled in the CET and CETT. In order to train the number of teachers required for government schools and with a program stretched to the limits this has not been possible.*

*Who will determine, and when, whether or not NGO employees are eligible for the CET and CETT and who will fund them?*

This issue has been raised because of the introduction of elementary schools in a remote part of Sandaun as an initiative from the Catholic Church in the area. These children previously had no opportunity to go to schools and there is now the added concern regarding what will happen when they finish the elementary cycle of education and have to move into Grade 3. The schools were not included in the Sandaun implementation schedule. The Secretary for Education instructed that they be included in the training program. The mission agreed to pay the costs of trainer visiting the schools although the ETESP was responsible for the costs of the training program.

The fact remains that these children are Papua New Guinean and they have as much right as any other child to have an education. Having said that, there is a need to consider very carefully the best way in which to facilitate the expansion of non approved elementary schools in other parts of the country.

*Challenge #13:*

*Also critical to the success of the establishment of Elementary Education, has been voluntary support.*

*Who will ensure that community involvement – building of classrooms, support for the development of community based curriculum and the teacher training program, continue?*

Nobody is able to guarantee the continuation of strong community support for elementary schools. It is hoped that the enhanced community awareness program that is being developed will carry the message of responsibilities to all stakeholders.

*Challenge #14:*

*And finally, with less than 18 months of the Elementary Teacher Education Support Project to go, the future of the Elementary Teacher Training program must be addressed. The mode of delivery, the resources required and funding arrangements are just three of the issues to be determined.*

*What steps are being taken to determine the future of the Elementary Teacher training program? How will the program be delivered? What resources including funds will be required and where will these come from?*

This is an issue that has to be taken up between the Department of Education and AusAID. It is clear from discussion that the provinces are going to be unable to take over the responsibility of training even if they wanted to. One option may be that AusAID complete the training program for those teachers already enrolled on the CET. The Government of PNG would then have to take responsibility for any new teachers enrolled on the course. This would mean that Government would take over the full responsibility over a period of three years.

What does need to be clearly understood by all is that the training model works and at present it is the only feasible means of training the number of teachers required in such a short time frame.

## *Lower Primary education*

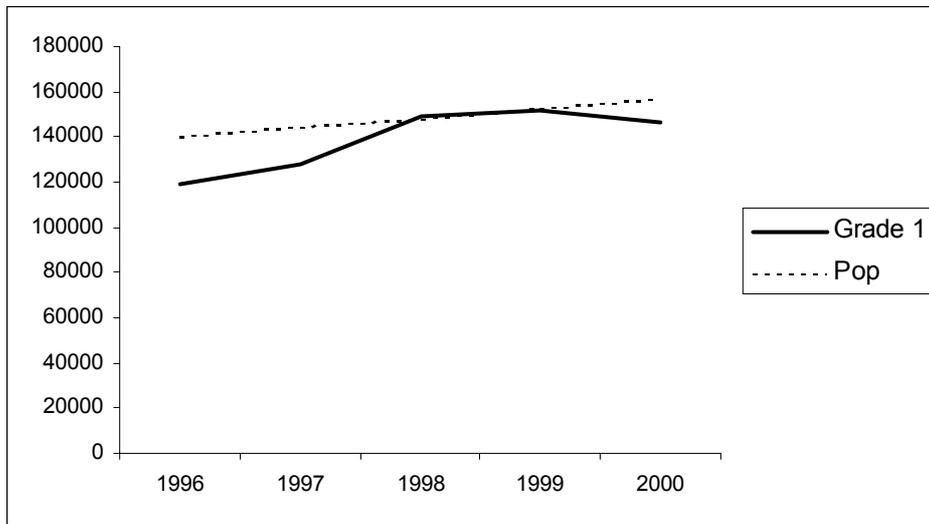
The lower primary level of education is getting increasingly more attention. By 2001 all provinces had children in Grade 3 classes who have passed through the elementary schools.

### **Access**

One rather surprising aspect of the education reforms, so far, has been the fact that Grade 1 enrolment in the old style community schools did not drop as quickly as was expected, despite the rapid rise in the numbers of children in Elementary Grade 1. During the initial planning stages it was assumed that the numbers in Grade 1 would decrease at a similar rate to the rise in elementary grade 1 numbers. The first real signs of a drop came in 1999 and this trend was continued in 2000, although with a rather smaller fall in numbers.

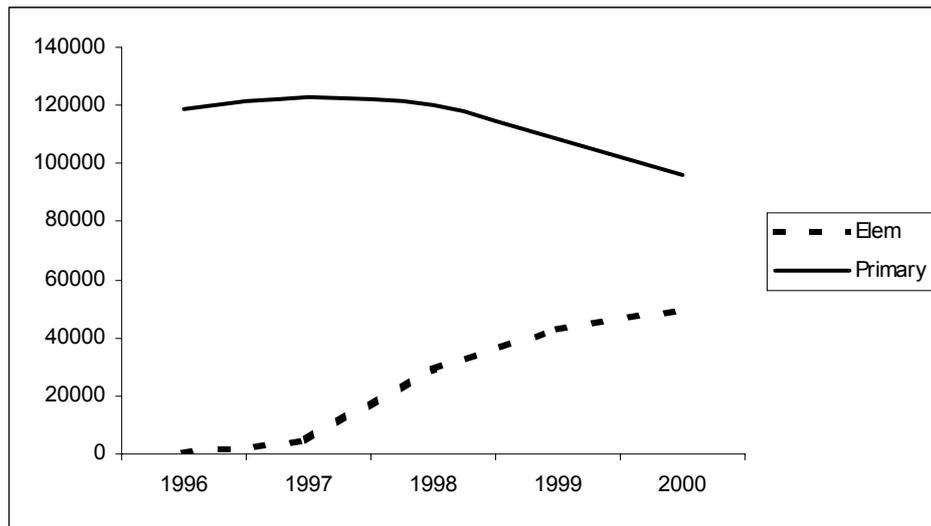
The two charts below illustrate the situation regarding Grade 1 enrolment. The first shows Grade 1 enrolment and the 7 year old population. There are now slightly less children in Grade 1 than there are seven-year-olds in the country. The figures suggest an admission rate in 2000 of about 90%. It was rather higher in both 1998 and 1999 because of the rapid growth in elementary schools without the numbers in Grade in the primary sector dropping as quickly as was expected. Admission rates above 100% are not unusual in a country such as Papua New Guinea. A cautionary note should be added to this analysis. The population figures used are not official age specific figures from the 2000 census. Instead, as advised by the Census Office the total population has been taken and it has been assumed that there will be the same percentage of 7 year olds across the entire population as there were in 1990. It is expected that detailed, province by province, census figures will be available in mid 2002, and a more accurate picture will then be available. It is hoped that in the next version of this book there will be some analysis by province provided because great variations are expected.

*Figure 4: Grade 1 enrolment versus 7 year old population*



The second of the charts compares Grade 1 enrolment in the primary schools against that in the elementary schools. As noted earlier, the first evidence of a drop in Grade 1 figures came in 1999. If this continues, as is expected, then the system should benefit from a saving in the number of teachers required in Grades 1 and 2. These teachers can then be redeployed to help solve the problems currently being reported in the higher grades.

*Figure 5: Grade 1 enrolment by type of school*



It is likely that the very high Grade 1 enrolments will translate into rises in enrolment rates. The age specific details from the year 2000 census results have yet to be published. A full table of enrolment rates will be presented by province in the next edition of the State of Education.

### ***Teacher training***

The needs of lower primary teachers (grade 3, 4 & 5) are of great importance to the success of the education reforms. The first children to enter elementary schools in Milne Bay in 1994 will be in Grade 8 in 2002. There are at least a few primary schools in all provinces that now take grade 3 children who have completed a three year elementary education in 2001. The Curriculum Development Division has developed appropriate curriculum courses in language, mathematics, community living, environmental studies, arts & crafts, health and physical education.

The Curriculum Reform Implementation Program has run the following courses for bridging for Grade 3 to 5 teachers:

- 61 teacher courses
- 17 provincial training the trainer courses, and
- 4 refresher workshops for Inspectors and Teachers College lecturers.

### ***Infrastructure***

There should be no need for any new infrastructure at this level of education provided that provinces have implemented the reforms in a planned and orderly

manner. The community continues to hold the bulk of the responsibility for infrastructure in this sector of education, although increasingly there is evidence that submissions to the Office of Rural Development have included infrastructure development for lower primary schools. This should include providing staff housing, especially in the more remote schools that have staffing problems. Although there has been no funds allocated to the Office of Rural Development in 2002 there is still approximately K35m to be expended from the allocations from 2000 and 2001. Quite how this will be allocated will be dependent upon the submissions received from the Joint District Budget and Planning Priority Committees.

The Government presented its National Development Charter to Parliament for endorsement in 2000. One component of the Charter was the Basic Services Improvement Package (BSIP) that was designed to give incentives for Members of Parliament to allocate their discretionary funds in the areas of basic education and primary health care. The incentive was that if K250,000 was pledged to basic education then this would be matched by a further K250,000 from the BSIP. This was due to start in 2001 with AusAID funding but agreement was not reached between the two Governments. It is possible that it may get the go ahead in 2002 in which case funds will be available for this sector of education.

### ***Curriculum***

The Board of Studies endorsed the lower primary education curriculum in 1998. At present, the lower primary syllabuses are being reviewed and evaluated in schools. Based on the review, the new syllabuses will be released to schools in 2004. In addition, the following prescribed materials will developed;

- teachers guides to help teachers implement the new syllabuses in their classrooms,
- new teacher and student support materials to match te new syllabuses,
- teacher and student support materials and support mechanisms which will assist teachers to maintain teaching and learning in children’s vernacular, and an
- implementation package for the syllabuses.

### ***Standards***

There has been no work done as yet on the standards of children passing through the elementary schools and moving into the primary schools. This is acknowledged as being an important area and it is hoped that the Inspectorate and the Measurement Services Unit will, ultimately, be provided with resources to be able to carry out such work.

The Curriculum Reform Implementation Program has commissioned a longitudinal study to look at the impact of the new curriculum. This will be carried out by the University of Woolongong in collaboration with Tanorama, a PNG based consultancy company. The study, which started in late 2001, will look at some 12 school clusters and their communities over a period of five years.

In addition to this, also as a part of CRIP, the Australian Council of Educational Research (ACER) is looking at the feasibility of introducing monitoring instruments at key points within the system. Grade 5 would be one possibility in that it is at the end of the lower primary cycle of education. It is hoped that the

monitoring tools developed will provide more information than simply data concerning education standards.

### ***Inspections***

There are not any major issues in this sector although Inspectors are going to have to come to terms with teachers taking the bridging classes. The CRIP is providing workshops to equip the Inspectors with information about the reformed curriculum and teaching methods, as well as the change in focus towards skills development. This is so that they are in a better position to be able to assist teachers. These workshops are being planned as part of the cascade training noted earlier.

In recent years the Inspections and Guidance Division has had considerable problems and has been unable to reach as many schools as they would like. This has been due to reductions in recurrent funding made available to them. The situation eased in 2000 and 2001 with significant sums of money being made available through the GAQEP. It will be interesting to see what happens in 2002 as a result of the Government's decision regarding the end of departmental interventions being a part of the GAQEP. In addition, the centralisation of the major travel items and the completion of the World Bank project will mean that the Inspections and Guidance Division is likely to be desperately short of funding throughout 2002.

Ideally, every school should be visited each year, although realistically this is not going to be possible until non educational factors that contribute to the problems are resolved. These include a lack of infrastructural development in many areas and major concerns about law and order.

In the mid 1990s a major review was carried out into the Inspections system in the country. The recommendations of this review are now being implemented. One of the major recommendations was that school headteachers take a greater role in the appraisal of teachers. This was trialled in four provinces in 2000; NCD, Central, East New Britain and Western Highlands. It is now being extended to all provinces and a School Based Supervision Handbook is being produced for further trialling.

### ***Gender issues***

Female participation in primary schools is generally satisfactory. The table below shows participation by Grade. The overall percentage is almost consistent with that of the population as a whole.

*Table 7: Primary school enrolment by gender and grade, 2000*

	<b>Boys</b>	<b>Girls</b>	<b>Total</b>	<b>%age female</b>
Grade 1	52622	43385	96007	45.2%
Grade 2	53039	43300	96339	44.9%
Grade 3	64318	52291	116609	44.8%
Grade 4	52905	43160	96065	44.9%
Grade 5	43999	35404	79403	44.6%
Grade 6	36872	29639	66511	44.6%
Grade 7	18311	15317	33628	45.5%
Grade 8	14264	11456	25720	44.5%

<b>Total</b>	336330	273952	610282	44.9%
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One particularly encouraging aspect of this is that the percentage is not dropping significantly in the upper grades as has been the case in the past. Indeed, evidence is beginning to emerge that it is the girls who have benefited the most from the increased access at Grades 7 and 8.

Staffing by gender and grade is shown below.

*Table 8: Primary staffing by gender and grade, 2000*

	<b>Male</b>	<b>Female</b>	<b>Total</b>	<b>%age female</b>
Grade 1	1032	902	1934	47%
Grade 2	1227	942	2169	43%
Grade 3	1650	1260	2910	43%
Grade 4	1751	996	2747	36%
Grade 5	1613	805	2418	33%
Grade 6	1566	706	2272	31%
Grade 7/8	1900	1157	3057	38%
<b>Total</b>	10739	6768	17507	39%

These figures are broadly similar to those of previous years. The percentage of female teachers goes down the higher the grade until Grades 7 and 8.

There are very large variations between provinces in terms of female participation in both enrolments and in staffing. This is shown in the table below.

*Table 9: Female enrolment and staffing in primary education, 2000*

	<b>% female enrolment</b>	<b>% female staffing</b>
<b>Western</b>	47.9%	21.6%
<b>Gulf</b>	43.8%	32.7%
<b>NCD</b>	48.1%	62.2%
<b>Central</b>	45.4%	40.9%
<b>Milne Bay</b>	49.5%	50.9%
<b>Oro</b>	47.0%	48.9%
<b>Southern Highlands</b>	41.3%	24.4%
<b>Eastern Highlands</b>	43.3%	26.6%
<b>Simbu</b>	41.1%	24.1%
<b>Western Highlands</b>	44.5%	34.2%
<b>Enga</b>	40.5%	23.9%
<b>Morobe</b>	44.7%	42.6%
<b>Madang</b>	44.3%	34.1%
<b>Sandaun</b>	44.9%	32.9%
<b>East Sepik</b>	46.4%	33.5%
<b>Manus</b>	47.6%	51.3%
<b>New Ireland</b>	48.5%	56.7%
<b>East New Britain</b>	47.3%	60.6%
<b>West New Britain</b>	45.2%	37.8%
<b>Bougainville</b>	47.5%	52.6%
<b>KLMD</b>	45.1%	27.8%

<b>Papua New Guinea</b>	44.9%	38.7%
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### ***Constraints to implementation***

At this level it is clear that the major emerging issue is that of the children entering Grade 3 from the elementary schools. In particular, as noted earlier, not all teachers have yet been adequately prepared to build on what children have learnt from the elementary schools. It has been found that those without the training are finding teaching very difficult. This is because the children that they are now teaching are very different to those that they have had in the past.

Although there have been huge teacher training efforts made there are still worries as to whether the system can provide the training that is going to be required over the next few years.

In 2000 there was reported severe shortage of teachers in some parts of the country. Teacher deployment is discussed in detail later in this book. A proper teacher audit remains critical although a start has been made in conducting such an exercise. The table below shows the teacher pupil ratio by province for 2000.

*Table 10: Total primary school enrolment, staffing and teacher pupil ratio by province, 2000*

	<b>Enrolment</b>	<b>Teachers</b>	<b>TP ratio</b>
Western	9939	320	31.1
Gulf	11549	300	38.5
NCD	26734	827	32.3
Central	22061	782	28.2
Milne Bay	27368	795	34.4
Oro	15151	423	35.8
Southern Highlands	48543	1118	43.4
Eastern Highlands	55169	1223	45.1
Simbu	30673	1043	29.4
Western Highlands	45415	1273	35.7
Enga	29242	682	42.9
Morobe	63464	1539	41.2
Madang	42796	1249	34.3
Sandaun	23279	671	34.7
East Sepik	46340	1262	36.7
Manus	6628	320	20.7
New Ireland	14943	616	24.3
East New Britain	29235	903	32.4
West New Britain	26075	992	26.3
Bougainville	26557	899	29.5
KLMD	9121	270	33.8
<b>Papua New Guinea</b>	<b>610282</b>	<b>17507</b>	<b>34.9</b>

There is again a very wide range of teacher pupil ratios between provinces and also between grades. The table below shows the ratios by grade and province. The trend is exactly the same as it has been in previous years with the lower the grade the larger the classes. There are some frightening size classes in some provinces in Grade 1 with seven provinces reporting average class sizes greater than 50.

This contrasts markedly with nine provinces who report a teacher pupil ratio of less than 20 in Grades 7 and 8. There are two major reasons for this. The first is that classes are very small and the second that a number of provinces are over staffing the upper primary classes. In provinces where the latter is the case then there is plenty of scope in many provinces to improve upon teacher deployment.

*Table 11: Teacher pupil ratios by Grade and province, 2000*

	<b>G1</b>	<b>G2</b>	<b>G3</b>	<b>G4</b>	<b>G5</b>	<b>G6</b>	<b>G7/8</b>
Western	27.0	31.9	36.5	34.5	28.0	28.3	27.9
Gulf	53.3	53.5	46.4	41.2	36.1	29.5	21.7
NCD	37.3	40.3	42.5	40.4	39.6	36.2	21.4
Central	41.1	38.2	32.4	31.5	28.3	25.7	16.0
Milne Bay	42.8	41.8	40.7	39.1	34.4	24.9	22.7
Oro	51.3	49.4	42.6	35.8	33.5	29.6	21.8
Southern Highlands	68.7	60.5	48.1	42.6	33.6	30.0	19.4
Eastern Highlands	71.5	54.8	51.8	42.4	35.2	31.5	24.3
Simbu	38.9	34.2	33.5	30.8	30.0	27.9	15.4
Western Highlands	58.2	46.7	39.5	34.4	30.7	26.8	15.1
Enga	65.5	53.3	47.9	42.5	39.0	35.4	20.9
Morobe	55.3	50.8	47.3	41.6	38.1	33.8	20.5
Madang	47.9	44.3	38.1	35.6	32.8	28.8	19.7
Sandaun	43.4	38.5	36.2	32.7	30.4	27.9	21.4
East Sepik	48.6	47.0	46.9	27.4	36.4	34.4	21.6
Manus	25.8	26.3	24.2	22.1	22.4	21.2	10.3
New Ireland	34.3	29.3	25.7	24.2	24.1	20.8	16.9
East New Britain	33.7	35.2	33.6	32.9	31.9	29.8	29.8
West New Britain	35.3	33.2	31.5	31.7	29.9	25.9	13.4
Bougainville	36.1	37.0	35.0	30.4	28.6	26.1	16.7
KLMD	42.3	40.9	36.9	33.3	31.5	28.9	30.3
<b>Papua New Guinea</b>	49.6	44.4	40.1	35.0	32.8	29.3	19.4

### ***Implications of progress for future planning***

The rapidly increasing number of children entering Grade 3 from the elementary sector has enormous implications for planners and primary school teachers. The question of teacher training has already been discussed but there are also industrial considerations as well. The appointment to certain positions will have to be restricted to people with particular language knowledge.

There is still confusion regarding the use of the vernacular beyond Grade 3. If the intention is to continue with a large amount of vernacular maintenance throughout the lower primary cycle there will be a considerable implication for staffing. It is not known how many teachers are working in their own language areas.

## Upper Primary education

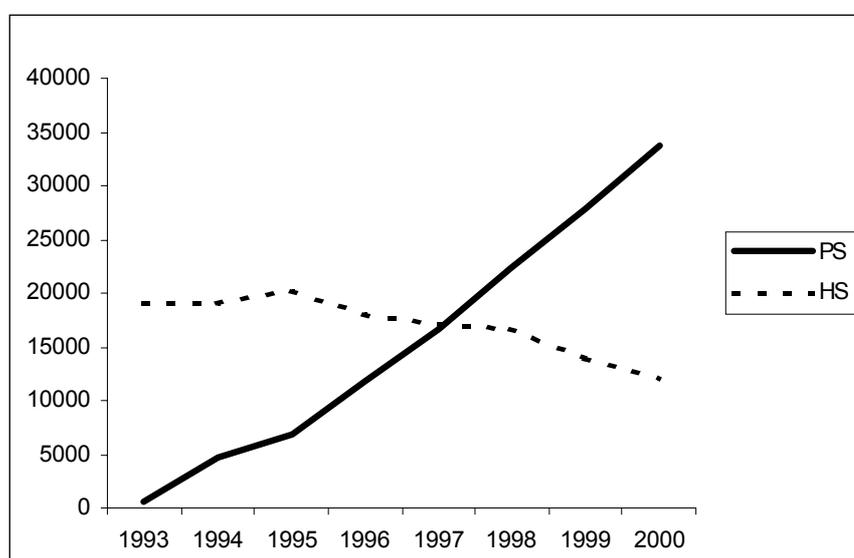
### Access

Upper Primary refers to Grades 6 to 8. There has been some confusion regarding this in that many people felt that upper primary simply referred to the Grades that had been relocated from the high schools – Grades 7 and 8. This part of the structure should become clearer when the curriculum is finally completed for the children going through the new structure.

Enrolment in Grades 7 and 8 have been increasing dramatically. There are now three times as many Grade 7 children in the primary schools as there are in high schools. Expansion in the sector has been fairly constant in recent years.

The chart below illustrates how the number of Grade 7 students has been reduced in the high schools. The process of replacing Grade 7 with Grade 9 classes has started in virtually all provinces.

Figure 6: Grade 7 enrolment by type of school



The table below shows the significant improvements that have occurred in the Grade 6 to 7 transition rate throughout the 1990s.

Table 12: Grade 6 to 7 transition rates by gender and year, 1987 to 1999 cohorts

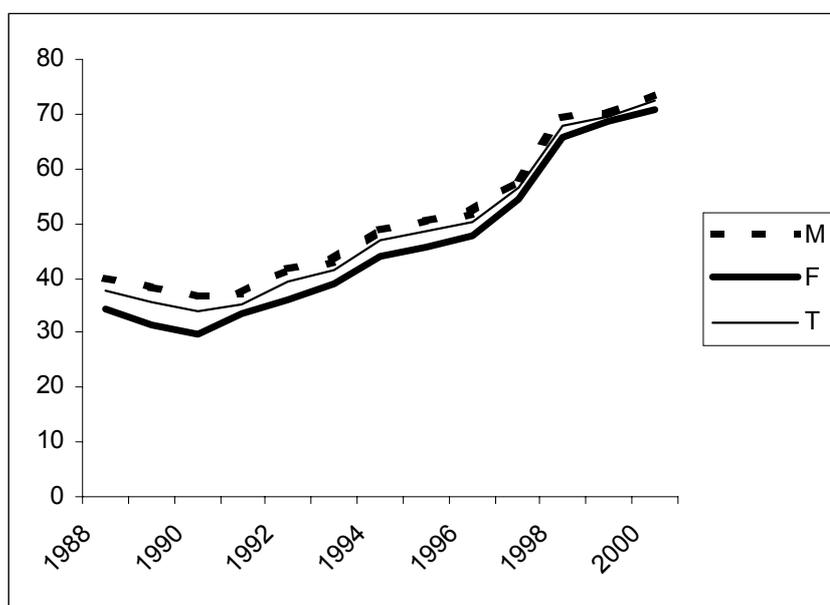
Cohort	Male	Female	Total
1987 to 1988	40.1	34.2	37.5
1988 to 1989	38.4	31.4	35.5
1989 to 1990	36.8	29.9	33.8
1990 to 1991	37.3	33.3	35.3
1991 to 1992	41.9	35.9	39.3
1992 to 1993	43.1	38.8	41.3
1993 to 1994	49.2	44.1	46.9
1994 to 1995	50.5	45.7	48.4
1995 to 1996	52.1	47.7	50.2
1996 to 1997	58.4	54.6	56.7
1997 to 1998	69.4	65.8	67.8

1998 to 1999	70.2	68.8	69.6
1999 to 2000	73.7	70.8	72.4

Transition rates have continued to rise year on year with the most recent figure showing a significant rise on previous figures. The disparity between access for boys and girls although still apparent is becoming less significant.

The percentage of girls attending upper primary schools is consistent with enrolments in the other primary grades at about 45%. This is in contrast to the high schools where there are only about 40% girls.

Figure 7: Grade 6 to 7 transition by year and gender, 1988 to 2000



The percentage of children attending Grade 7 in the primary schools is also rising. In 2000 three out of every four children in Grade 7 were in the primary schools. The table below shows, by province and gender, the number of children in Grade 7 in the two sectors and the percentage attending primary schools.

Table 13 Grade 7 enrolment by type of school, 2000

	Primary			Secondary			PS percentage		
	M	F	T	M	F	T	M	F	T
<b>Western</b>	647	542	1189	19	13	32	97.1	97.7	97.4
<b>Gulf</b>	356	349	705	220	160	380	61.8	68.6	65.0
<b>NCD</b>	1974	1771	3745	0	0	0	100.0	100.0	100.0
<b>Central</b>	816	729	1545	234	201	435	77.7	78.4	78.0
<b>Milne Bay</b>	875	893	1768	173	209	382	83.5	81.0	82.2
<b>Oro</b>	497	479	976	127	123	250	79.6	79.6	79.6
<b>SHP</b>	1228	789	2017	306	147	453	80.1	84.3	81.7
<b>EHP</b>	1100	802	1902	726	454	1180	60.2	63.9	61.7
<b>Simbu</b>	1006	744	1750	617	328	945	62.0	69.4	64.9
<b>WHP</b>	804	635	1439	731	481	1212	52.4	56.9	54.3
<b>Enga</b>	742	473	1215	644	303	947	53.5	61.0	56.2

<b>Morobe</b>	1336	1098	2434	879	466	1345	60.3	70.2	64.4
<b>Madang</b>	1387	1145	2532	420	265	685	76.8	81.2	78.7
<b>Sandaun</b>	298	251	549	454	288	742	39.6	46.6	42.5
<b>East Sepik</b>	1136	947	2083	398	272	670	74.1	77.7	75.7
<b>Manus</b>	220	201	421	162	140	302	57.6	58.9	58.2
<b>New Ireland</b>	553	523	1076	199	184	383	73.5	74.0	73.7
<b>ENB</b>	1000	951	1951	324	332	656	75.5	74.1	74.8
<b>WNB</b>	1177	883	2060	16	11	27	98.7	98.8	98.7
<b>Bougainville</b>	645	731	1376	401	385	786	61.7	65.5	63.6
<b>KLMD</b>	514	381	895	75	46	121	87.3	89.2	88.1
<b>Total</b>	18311	15317	33628	7125	4808	11933	72.0	76.1	73.8

The rapidly increasing number of children completing Grade 8 in the primary schools means that a Grade 1 to Grade 8 retention rate is now worthwhile considering. It is the intention of Government that all children will have the opportunity to complete the full cycle of primary education. The table below shows this for the children completing Grade 8 in 2000. The enrolment for Grade 8 includes children in both the primary and the secondary schools.

*Table 14: Grade 1 to 8 retention, 1993 to 2000, by gender and province*

	<b>M</b>	<b>F</b>	<b>T</b>
<b>Western</b>	53.1	51.0	52.1
<b>Gulf</b>	34.1	35.4	34.7
<b>NCD</b>	71.0	74.5	72.6
<b>Central</b>	35.9	31.2	33.7
<b>Milne Bay</b>	34.3	40.5	37.2
<b>Oro</b>	29.4	27.6	28.6
<b>Southern Highlands</b>	34.5	23.5	29.7
<b>Eastern Highlands</b>	28.1	22.1	25.5
<b>Simbu</b>	35.8	26.7	31.7
<b>Western Highlands</b>	29.8	23.4	26.8
<b>Enga</b>	33.2	22.7	28.7
<b>Morobe</b>	28.2	24.4	26.5
<b>Madang</b>	37.2	33.7	35.6
<b>Sandaun</b>	23.4	21.8	22.7
<b>East Sepik</b>	39.3	35.7	37.7
<b>Manus</b>	64.0	68.6	66.1
<b>New Ireland</b>	45.3	52.1	48.5
<b>East New Britain</b>	41.5	43.3	42.3
<b>West New Britain</b>	41.6	38.4	40.2
<b>Bougainville</b>	46.1	47.6	46.8
<b>KLMD</b>	65.2	59.1	62.5
<b>Total</b>	36.5	33.1	35.0

The fact that only about one in every three of children that were in Grade 1 in 1993 completed Grade 8 in 2000 illustrates just how much the country has still got to do before it can achieve its target of Universal Basic Education. The range as ever is huge but a number of things should be taken into account. Firstly, 1993 was the year in which the Wingti Government introduced 'free education' and, as

is pointed out elsewhere, this resulted in a huge rise in enrolment in Grade 1. Secondly, a few provinces, such as East New Britain, had only just started large scale expansion of the upper primary sector.

### ***Teacher training***

#### *Pre Service*

The long-term answer for teachers at the upper primary level is being addressed through the decision to make Grade 12 the standard entry level into teachers' colleges. The percentage of Grade 12 graduates accepted into colleges over recent years figure rose to about 70% for the 1999 intake and was 100% for the original selection in 2000.

It was disappointing to note, especially in the light of reports of teacher shortages throughout 1999, that only 450 students, all of them Grade 12 graduates, were selected to take up places in the Primary Teachers' Colleges in 2000. This is considerably less than the colleges have the capacity for. In August of 1999 it was hoped that there would be 600 selected under the NATSCOL arrangement with a further 300 self sponsored students. The selection process, which is administered by the Office of Higher Education appears to be at fault in this case. A further 137 students were admitted early in 2000. These were all self sponsored and were a mixture of Grade 10 and Grade 12 graduates. There are a number of non school leavers amongst them. This final intake of more than 600 means that there is still some excess capacity in the colleges and it is hoped that with correct planning all of these places can be utilised fully in the future.

Table 15 shows a breakdown of the 2000 Primary Teachers College enrolments.

*Table 15: Primary Teachers College enrolment by gender and status, 2001*

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
<b>Total enrolment</b>	776	586	715	2077
<b>% age female</b>	44%	41%	49%	45%
<b>% age Grade 12</b>	94%	81%	81%	86%
<b>% self sponsored</b>	13%	5%	7%	8%

A number of points can be made regarding this information.

- The percentage of Grade 12 graduates is rising. This is to be expected.
- The percentage of girls has dropped slightly. This could be due to Grade 12 being the entry requirement. There is still a problem regarding female participation at the upper secondary level.
- There are still only very few students – about 2% - who are living off campus.
- There is an increasing, although still small, percentage of self sponsored students.

There were 139 staff in the Primary Teachers Colleges, only 20% of whom were women, in 2000. The student to lecturer ratio was about 12.5.

The Primary and Secondary Teacher Education Project (PASTEP) is supporting the Primary Teachers' Colleges. The project is now proposing to develop further

the use of Information Technology in the colleges. As part of the Virtual Colombo Plan, AusAID and the Department of Education have approved a design for the implementation of Learning Centres at the seven Primary Teachers' Colleges and the PNG Education Institute (PNGEI). The Learning Centres will provide primary teacher trainees with access to computers for the purposes of developing basic computer literacy through training and regular use for a range of work and study purposes. PASTEP, in partnership with the Department and the institutions, will build and implement the Learning Centre concept. The design of the Learning Centres builds on PASTEP's experience in providing staff computer packages with training and technical maintenance for the Primary Teachers' Colleges.

The provision of Learning Centres is an essential and timely part of a foundation for sustaining long-term outcomes of human resource development in information technology for education. The achievement of these outcomes, however is a long term process, that will require sustained support of the Learning Centres for some years to come. The Learning Centres will facilitate teacher education staff and students accessing computers and digital information resources for a range of work and study purposes. They will be developed in two stages.

The first stage will be to provide staff and teacher trainees with basic access to and use of computers for teaching and learning and for independent work and study. The second stage, dependent upon achieving the first the Learning Centre may also provide the facilities for local teachers to complete distance education based in service programs.

### *In Service*

A Professional Development program for serving primary school teachers is now under way. This is under the auspices of the PNGEI and is part of the Diploma in Education Primary (In Service) programme. It has been designed to upgrade a teacher's qualifications from a Certificate to a Diploma.

Initially, the diploma had three components. Firstly, teachers had to achieve their adult matriculation. Many teachers have started this process through the University Centres although it is difficult to ascertain exactly how many have achieved their adult matriculation. This was a pre requisite to the second component which is the residential course at the PNGEI. This caused an immediate problem as not all teachers have access to a University Centre. In particular, there are still a number of provinces that do not have a University Centre. Finally, each student had to complete an internship. This involved completing a short research project on return to his or her schools. Very few teachers were ever awarded their Diplomas. This was for two reasons. Firstly, many had not achieved their matriculation before entering the residential component (despite it being a requirement!) and secondly very few were ever able to complete their internship.

Changes were made to the DEP(I) at the start of 2000 and there are likely to be more adaptations to it. These changes were made in response to problem areas that had been identified with the program and noted above.

Adult matriculation is no longer a requirement for the DEP(I). This change means that students who do not have access to adult matriculation can still complete the DEP(I). One of the reasons for this change was that some teachers did not have access to a University Centre in their own province. However, students can count credit points for adult matriculation as recognition of prior learning. Each adult matriculation course will count for 3 credit points. Students who might be thinking of taking up further studies at University must still complete adult matriculation, but it does not have to be part of the DEP(I) program.

The internship component of the DEP(I) has also changed slightly. There is now one assessment task for the Internship – the Research Report. Should students fail the Internship, they will now be allowed to resubmit. Students will be encouraged to make substantial progress towards completing the Internship whilst they are on campus for the residential component of the Diploma course. In particular, they are encouraged to finalise their reviews of literature while they have access to libraries in Port Moresby and to photocopy any documents that they will need to finalise their reports. It is also hoped that students will meet regularly with their supervisors before returning to their homes to complete their research paper. The outcome of the study should be a paper that provides a practical application of problem solving in the student's work place.

The course work component, undertaken during the residential session, is made up of compulsory foundation subjects and a range of Primary Curriculum and Professional Development Electives. Five foundation courses are offered -- Communication, Research Skills, Current Issues in Education, Curriculum Overview, and Teaching and Learning in the Classroom. Some of the course work may be completed by attending two-week provincial programmes that will give them credit points towards their diploma.

The set of curriculum electives include: Language, maths, science, social science, life skills, health and PE, arts and crafts, spiritual and moral education, environmental studies, library skills, bridging and multi grade. The number of professional development courses has been reduced by combining courses.

One rather controversial aspect of the program has been the fee that teachers are required to pay. This is part of the Government's policy of user pay. The course would not be able to be run were it not for the fees that are charged. Teachers in 2000 have had to pay K2000 for attending the residential component of the Diploma program. This is largely for the cost of accommodation. A few provinces support their teachers by subsidising their fees. One challenge for the Staff Development Unit and the PNGEI is to continue with the principle of user pay but to make it more 'teacher friendly'.

The GAQEP was introduced in 2000 to replace the School Fee Subsidy program. It included a component devoted to Teacher Development and it was hoped, amongst other things, that the National In Service Training (NIST) week could be resurrected. If school based in service can be further developed then the teachers of Papua New Guinea should be much better equipped to tackle the challenges facing them in the classroom.

### ***Infrastructure***

During the early days of implementation the Department of Education budgeted for what were known as establishment grants. The amount of these grants varied from year to year but averaged out at about K15,000 for each new Grade 7 and 8 stream. The small amounts that were provided to schools as establishment grants acted as seed money to encourage other inputs from parents and the wider community. Many schools, the parents and their Boards went to extraordinary lengths to supplement these grants and establish excellent new or upgraded facilities at their schools. This programme -- Expansion of Access to Grades 7 & 8 -- was transferred to the provinces following the Organic Law.

A number of schools and provinces have sourced funding from various donor agencies including JICA and AusAID. Despite these alternative sources of funds the community continues to hold the bulk of the responsibility for infrastructure in this sector of education. This should include providing staff housing.

In 1999 small amounts of money were made available, under the Reform Support Program, to help the primary schools that started their Grade 7 classes in 1996. This was continued throughout 2000 and 2001 with the GAQEP. Funds for primary schools have been channeled through the District Education Administrators. A further source of funding is through the Office for Rural Development. This office is responsible for approving, or otherwise, projects submitted by Members of Parliament for expenditure of their rural development fund allocations. It has been encouraging that a large number of MPs have submitted basic education projects for funding.

The role of the Local-level Governments is likely to become critical in 2002 and beyond following the decision not to fund primary school infrastructure as a part of the 2002 GAQEP.

### ***Curriculum***

The upper primary curriculum comprises seven subjects. Syllabuses for this sector are being developed and trialled. They will use the common format for syllabus development. Future development needs include;

- final development of syllabuses which will be completed by May, 2002,
- development of teachers guides and curriculum support materials for new syllabuses, and
- the development of an implementation package for the syllabuses.

### ***Materials***

AusAID has been providing major assistance by supplying all the necessary textbooks, aids and materials required by the new Grade 7 and 8 classes that commenced between 1993 and 1996. This CASP (Commodity Assistance Support Program) project is continuing but schools will not receive quite such comprehensive material kits in the future as was the case for the early schools. Indeed, the schools that have recently started have only received core subject text books and many of these receive their materials some time after they have started. This is a fact of life given some of the late decisions made in provinces about schools starting, and the long lead time that AusAID need to procure, and then distribute, the materials. Schools should get book lists from their Provincial Materials Supply Officer and buy for themselves key texts if they find themselves in this situation.

A review of this component of the CASP project was carried out by AusAID in 1999 and came to the conclusion that textbook supply was the most valued aspect of the supply. In particular the review noted that many teachers did not know how to use some of the equipment that was provided. Indeed, some schools had not even unpacked their containers. This is despite a handbook having been produced by the Curriculum Development Division to support the teachers.

It was equally disturbing to find that some of the Teachers' Colleges were not using the equipment to prepare their trainees for teaching the upper primary grades. The added emphasis on teacher development in 2000 should help the situation.

Late in 2001 the Department of Education was pleased to hear that AusAID had committed about A\$9m to fund further purchases of Grade 7 and 8 textbooks for newly established upper primary schools. These are expected to be delivered in April or May of 2002. This will mean that all primary schools will have sets of Grade 7 and 8 textbooks.

There is now an emerging need for the Curriculum Development Division to prepare a package of simple and basic science equipment that is required for Grades 7 and 8. This would assume that schools did not have access to a specialist science laboratory but were able to use a multi purpose room and had a secure storage area. These kits could then either be purchased by individual schools or could be the subject of a CASP type arrangement with AusAID following suitable negotiations.

### ***Standards***

There has been a lot of concern expressed about standards at the upper primary level. In particular, many parents have been worried that children completing Grade 8 in the primary schools will not do as well as those in the traditional high schools.

In previous year the Measurement Services Unit has reported the High Schools have achieved better results than the primary schools but that this difference is no greater than one would expect. A difference would be expected because the students attending high schools have been selected, whilst all those in primary schools have proceeded directly from Grade 6 in to Grade 7. The year 1999 results however are rather less encouraging for the provinces whose results have been analysed to date. These are the most recent examination figures that are available.

Figure 8: Mean Lit Skills marks, 1999

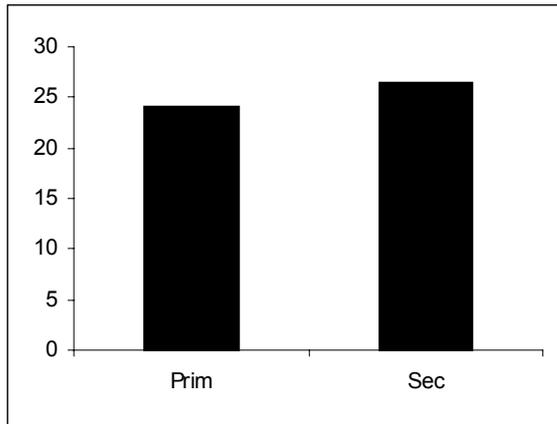
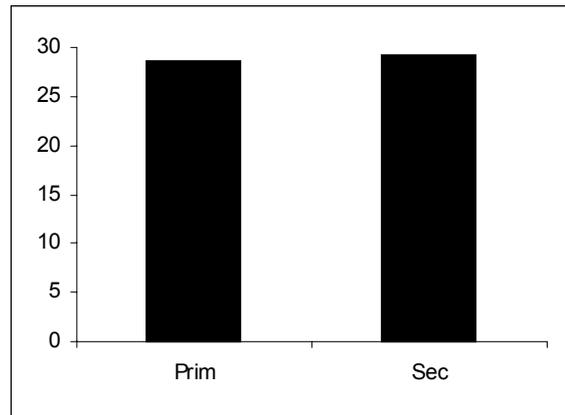


Figure 9: Mean Num Skills mark, 1999



Of possibly greater concern for the system is the huge variation that there is between provinces. The two charts below show, for literacy and numeracy skills, the mean marks for the provinces for which information is available for analysis.

Figure 10: Mean Literacy Skills marks by province and type of school, 1999

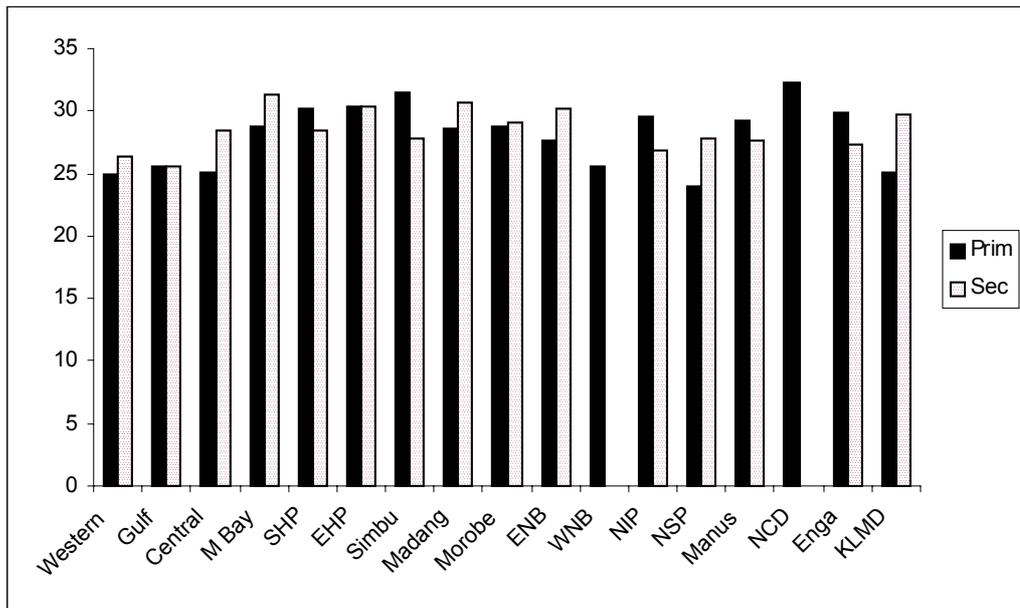
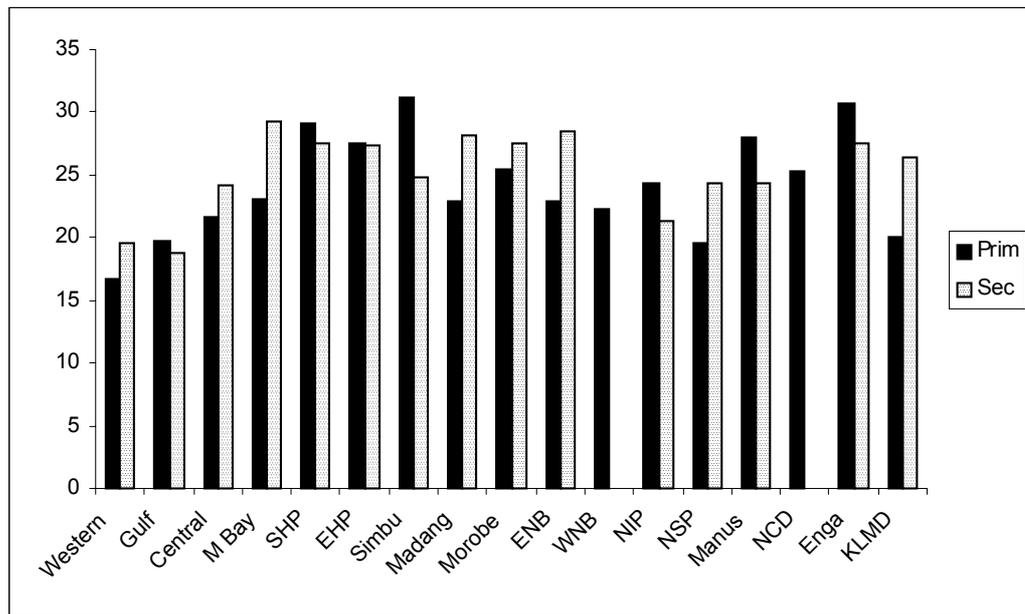


Figure 11: Mean Numeracy Skills marks by province and type of school, 1999



These results should give a number of provinces pause to ponder about the speed with which they have introduced upper primary school education. Indications are that, for 1999 at least, the difference does seem to be widening in some areas. There is no suggestion, however, that the talented child is being held back by being at a primary school as opposed to a high school.

It is interesting to look at quite why this gap has appeared in 1999. There are a number of possibilities:

- It may be that provinces have begun to open schools in the more remote areas. The children in these areas would probably not have had an opportunity to get a Grade 7 and 8 education in the old days. The problems in the rural areas have been well documented. There is a shortage of teachers in many areas and this shortage is even more acute when looking for qualified and capable teachers for Grade 7 and 8 classes. These results might simply confirm the fact that provinces need to think seriously about the support that has to be given to rural schools.
- The later schools that have opened have not benefited from the infrastructure grants that schools received in the early years. Since the passage of the Organic Law, the Local-level Governments have been encouraged to provide support for infrastructure but the amounts provided has been mixed. The Department has attempted to plug the gap through the infrastructure component of the GAQEP but it is a number of years behind.
- The efforts made by provinces to support their new primary schools may well have dropped off following the euphoria of the success of the early initiatives.

Provinces are encouraged to fully analyse their Grade 8 examination results and to look at ways in which particularly weak schools can be helped. Finally, the two charts below show the mean literacy and numeracy marks by gender.

Figure 12: Mean Lit Skills marks,

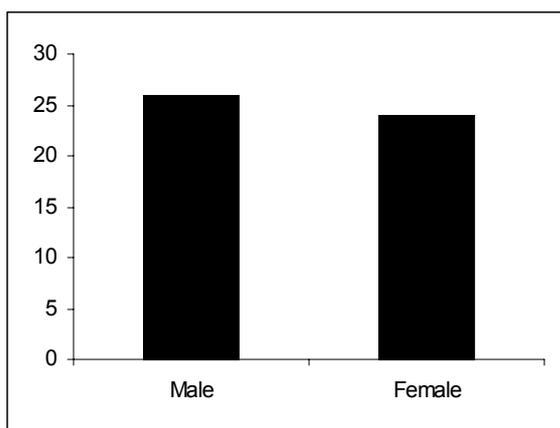
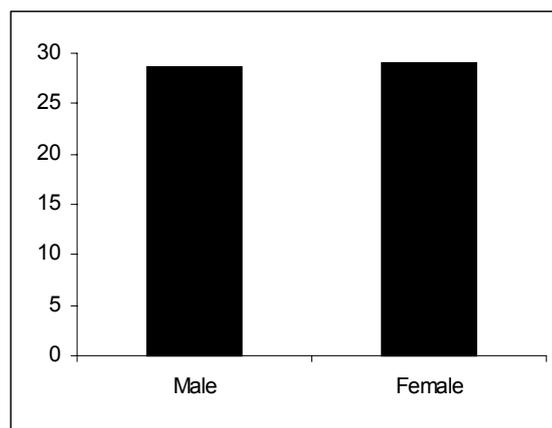


Figure 13: Mean Num Skills marks



The feasibility study being carried out by ACER that was noted in the section on lower primary education will also be relevant for the upper primary sector. It has long been anticipated that the Grade 6 Standards Monitoring Project would be replaced by a similar project for Grade 8.

### **Inspections**

There have been reports of inspectors experiencing problems in dealing with the upper primary grades but these are receding. Primary School Inspectors have been given the opportunity to upgrade their qualifications to diploma level at the PNGEI.

There is a more serious concern regarding the Primary School Inspectorate and that is the training of new Inspectors. In the past, new Inspectors attended the PNGEI but this course is now no longer offered. The final group of trainees completed their training in the mid 1990s. As a result, the Inspections and Guidance Division took experienced head teachers out of the schools and, following orientation for about a term with an experienced Inspector, were placed in the field. In recent years financial constraints have been such that even this minimal amount of training has not always been possible. A number of new Inspectors have been sent into the schools without any inspector training at all.

The Education Development Project, which finished at the end of 2001, supported the Inspections and Guidance Division in a number of ways. Firstly, there have been about 20 houses built in both provincial and district centres. Secondly, there has been provision of computers and office equipment to inspectors. Computers have been supplied to some primary inspectors whilst others received portable typewriters. Photocopiers and fax machines have been supplied to provincial centres for the use of all divisional staff. Finally, there was a training component. This provided support in a number of different areas:

- Divisional officers have been sponsored for first degree studies at the University of Goroka.
- Short courses have been run for all inspectors and guidance officers in areas such as research skills.
- Three officers have been sponsored for overseas studies – two on Masters programs and the other for a first degree.

The overseas courses have proved enormously expensive and, in hindsight, it may have been preferable to have directed the money towards the training of new primary school inspectors.

### ***Gender issues***

Issues relating to gender have already been raised in the section on lower primary. It is maybe of significance at this stage to note the relative participation of girls in Grades 7 and 8 at primary schools and high schools.

*Table 16: Female participation in Grades 7 and 8 by type of school, 2000*

	<b>Primary</b>	<b>High</b>
<b>Grade 7</b>	45.5	40.3
<b>Grade 8</b>	44.5	40.1

As was hoped at the start of the reform, the participation of girls is greater in the primary schools than it is in the high schools.

### ***Constraints to implementation***

The establishment of upper primary schools has now become institutionalised. There is considerably more confidence in them now than during the early stages of implementation. This has been due to the comparative success that these schools have had in the Grade 8 examinations, until 1999 at least. Retention, however, is becoming a worry at the upper primary level.

A number of provinces levied very high fees at the upper primary levels at one stage. Changes in the structure of the school fee subsidies in 1999 might have had the effect of lowering these and it is hoped that this will minimise the problems regarding the retention of students. The NEB school fee limits for 2002 set in late 2001 reinstated this differential (see the chapter on Financing of Education in Papua New Guinea for further details).

### ***Implications of progress for future planning***

The new structure of the education system requires that the upper primary cycle consist of Grade 6 through to Grade 8. Unfortunately, there is still a general perception of Grades 7 and 8 being somehow different from the other primary school grades. This is due to the relocation of these classes from the high school system. This maybe one of the reasons for the school fee levels at Grades 7 and 8 noted above.

The most pressing teacher training need since the start of the reform has been preparing teachers for the Grades 7 and 8 classes in the primary schools. This need has been satisfied to an extent by the development of the DEP(I). This course has proved extremely popular and has taken up virtually all of the available dormitory accommodation at the PNGEI in recent years. In addition to the DEP(I) graduates, all new graduates from the Primary Teachers' Colleges are equipped to teach at the upper levels. These two sources of upper primary teachers have helped to ease the strain and there are other areas that maybe should be considered.

There is still a large demand for the DEP(I) course from practicing teachers who wish to upgrade their qualifications. However, increasingly there are going to be competing demands for courses to be provided in areas other than preparation for Grades 7 and 8. Training the lower primary teachers is an important example of

such a need. The PNGEI will have to look at possibilities of cutting down on the number of places for DEP(I) students each year in order to cater for the emerging needs.

The issue of boarding students at upper primary schools has become more and more prominent in recent years. This is because as the implementation of the education reform agenda has progressed, provinces are finding the need to establish upper primary schools in some of the more remote areas.

It is not known how many primary schools now have boarding students as they are not reported on official statistical returns. However, anecdotal evidence suggests that there may be as many as seventeen in just one province. The National Education Plan - Update 1 recognised the growing demand for boarding schools. It provided the following guidance, which is still the standard Department response to queries from provinces regarding boarding at primary schools.

*P5.3 Some primary schools are beginning to provide boarding facilities. Such provision has significant cost implications for local-level and provincial governments. In addition, there are important welfare considerations and associated legal implications for local and provincial governments. Accordingly, boarding facilities should only be considered in exceptional circumstances and with full knowledge of the financial and legal implications.*

There are a number of points that should be made about the establishment of boarding schools at the primary level.

Firstly, the number of institutions that are liable to be affected and more importantly the number of children that are going to be involved is largely unknown at the moment. Once this information is available it will be possible to put strategies in place to provide the opportunity of a full primary education for these children. It is the feeling of members of the Facilitating and Monitoring Unit, who visit provinces on a regular basis, that although there may be a large number of schools that are not of sufficient size to warrant the introduction of Grade 7 and 8 classes, the actual number of children involved may not be that large. The reason for this is simple. The boarding schools that have been established tend to be large schools in a central location. Much smaller schools feed them and it is the children from these feeder schools that should be the only ones to require the boarding facilities. These feeder schools are usually only level 2 or 3 schools with irregular intakes. This means that there will be very few children reaching Grade 7 each year. Indeed, in some years there may not be any boarders but this will be dependent upon the intake patterns of the feeder schools.

Secondly, there are the financial implications. It is unfortunate that many think that the boarding school allowances for the teachers is the most significant of these. There is a feeling that persists that if there are boarding students in a school then all teachers will be eligible to claim the allowance. This is far from the truth. The number of teachers that can claim an allowance is based upon the number of boarding students in a school. The most recent determination states that for 150 students, eight teachers can claim an allowance, for 200 students

there can be 10 allowances and so on. Overall, it works out at about one allowance for every twenty boarding students. The reality may well be that with the number of boarding students that there are likely to be in primary schools there will be very few teachers eligible to claim the allowance. An alternative to paying teachers to carry out the extra duties may be for the Local-level Governments to employ *wasmamas* and *waspapas* to look after the children boarding at the primary schools. There may be legal implications to consider but teachers themselves have got no special qualifications that allow them to supervise children out of school hours. In many ways mature adults from the community may be seen as providing an equal quality of care to that of a teacher.

The cost of the infrastructure is likely to be far more significant than the ongoing allowances. In the past there have been many bush material dormitories accepted at schools. Indeed, there are many instances of 'student villages' being developed at primary schools. In New Ireland and a number of other provinces these schools were known as central boarding schools. In the high school sector, some of the rural day high schools that were established in the late 1970s and noted earlier in the book developed student villages built out of bush materials before construction of permanent material dormitories. Whether such construction should be encouraged or not in the 21<sup>st</sup> century deserves debate. A strong argument could be mounted that all dormitories should be of permanent materials for health and safety reasons.

The costs for the establishment of boarding primary schools should lie with the Local-level Governments and the agencies responsible for administering the school. In the past, boarding primary schools were largely administered by the Catholic church.

The issue of dealing with children from remote areas is one that education planners have been aware of for a number of years. They should begin to look at strategies for overcoming the problem other than through the boarding school solution. A number of possibilities are noted here:

- Multi grade teaching is becoming institutionalised in the elementary and lower primary sectors. In the long term there is no reason why teachers should not teach multi grade classes at the upper primary level.
- Some provinces discussed the conversion of one existing high school into a primary school in the early stages of implementation. The rationale would be that all the children completing Grade 6 at schools in the remote areas would go to this school for Grades 7 and 8 only. No province has taken this up.
- This could be linked with the first of the alternative strategies and involves the use of alternate modes of delivery. For example, if there is a single teacher taking a Grade 7 and a Grade 8 class in a small rural school that teacher could be supported by other materials. These could be in the form of traditional CODE type materials or more sophisticated modes of delivery using the radio, pre recorded cassettes or, more fancifully, the internet.
- That Grade 7 and 8 teachers become generalists and one teacher per class is allocated in these upper grades.

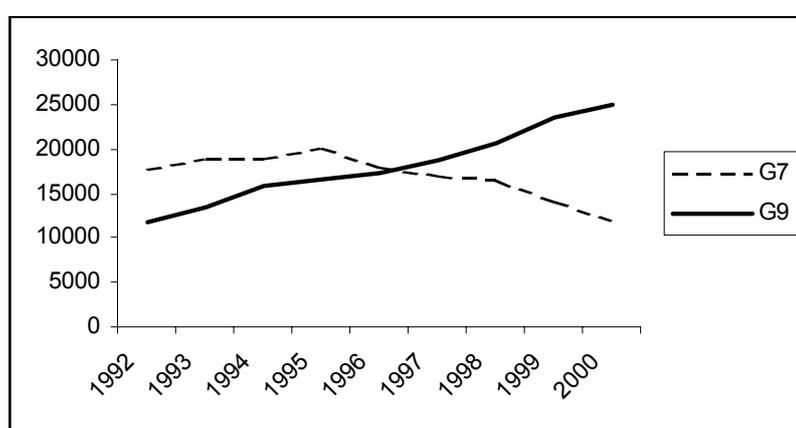
## *Lower Secondary Education*

### **Access**

Lower secondary education is Grades 9 and 10. The number of classes in this sector is rising as Grade 7 and 8 classes are relocated to the primary schools.

The figure below shows enrolments in Grades 7 and 9 between 1992, the final year before the education reform process started, and 1999. This illustrates the rate at which Grade 9 enrolment has been rising at the expense of the Grade 7 numbers.

*Figure 14: Grade 7 and 9 Secondary School enrolments, 1992 to 1999*



This rapid rise in Grade 9, and subsequently Grade 10 enrolment, has caused some problems that are discussed more fully in the section on implications.

### **Teacher training**

There should not be a great deal of teacher training required at this level until a new curriculum is developed. It is expected that this will be more skills based. There are frequent complaints about teacher shortages in the secondary sector but many secondary schools are actually overstaffed. The exact extent of this varies greatly from province to province. The table below shows the enrolments, staffing and teacher pupil ratios at the secondary level. This table includes all Secondary Schools and Provincial High Schools, but not the National High Schools.

Table 17: Sec School enrolment, staffing and teacher pupil ratio by province, 2000

	<b>Enrolment</b>	<b>Teachers</b>	<b>TP ratio</b>
Western	961	47	20.4
Gulf	1523	59	25.8
NCD	4854	190	25.5
Central	3344	151	22.1
Milne Bay	3134	143	21.9
Oro	1682	66	25.5
Southern Highlands	5768	246	23.4
Eastern Highlands	6182	250	24.7
Simbu	4317	197	21.9
Western Highlands	6035	234	25.8
Enga	4671	173	27.0
Morobe	7327	269	27.2
Madang	3893	177	22.0
Sandaun	2807	125	22.5
East Sepik	4182	162	25.8
Manus	1706	90	19.0
New Ireland	2529	105	24.1
East New Britain	4832	198	24.4
West New Britain	2044	101	20.2
Bougainville	3719	140	26.6
KLMD	1268	52	24.4
<b>Papua New Guinea</b>	<b>76778</b>	<b>3175</b>	<b>24.2</b>

As in the other sectors the overall teacher pupil ratio is satisfactory. If anything the ratio is rather lower than it should be. This can best be explained by the rapid increase in the number of schools offering Grades 11 and 12. This affects the teacher pupil ratio in two ways. Firstly, Grade 11 and 12 classes are smaller on average than those in the lower grades. Secondly, the shortage of suitably qualified teachers for these upper secondary grades has resulted in some of these schools being grossly overstaffed.

### **Materials**

There had been no provision made for the supply of extra Grade 9 and 10 materials for schools following the shedding of their Grade 7 and 8 classes with Grade 9 and 10 classes. This became clear in the first two studies conducted by FMU into Secondary School Qualitative Indicators. The student to textbook ratio was about 2 to 1 in years, 1999 and 2000. This is less than ideal.

Consequently, AusAID were approached to include Grade 9 and 10 textbooks in their CASP program. These materials were distributed in the first half of 2001. It will be interesting to note what effect this book flood will have on the next student textbook ratio.

### **Infrastructure**

There should be no need for further infrastructure at this level of education. However, as foreshadowed in the National Education Plan there is likely to be a need for new lower secondary schools to be constructed in some provinces from the middle part of this decade as the Grade 8 to 9 transition rate drops.

Of far greater importance than new infrastructure is the need to maintain the existing assets. The infrastructure in many of the high schools in the country have been allowed to deteriorate to such an extent that some schools are in danger of being closed down due to health and safety considerations. This is despite considerable support being given since 1984 through various projects:

- The World Bank Secondary Education project supported schools from 1984 to 1990
- The European Union Structural Adjustment Program 4 supported schools from 1998 to the end of 2000.
- The World Bank Education Development Project supported schools from 1993 until the end of 2001.

The Government Assistance to Quality Education Program (GAQEP) also supported high school maintenance but this has now been dropped following the Government decision regarding the 2002 education subsidies. In 2002, for the first time in many years, there will be no outside support for high school maintenance.

### *Curriculum*

The secondary curriculum framework has been developed and endorsed by the Secondary Board of Studies in October, 2001. The endorsement was made concerning the following:

- the aims of the secondary curriculum
- the subjects and patterns of study for Grades 9 and 10; and
- the subjects and procedures for school based course development

Secondary curriculum development has commenced in 2002. The development phase at this level is expected to produce curriculum materials in 2003 for the vernacular based school students when they proceed to Grade 9.

### *Standards*

There has been concern expressed as to the effect that the upper primary component of the education reform will have on standards at Grades 10 and 12. The fear was that those who progress through Grade 8 in the primary schools would be disadvantaged when they came to take School Certificate and the Higher School Certificate Examinations.

The Measurement Services Unit has produced a report that compares the Grade 10 results of students who completed Grade 8 at the primary schools with those educated at the traditional high schools. As with all examination result analysis one has to be very careful in interpreting these results and a number of points need to be made before considering the results.

The numbers in Grade 10 have increased dramatically since the introduction of the education reforms. There were 11,612 in 1993, 15,562 in 1997 and more than 20,000 in the year 2000. This is an increase of some 75% over just seven years, or from 12% to 17% of the age group according to 1990 census figures. Whenever there is such a rapid rate of access one would expect an overall drop in standards.

The very great variations between the provinces reflect the different stages that provinces are at in the implementation of the education reforms. In provinces that have been slower in implementing the Grade 7 and 8 component of the education reform agenda there are likely to be only very small numbers of Grade 8 primary school students, which in itself is likely to distort results one way or the other. In addition, the Grade 8 students in a province such as this are likely to have a very high Grade 8 to 9 transition rate. In some cases all will progress from Grade 8 into Grade 9. This means that the students from the primary schools will have progressed from Grade 6 to Grade 10 without having passed any examination 'hurdle' at all. Those who went through Grade 8 in the high schools will have been through a selection process at Grade 6. In this situation you would expect the high school students to have better Grade 10 average marks.

The strategies that provinces have used may also effect the results. For example, a province that introduces the first upper primary schools in the urban areas are likely to have better results at Grade 10 than those who have concentrated initially in the rural areas. This is because children from urban areas have traditionally performed better than those from the rural areas.

The two charts below compare, for 2000 and 2001, the average Grade 10 marks of those who attended Grade 8 in the primary schools against those who attended Grade 8 in the high schools.

*Figure 15: 2000 G10 SCE results by type of Grade 8 school*

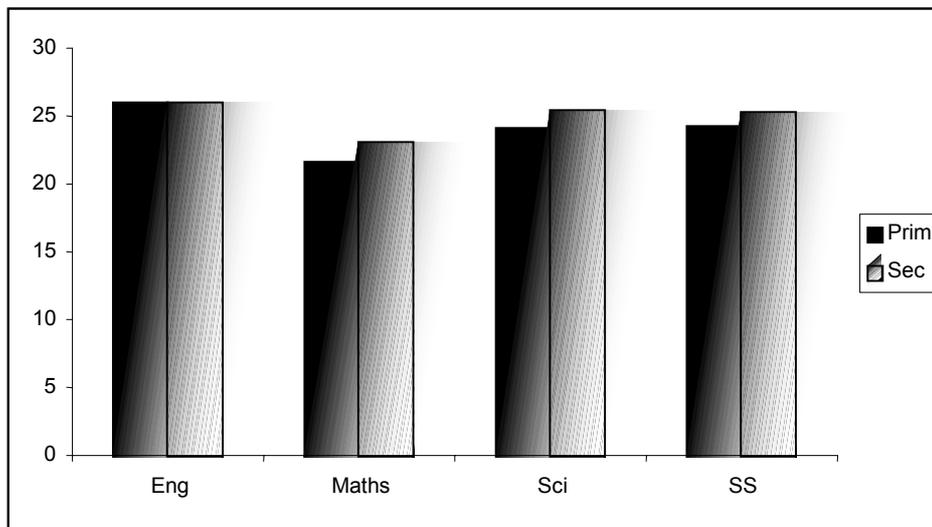
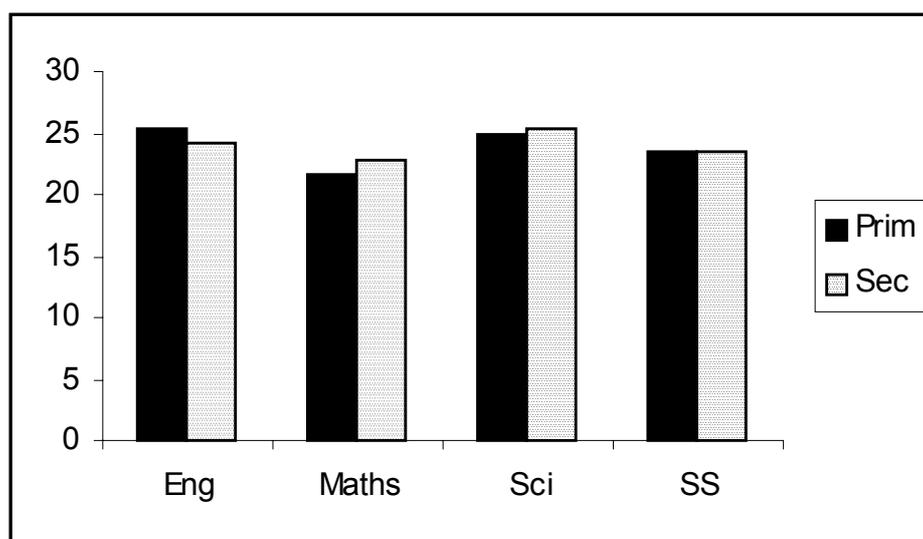


Figure 16: 2001 G10 SCE results by type of Grade 8 school



The discussion section of the MSU publication states the following:

*There is no significant difference between the performances of the two groups in Language Skills. Differences do show up in the other three subjects, suggesting that primary schools have more difficulty in providing a solid foundation for further learning in, particularly, mathematics and science. This problem will need to be addressed through the Curriculum Reform project which is currently under way.*

*However, the news is not all bad. The actual difference between the two groups, less than two (mean) marks, shows that the differences are not enormous. When one considers the actual amount of learning that 2 marks out of 50 represents, the differences do not seem so great after all.*

*Standards Monitoring – Supplementary Report No. 1, p44*

And finally, it states:

*A word of caution. The data contained in this report could be misconstrued by the uninformed. It is meant solely as a progress report on the implementation of the reform. It is far too early in the study to draw any lasting conclusions, This study will continue over the life of the reform and only after another 5 or 6 years will a picture more representative of the final outcome become apparent.*

*Standards Monitoring – Supplementary Report No. 1, p44*

### **Inspections**

There should be no real implications for Inspectors in the lower secondary sector because of the education reform initiatives.

The implementation of the recommendations of the Tololo Inspections Review (see the primary section for greater detail) is progressing well and, as in the primary sector, a supervision handbook is being produced.

### ***Gender issues***

Female participation at the lower secondary level is consistent over the four grades. It shows a slight improvement on the previous year. These figures include those in Grades 7 and 8 in the high schools or secondary schools.

*Table 18: Lower secondary school enrolment by gender, 2000*

	<b>Boys</b>	<b>Girls</b>	<b>Total</b>	<b>%age girls</b>
Grade 7	7125	4808	11933	40.3
Grade 8	8022	5380	13402	40.1
Grade 9	14570	10315	24885	41.5
Grade 10	12204	8412	20616	40.8
<b>Total</b>	<b>41921</b>	<b>28915</b>	<b>70836</b>	<b>40.8</b>

Approximately one third of the teachers in secondary schools are female although there is again wide variation between provinces. The table shows the percentage of females enrolled in lower secondary and also the percentage of female teachers.

*Table 19: Female participation in secondary schools – Grades 7 to 12*

	<b>%age female enrolment</b>	<b>%age female staffing</b>
<b>Western</b>	40.5	19.1
<b>Gulf</b>	43.7	28.8
<b>NCD</b>	48.9	47.9
<b>Central</b>	41.7	35.8
<b>Milne Bay</b>	50.4	44.8
<b>Oro</b>	42.9	36.4
<b>Southern Highlands</b>	31.6	17.5
<b>Eastern Highlands</b>	36.4	36.4
<b>Simbu</b>	33.6	25.9
<b>Western Highlands</b>	35.9	26.1
<b>Enga</b>	33.7	19.1
<b>Morobe</b>	37.9	31.2
<b>Madang</b>	39.7	33.3
<b>Sandaun</b>	39.3	28.0
<b>East Sepik</b>	42.1	27.2
<b>Manus</b>	47.4	40.0
<b>New Ireland</b>	47.3	41.0
<b>East New Britain</b>	48.7	48.0
<b>West New Britain</b>	39.6	39.6
<b>Bougainville</b>	46.6	37.9
<b>KLMD</b>	40.1	28.8
<b>Papua New Guinea</b>	40.4	32.8

### ***Constraints to implementation***

Nearly all provinces have begun to move the Grade 7 and 8 classes out of their high schools to allow for greater access to Grades 9 and 10. West New Britain

and the National Capital District have been at the forefront of this move. This has not, however, been happening as quickly as expected in the National Education Plan. It is hoped that the Grade 9 and 10 textbooks in the CASP program will encourage those provinces that have been dragging their heels to speed up the transition process.

The Grade 8 to 9 transition rate will begin to become an issue in the next few years. This is because the number of Grade 8 students graduating through the primary schools will continue to rapidly increase meaning that the percentage being able to be offered a placed Grade 9 will decrease.

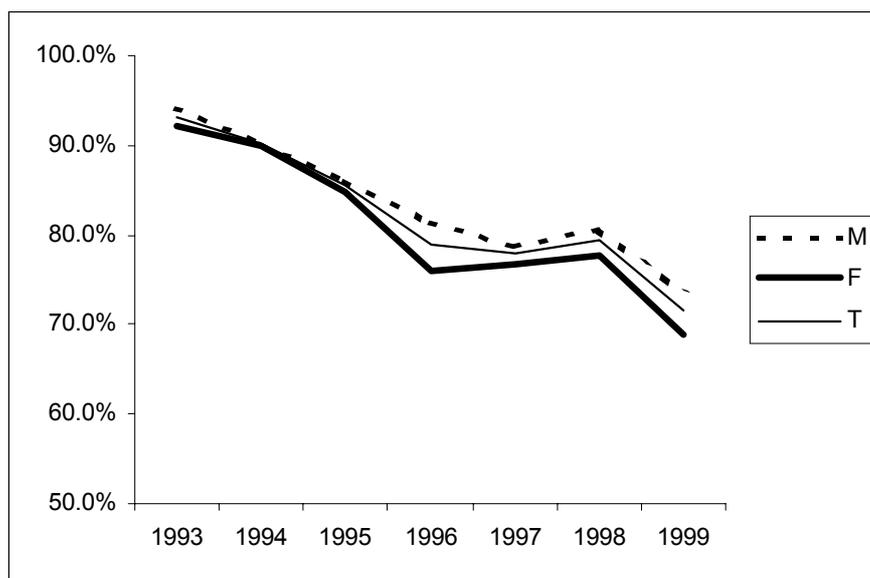
The table below shows the transition rate by gender and province for those entering Grade 9 in 2000. A few provinces, such as Madang, are beginning to approach the 50% level that is considered the minimum.

*Table 20: Grade 8 to 9 transition by gender and province, 1999 to 2000*

	<b>M</b>	<b>F</b>	<b>T</b>
<b>Western</b>	52.6%	41.1%	47.3%
<b>Gulf</b>	57.7%	53.0%	55.6%
<b>NCD</b>	60.3%	68.3%	64.1%
<b>Central</b>	99.4%	88.1%	94.4%
<b>Milne Bay</b>	69.4%	73.3%	71.2%
<b>Oro</b>	68.5%	64.3%	66.6%
<b>Southern Highlands</b>	92.3%	81.1%	88.2%
<b>Eastern Highlands</b>	79.4%	68.0%	75.0%
<b>Simbu</b>	71.8%	67.7%	70.3%
<b>Western Highlands</b>	71.7%	57.4%	65.8%
<b>Enga</b>	83.6%	83.6%	83.6%
<b>Morobe</b>	74.8%	67.1%	71.6%
<b>Madang</b>	50.1%	46.0%	48.3%
<b>Sandaun</b>	75.7%	67.2%	71.8%
<b>East Sepik</b>	71.5%	74.1%	72.6%
<b>Manus</b>	91.1%	86.9%	89.2%
<b>New Ireland</b>	84.6%	80.5%	82.6%
<b>East New Britain</b>	85.6%	87.2%	86.4%
<b>West New Britain</b>	66.4%	63.1%	65.1%
<b>Bougainville</b>	68.0%	63.7%	65.9%
<b>KLMD</b>	70.3%	66.0%	68.5%
<b>Total</b>	73.5%	68.9%	71.5%

Figure 17 illustrates the Grade 8 to 9 transition rate for the years 1993 to 1999.

Figure 17: Grade 8 to 9 transition by gender, 1993 to 1999 cohort



Many observers cite the number of unqualified teachers working in Grades 9 and 10 is seen as being a problem. The situation is not actually as serious in lower secondary as it is in Grades 11 and 12, especially given the over staffing that is in evidence in many schools. This is discussed at greater length in the chapter on upper secondary education.

### ***Implications of progress for future planning***

Two key issues will be discussed in this section. The first is the implications of further expansion at the lower secondary – both planned and unplanned – given that pressure is beginning to rise for more places to be made available in Grade 9.

Second, is the problem facing the country with regard to the opportunities that are going to be available for students exiting from Grade 10. This number is rising each year, a trend that is likely to continue in the near future at least.

There are lessons to be learnt from Table 20, the transition rates from Grade 8 to Grade 9. A number of provinces are worthy of note.

Firstly, Madang has just about the lowest transition rate of all between Grades 8 and 9. This can largely be explained by the way in which they went about implementing the structural changes to the education system. The province was the first, with West New Britain, to introduce Grade 7 primary classes in 1993. In the following years they opened large numbers of these schools and started the process of phasing the Grade 7 and 8 classes out of the high schools. This was a commendable, as well as a rather brave, move. It received widespread support from the community and other stakeholders.

The province is now in the situation that was predicted at the time of the Resources Study and by the National Education Plan. This is that a number of provinces will be in need of extra Grade 9 places in order to keep the transition

rate from primary to secondary above 50%. The National Education Plan foreshadowed this situation. It stated that new Secondary Schools catering for Grades 9 to 12 (or just Grades 9 and 10) would be required during the early years of the new millennium. This would be in order to ensure that the 50% transition from primary to secondary education could be maintained.

The West New Britain province foresaw the potential problems and became the first to introduce Vocational Secondary Schools. Entry for these schools was following Grade 8. This was done at three centres – Moramora, Hoskins Girls and Ponini. If the first year students at these three institutions are included in the enrolments for Grade 9, the primary to secondary transition rate rises considerably to 79.8%. Incidentally, the rate is 92.4% for boys and 66.1% for girls which in itself is worthy of note and is a further concern that will have to be dealt with in years to come.

There have been few new high schools built in the last fifteen years or so that have not either been underfunded or built to replace those damaged following natural disasters. There has been a worrying trend in the last year or so for provinces to attempt to add Grades 9 and 10 to their primary schools. Initiatives such as these are likely to end in disaster unless they are carefully thought out and planned well in advance. Unfortunately, they tend to be started following political pressure and the schools do not have the specialist facilities that are required at the lower secondary level. Having said this, it may well be that in the long term this form of expansion could be the best strategy to take.

There is going to be a need in the near future to develop a program for secondary school expansion. This program could take a number of forms. Firstly, it could be in the form of totally new institutions. Such a program could then be floated with potential donor agencies. The decisions on which provinces should benefit should be dependent upon indicators such as transition rates and the manner in which the province has implemented the education reform agenda. This would be a highly expensive way in which to increase the number of places available at Grades 9 and 10 and would probably again involve a large percentage of boarding students. New high schools would cost in the region of K6m each.

A more imaginative, and potentially more cost effective method might be to look at the lessons learned from initiatives of previous years. The development of further grades at existing primary school sites does deserve further consideration even though the examples of recent years have not been particularly encouraging. IF a school has sufficient land and IF it has a large enough catchment area, then there is no reason why a new model, or type, of school can not be made to succeed. After all, in the last ten years Grade 3 to 8 schools and Grade 9 to 12 schools have been introduced, each with their own different characteristics and different 'feels'.

Initially, a school structure will have to be decided upon. Will there be single schools offering a Grade 6 to 10 education, or even a Grade 3 to 10 education? The former is surely more likely given the proviso that they would be full day schools. An immediate temptation might be to have a primary school and a lower secondary school on the same campus with separate administrations and governing bodies although sharing some of the facilities? After all, there are already a number of examples of campuses that accommodate more than one

educational institution. Madina, in New Ireland, and Fatima in the Western Highlands are examples of a primary and a secondary school on the same site.

Before provinces are given the go ahead to develop further Grade 9 and 10 places in such a manner a number of clear criteria need to be set down by the Department, following discussions with the provinces. These criteria need to be in areas of, amongst others, land, enrolment and infrastructure.

- There would need to be sufficient titled land available for the increased number of children on the site. There are regulations in existence concerning minimum areas of land needed for different types of school. These frequently seem to be disregarded in urban areas as schools have expanded resulting in very little space being available for children to play.
- There would need to be an established minimum enrolment each year. This would ideally be set at 120 children each year giving six classes with nine teachers. 80 children each year would give four classes and require six teachers. All children should be genuine day students to avoid the problems faced by the rural day high schools in the 1970s. Any smaller number of classes, and many would contend that a total of four classes would be too small, might make teacher specialisation problematic and there would be a less than full use of specialist facilities.
- The Department would need to determine exactly what facilities this new type of school would require in terms of infrastructure. Such a determination should include the provision of specialist buildings and a policy regarding teacher housing. Experience of the past suggests that the first examples of a new initiative tend to be 'over built' meaning that they have more facilities than are absolutely necessary. This is understandable in so many ways but does raise the expectations for future schools. Such expectations can often not be met. Sensible infrastructure requirements, aside from regular classrooms might involve three buildings - a general science lab with a lot of storage space, a practical skills / home economics block and a library / administration building. The number of houses to be provided could be set at, say, two thirds of the staff on strength, which would mean four or five houses in most cases. The costs of the specialist buildings would be in the region of K500,000 and the costs of the houses would have to be added onto that. Other costs, aside from recurrent costs for salaries would be for textbooks and materials.

In addition to these, which are largely matters that need to be dealt with at a provincial level, the Department will have to consider any other implications that there may be. The major one of these is likely to be teacher supply. The National Education Plan has assumed that the demand for secondary school teachers will remain relatively constant. A planned expansion of the lower secondary sector would, inevitably, lead to an increase in the demand for teachers. It is not clear as to whether the University of Goroka would have the capacity to be able to provide the numbers that would be required. This will have to be taken account of when the National Education Plan is updated for the second time. A further issue would be the requirements of these schools for textbooks and other materials and equipment. CDD will need to prepare book, including library books, and equipment lists for this new breed of school.

Large primary schools in district centres would seem to be perfect candidates for the type of model that is being discussed here. The existing traditional high

schools in these places have virtually all got boarding accommodation that could either be utilised by children from the outlying areas for Grades 9 and 10 or be used for more Grade 11 and 12 classes.

Issues resulting from increasing numbers of Grade 10 graduates

The success of the education reforms in one of its principal objectives, that of increasing access at all levels, has had some negative repercussions. One of these is the perception that the number of opportunities for Grade 10 graduates is dropping whilst the number of graduates is rising. How has this perception come about?

Traditionally (pre education reform implementation), Grade 10 students would consider three major areas of opportunity. The first would be to continue their secondary education at one of the National High Schools. The cream of the students would be selected for one of these places, of which there were about 1000. The second area would be the Pre Employment Technical Training (PETT) courses run at the Technical Colleges. There were about 1100 places available at these colleges for the one-year full time courses. Girls taking Basic Secretarial, or other office related courses, accounted for up to 40% of these places. The third area would be the 600 or so places available at the Primary School teachers colleges. There were also other opportunities for further training, although in smaller numbers, in fields such as agriculture and nursing. In total there would be approximately 3000 places available for Grade 10 students to continue their education. In addition, there were still direct employment opportunities open to Grade 10 graduates.

The rapidly growing number of Grade 12 graduates has changed all of this. The primary teachers colleges now only accept Grade 12 graduates and this is also increasingly the case in the technical colleges. Increasingly, the just about the only option now open to Grade 10 students is to continue their secondary education in Grade 11. In 2000 there were more than 4500 places available in Grade 11. If one also takes into account the much smaller number of Grade 10 students accepted into the Technical Colleges and other institutions it is apparent that there are in fact **more** places available for Grade 10 graduates than was the case in the past. Admittedly, there are more Grade 10 students competing for these places. In effect, what has happened is that the students who are going to, for example, the Primary Teachers Colleges now are exactly the same students as they were in the past – it is just that now they have completed Grade 12 as opposed to Grade 10.

This analysis, however sound it may be, does not lessen the perception of dropping opportunities for Grade 10 students. There is still a feeling in some quarters that a student is ready for tertiary education or fully prepared for employment at the end of Grade 10 rather than having to complete a further two years of formal education.

One of the outcomes of this has been the rapid rise in the number of private training providers. Many of these operate out of Port Moresby but there are also examples in other major centres as well. The two most well known are probably the Institute of Business Studies and the Business Training Institute. The National Training Council approves these institutions and also the courses that they offer. Courses offered by private providers are almost entirely business or

office orientated. There is little as yet in the field of vocational or technical trade skills offered in the private market possibly because of the costs of setting up such an institution.

There are no official figures available for enrolments but it is thought that the bulk of their students come from Grade 10. In effect, they are filling the gap alluded to earlier. Courses in some cases duplicate those being offered at the Department of Education's Technical and Business Colleges but there are instances of courses being offered in other areas. One advantage that the private providers have got is that they are in a much better position to be able to react to the demands of industry.

A few of these providers have also forged formal links with universities in Australia. This means that certain courses offered by the providers in Papua New Guinea can be accredited towards qualifications offered by the universities. Southern Cross University and the University of New England are two that have made such arrangements. This is the way of the future and will allow Papua New Guineans to gain internationally recognised qualifications whilst continuing to work and without having to spend time overseas.

## Upper Secondary education

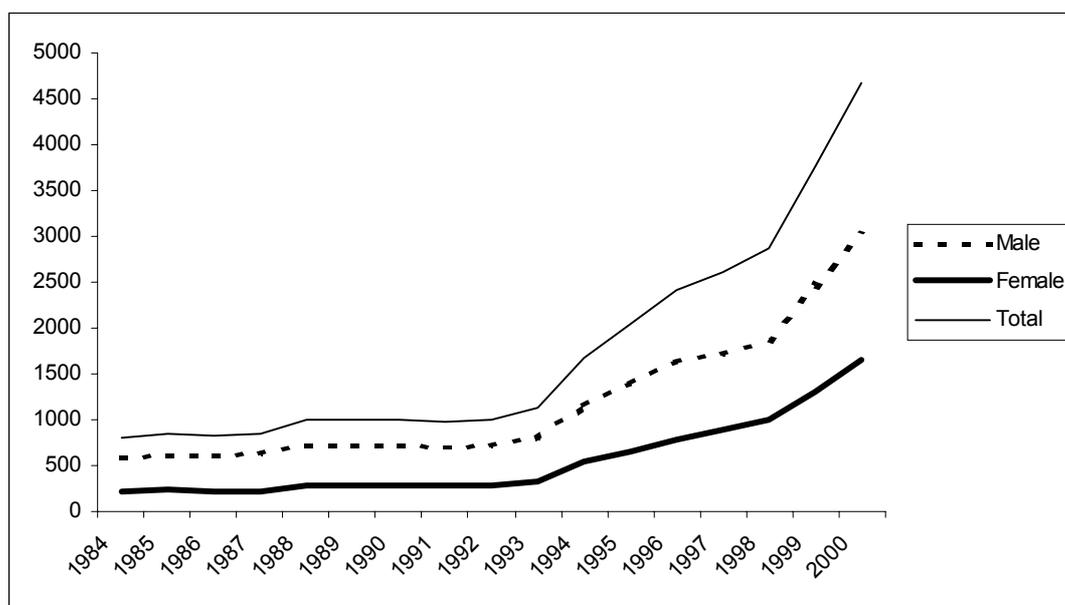
### Access

Upper Secondary education is Grades 11 and 12. Before the education reform program was introduced in 1993 it was only offered by the National High Schools. There were just four of them. There are now six after Port Moresby National High School was opened in the mid 90s and Wawin in 2001.

The final part of government policy relating to access calls for an increase in transition between grades 10 and 11 and, consequently, the grade 12 output. The transition rate was around 10% for many years.

The new education structure provides for selected provincial high schools to become secondary schools providing a Grade 9 to 12 education. The chart below illustrates how Grade 11 enrolment has risen since 1984.

Figure 18: Grade 11 enrolment by gender, 1984 to 2000



In 1993 Grade 11 classes, providing an additional 120 spaces, were established at Hoskins (WNB) and Malala (Madang). They were funded by the World Bank Education Development Project and the national government. These schools had their first Grade 12 leavers in 1994. A complete list of schools offering Grades 11 and 12 in 2001 is shown in the two tables below. The tables show the year that they started and the agency responsible for the funding. The first of the two tables is a list of those that have been planned and approved for opening.

*Table 21: Planned and approved Secondary School starts by year*

<b>Year of start</b>	<b>School</b>	<b>Agency</b>	<b>Province</b>	<b>Funding</b>
1993	Malala Hoskins	Catholic Government	Madang WNB	Church/ Government Government
1994	Cameron Mogol Gordon Bugandi	Government Government Government Government	Milne Bay SHP NCD Morobe	EU / Government EU / Government EU / Government EU / Government
1995	Fatima Kondiu	Catholic Catholic	WHP Simbu	AusAID AusAID
1996	Namatanai	Government	New Ireland	AusAID
1997	Papitalai St Ignatius	Catholic Catholic	Manus Sandaun	AusAID AusAID
1998	Popondetta Mt Hagen Wabag	Government Government Government	Oro WHP Enga	EU EU EU
1999	Hutjena Malabunga	Government Government	Bougainville ENB	EU AusAID
2000	Hohola	Catholic	NCD	
2001	Kikori Kwikila	Government Government	Gulf Central	
2002	Tusbab Marianville	Government Catholic	Madang NCD	Incentives Fund

All provinces except four, Central, Gulf, the Eastern Highlands and East Sepik, have now benefited from donor funding in this sector.

In addition to this funding, Marianville won an Incentives Fund award in 2001 for the upgrading of their school to cater for Grade 11 and 12 students. A number of other schools are known to be preparing similar submissions to be presented to the Incentives Fund management team.

The expansion of access to Grades 11 and 12 was orderly until 1998 and the rate of expansion was close to the ambitious enrolment targets set by the National Education Plan.

In addition to these ‘planned’ and ‘approved’ schools there are a number of others that have also taken on Grade 11 classes since 1999. Whilst it would be unfair to suggest that these schools have not been planned – indeed, they are all included in the provincial implementation schedules for establishment at some point – a final decision on the year of their start was taken at a very late stage. These, then, have opened without formal prior endorsement from the Secretary for Education and without donors having been sourced. These initiatives have often, although not always, been due to pressures exerted from politicians within the provinces. The schools in this ‘unplanned’ category for the years between 1999 and 2002 are shown in Table 22:

It was partly because of the large number of ‘unapproved’ schools being opened that a series of recommendations were passed at the 2000 Senior Officers Conference. One of these was that the Secretary for Education would invite the

Principal's of the Secondary Schools to the selections meeting.

*Table 22: 'Unapproved' Secondary School starts by year*

<b>Year of start</b>	<b>School</b>	<b>Agency</b>	<b>Province</b>	<b>Funding</b>
1999	Kopen	Government	Enga	
	Kiunga	Government	Western	
	Ialibu	Government	SHP	
	Yawe Moses	Government	Simbu	
	Goroka	Government	EHP	
	Kila Kila	Government	NCD	
2000	Brandi	Government	East Sepik	
	Awaba	EBM	Western	
	Tari	Catholic	SHP	
	Tarlana	Catholic	Bougainville	AusAID
	Bumayong	Lutheran	Morobe	
2001	Kimbe	Government	WNB	
2002	Wesley	UC	Milne Bay	
	Bishop Leo	Catholic	East Sepik	

Provision has been made for some infrastructural development for the schools that were established in 1999:

- Kopen is a completely new institution that is being built by the Provincial Government. Phase 1 of the building was completed by late 1999.
- Kiunga has benefited from some funding that was made available under the tax credit scheme.
- The Simbu Provincial Government has supported Yawe Moses with the purchase of science equipment.
- Kila Kila has had some support from the National Capital District Commission and also from the Japanese Government.
- The Eastern Highlands Provincial Government has given K1m to Goroka Secondary School to allow it to open.
- The support for Tarlana is from the AusAID funded Bougainville Restoration Program as opposed to the education program.

It is not clear as to whether there will be sufficient funds available for the work to be completed at any of these schools. It is to be hoped that the various Provincial Governments are taking the responsibility for infrastructure at these schools and are fully aware of the total costs. The costs of the infrastructure for the conversion of a regular Provincial High School into a secondary school is now more than K4m if the amount of work to be done is comparable to that carried out at some of the early schools. This is virtually twice the cost that it was in the early and mid 1990s. It is unfortunate that there are still some provinces that think that they are able to get a school ready for just a fraction of this amount.

The schools which started in 2001 had different problems. Kikori is a relatively new school whilst Kimbe has been established for many years. The problem at Kikori will be in the staffing of the school, whereas at Kimbe the concern is that of maintaining existing buildings and providing new specialist buildings. In addition to the opening of large numbers of secondary schools access to Grade 11

was also increased in 2001 through the opening, finally, of Wawin National High School in the Morobe Province.

The National Education Board has placed a minimum qualification of an Upper Pass in each of the four core subjects in the Grade 10 examination for a student to be eligible for selection to Grade 11. This has been misunderstood in some quarters as meaning that any student who gains an Upper Pass in each of the four core subjects should get a place in Grade 11. **This is not the case.** The number of students that can be accepted is dependent upon the number of places that are available. In 2000 there were only Grade 11 places for about 2 in every three students who reached the four upper pass level.

A few years ago a group of parents in the Western Highlands threatened to take the Government to court because of this issue. To their credit, the Western Highlands Provincial Education Board stood their ground and refused to accept any further students into Grade 11. Not all provinces took such a strong stand as did the Western Highlands. However, further pressure in early 2002 led the education authorities to increase the number of Grade 11 classes in their secondary schools. This was achieved by lowering the number of Grade 9 classes.

There is evidence that some students with lower grades are being allowed into upper secondary education in a few provinces. This will probably stop as numbers in Grade 10 increase and, with this rise, the number of students achieving four upper passes will also rise. This is because the allocation of Grades following the Grade 10 School Certificate Examination is determined on a percentage basis – the top 5% are awarded a Distinction and the next 20% a Credit – rather than on an absolute measure of performance.

All of these initiatives have meant that the number of places on offer in Grades 11 and 12 has risen from 1000 to the more than 5000 that are expected to have enrolled in Grade 11 in 2002. The Australian Secondary School Scholarship Scheme (ASSSP) was designed to alleviate the access problems in Grades 11 and 12. This scheme is now being phased out because of this increase in the number of places available in Papua New Guinea. The table and chart below show the improvement in the Grade 10 to 11 transition rates during the 1990s.

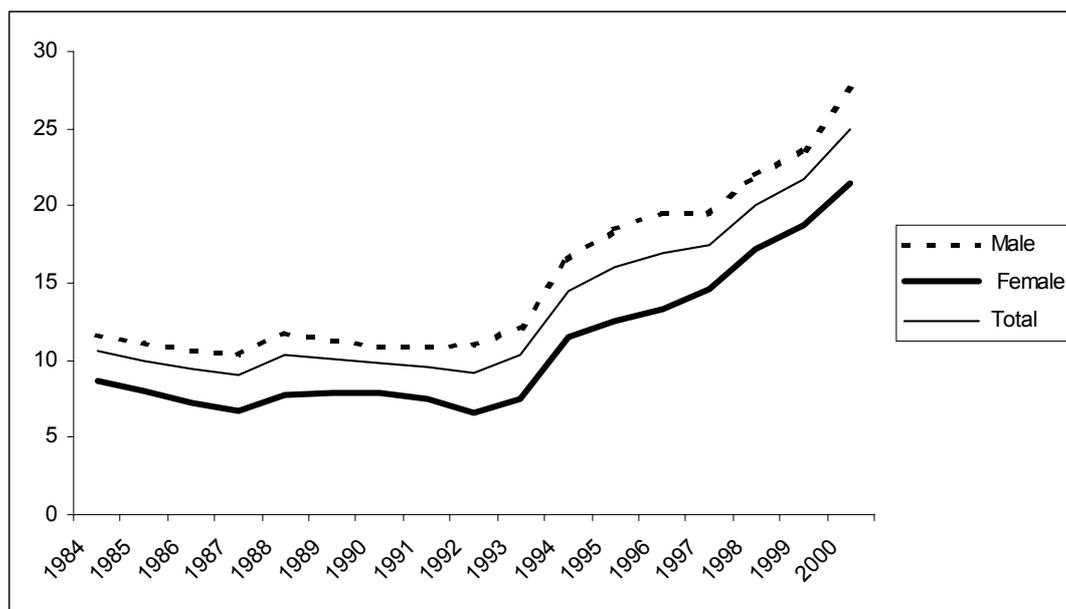
*Table 23: G10 to Gr 11 transition rates, 1983 to 2000 by gender*

	<b>Male</b>	<b>Female</b>	<b>Total</b>
<b>1983 G10 cohort</b>	11.6	8.6	10.6
<b>1984 G10 cohort</b>	11.1	8.0	10.0
<b>1985 G10 cohort</b>	10.6	7.2	9.4
<b>1986 G10 cohort</b>	10.4	6.7	9.0
<b>1987 G10 cohort</b>	11.8	7.8	10.3
<b>1988 G10 cohort</b>	11.3	7.9	10.1
<b>1989 G10 cohort</b>	10.9	7.9	9.8
<b>1990 G10 cohort</b>	10.9	7.5	9.6
<b>1991 G10 cohort</b>	11.0	6.6	9.2
<b>1992 G10 cohort</b>	12.1	7.5	10.3
<b>1993 G10 cohort</b>	16.5	11.5	14.5
<b>1994 G10 cohort</b>	18.5	12.5	16.0

<b>1995 G10 cohort</b>	19.5	13.3	17.0
<b>1996 G10 cohort</b>	19.5	14.6	17.5
<b>1997 G10 cohort</b>	22.0	17.2	20.0
<b>1998 G10 cohort</b>	23.7	18.8	21.7
<b>1999 G10 cohort</b>	27.4	21.5	24.9

The percentage of girls selected for Grade 11 in 2000 was 36%.

*Figure 19: Grade 10 to 11 transition by year and gender, 1984 to 2000*



The final two provinces without a secondary school offering a full secondary education, Gulf and Central selected their first Grade 11 students to start in 2001.

The long term future of the National High Schools has been an issue ever since the education reform agenda was introduced. It is an emotive issue given that many prominent Papua New Guineans have received their education at one of the schools and so it is not surprising that it has taken so long for a decision to be made. One was finally taken by the National Education Board, at its meeting in Kundiawa in June 2000. The NEB deliberated on a number of options that were developed following a seminar attended by senior Department of Education officials and other interested parties. NEB Decision number 15/128/2000 states, **“That the status of National High Schools remain as National Institution”**. This decision was elaborated on in NEB Circular 3/2000 which states that the National High Schools will continue to offer Grade 11 and 12 programs. This is not to say, however, that they will not take on a slightly different role, although still being national institutions, in future years. This decision has a number of implications that are discussed below.

In order to achieve Government targets the process of opening more secondary schools will have to continue. However, the recent ‘unapproved’ opening of new secondary schools has led many people to believe that the Department of Education should begin to reassert control over this expansion.

### ***Teacher training***

Teacher training is still carried out at the University of Goroka (formerly Goroka Teachers College). All students now undergo a four-year course leading to a Bachelor's degree in Education, although whether this degree will equip them to teach a subject proficiently in Grades 11 and 12 is still open to question.

Unitech in Lae have agreed to provide opportunities for diploma qualified Secondary teachers to upgrade their qualification. This was initially intended to be a two year mixed mode course leading to a Diploma in Science and Maths. A number of teachers in Morobe and the Eastern Highlands have enrolled directly with Unitech as a trial. Following work done by two British Executive Services Overseas Advisors in late 2000 it was decided that this course be upgraded to degree level. It is now intended to be a four year mixed mode course and will be awarded in collaboration with the University of Goroka. This is to ensure compatibility with current UOG B.Ed. offerings. The awards are provisionally called B.Ed. (Mathematics) and B.Ed. (Integrated Science). It is planned that the first students will be enrolled in 2003 but this rather ambitious timetable is dependent upon a project manager and academic writers being recruited and funded.

There is still only limited formal provision for continuous in-service training to be conducted in the secondary schools and National High Schools. School based in-service training at all levels has been neglected in recent years, mainly because of limited funding and reduced inspector visits. The Government Assistance to Quality Education Program (GAQEP) allocated funds for NIST week in 2000 and 2001, although this will not be continued in 2002.

### ***Infrastructure***

Infrastructure development at new secondary schools, as we have seen, has been carried out by a variety of aid donors. The cost depends on the state of the school. The scope of work usually includes a computer room, new staff housing, extension to the library and administration facilities, and the general upgrading of facilities. The scope of works has often got specialist buildings that, although useful and desirable, may not be strictly necessary. If the Department does decide to take a greater degree of control over the expansion of secondary education, one option would be to require a minimum amount of infrastructure to be completed and available for use at the time of the school start. It has been estimated that the cost of this would amount to approximately K2m – less than half the costs that are currently being quoted.

Provincial Governments have provided funding but this is never sufficient and has generally only covered some of the maintenance costs.

### ***Curriculum***

There has been a fair amount of progress made on curriculum at this level. Courses have been developed at the school level in rural technology, urban technology, personal development and comparative religion. It is important that these initiatives are built upon in order that schools are able to cater for the much wider range of intake that they now have.

Hoskins Secondary School has taken the lead in these developments. This school is one of very few in the country to have a fully completed course that thoroughly reflects the needs of the students. They have built on their experiences as one of the trial schools in the Secondary Schools Community Extension Project (SSCEP) that was started in the early 1980s. Hoskins is the only one of the trial schools that has kept a SSCEP type ethos within the school.

Table 24 shows, for the 2001 Higher School Certificate Examinations, the number of students awarded Grades in non moderated subjects. Rural and Urban Technology have shown significant rises in the number of candidates over the year 2000 figures.

*Table 24: Non moderated HSCE subjects by schools and students, 2001*

<b>Subject</b>	<b>Number of schools</b>	<b>Number of students</b>
Japanese	2	35
Science and Society	2	20
Information Technology	5	189
Rural Technology	17	634
Applied Technology	7	151
Urban Technology	5	443
Business Studies	29	1255

### ***Materials***

AusAID has provided materials for new upper secondary schools through a CASP arrangement. The cost of the full set of equipment and materials is estimated to be K650,000. It is believed that this figure could be cut back following due consideration from the Curriculum Development Division

### ***Standards***

Concerns were expressed regarding a possible drop in standards at the Grade 12 level when secondary schools were introduced. Evidence available now does not suggest that this has occurred as yet. However, with the rapid expansion noted earlier it remains a danger. It must be remembered that there is now a much greater ability range entering this sector. Any rapid increase in access is ultimately bound to have an effect on the overall average level of performance. The Department must ensure that even if this does occur the top students still perform to the highest levels.

The year 2000 Higher School Certificate examination results are broadly similar to those of previous years. Port Moresby was the most successful of the National High Schools with Bugandi and Malala again being the best of the growing number of secondary schools. Some of the schools which were established without any donor support did not perform spectacularly but their results were not as bad as was initially feared. The weakest schools, not surprisingly because of their differing priorities, were the more technically orientated schools around the country. These results, however encouraging, should not mean that provinces should become complacent about the opening of further secondary schools.

### ***Inspections***

Two Secondary Inspectors visit each of the Secondary Schools. This is a similar strategy to that used for the National High Schools. It allows for the many

specialisations that have to be covered at these schools. The Secondary Inspectorate has benefited from the Education Development Project through the provision of computers and training opportunities for Inspectors. All Secondary Inspectors have received a computer as well as other office equipment, such as a photocopier and fax machine, which will be shared with other divisional staff based in the province.

### ***Gender issues***

The percentage of girls attending upper secondary schools is still a cause for concern. The percentage of girls is still only about 35% in Grade 11. This compares to about 40% in the other high school grades.

The total number of students by gender in **all** upper secondary schools is shown below.

*Table 25: Upper secondary enrolment by gender, 2000*

	<b>Boys</b>	<b>Girls</b>	<b>Total</b>	<b>%age girls</b>
<b>Grade 11</b>	3008	1663	4671	35.6%
<b>Grade 12</b>	2356	1297	3653	35.5%
<b>Total</b>	5364	2960	8324	35.6%

The percentage of girls is slightly higher in the secondary schools than it is in the National High Schools but is still lower than it, ideally, should be. It is at that this level of the education system that there should be the greatest concern about female participation.

### ***Constraints to implementation***

Access to Grades 11 and 12 has increased dramatically and there is no reason to believe that the rate of expansion experienced of late will diminish. However, there is still the concern about the comparatively small, yet increasing, number of girls who get the opportunity to complete a full secondary education.

Teacher supply at the upper secondary level is becoming increasingly critical. The country is desperately short of fully qualified Papua New Guineans to teach in Grades 11 and 12. 'Fully qualified' for this purpose can be defined as having both a degree in the subject that they are teaching and a teaching qualification. This shortage has come about because of the dramatic rise in the number of secondary schools being established. This was further emphasised in late 2001 with reports from the Gulf Province that parents were unhappy with the Grade 11 and 12 classes continuing at Kikori Secondary School. It was reported that almost half of the students had that had started Grade 11 in 2001 had dropped out during the year. The reasons given included a lack of qualified teachers, a lack of teaching materials and a lack of suitable infrastructure.

There are many Papua New Guinean graduates teaching in Secondary Schools who hold a Bachelor of Education In Service degree from the University of Papua New Guinea. This is a perfectly good degree but does not necessarily equip teachers with the subject specific knowledge to teach at the higher levels. It was originally designed for Provincial High School teachers and Headteachers, Inspectors and education administrators.

The consequence of this is that many Grades 11 and 12 classes are being taught by teachers who have got a subject degree, but have not obtained a teaching

qualification. Many of these teachers are extremely competent and perform very well but it is not a situation that should be encouraged in the long term. How can the country get around this particular problem?

As a band aid solution the Department continues to recruit teachers from overseas. However, it is becoming increasingly difficult to attract teachers of the calibre required due to the adverse perception of the country overseas and the exchange rate. In addition, the mission agencies continue to recruit their own volunteer teachers from overseas. The Department has made remarkable progress in localisation at the secondary teacher level and overseas recruitment should not be considered a long term answer. The answer has got to revolve around the courses offered at the University of Goroka, or an adaptation of these courses.

All pre service students now graduate with a Bachelor of Education degree from the University of Goroka. The first of these graduated at the end of 1997. It is to be hoped that these students will be equipped to teach at Grade 11 and 12 in their specialist area. It is believed that this is the case although there are problems in some of the specialist areas within the Social Science strands – Economics, Geography and History. If they are, then it is a question of ensuring that the output from the University of Goroka is sufficient to satisfy the growth in the system.

As noted earlier, there are a large number of degree holders working in schools around the country without a teaching qualification. This is a relatively new phenomena and numbers are rising as graduate employment becomes harder to secure. A real effort should be made to attract new graduates into teaching because, at present, teaching is not considered an option for many. The Post Graduate Diploma in Education (PGDE) is a one year post graduate course. This should be sold to final year university students. The PGDE was originally designed for National High School teachers. Graduates would go directly into the schools from UPNG and would then be sent away for the one year course having gained experience in the classroom. They would be paid full salary whilst gaining their Diploma.

The current teachers with a subject degree but without a teaching qualification present a rather different proposition. Some of them have been teaching for five or more years and have performed perfectly adequately. There needs to be a way to allow these teachers to gain a qualification without having to send them away for a year. The reasons for this are twofold. Firstly, provinces cannot afford to lose them from the classroom, given the shortages that there are at present. Secondly, they would probably expect to be paid a full salary whilst studying, given the precedent that has already been set by National High School teachers. This would make it a very expensive option. They should be able to gain credit for the teaching experience that they have already gained. The Secondary Inspectorate during the course of their regular visits should grant these credits. The other parts of the PGDE could then be developed in distance education mode that they would complete in their schools.

Towards the end of 2000 the University of Goroka offered a Lahara program for teachers already teaching in schools but without a formal teaching qualification. The response was extremely encouraging with about 250 teachers taking up the offer. The same teachers returned at the end of 2001 to complete a further Lahara before being awarded their PGDE in early December. The course was

fully funded through the GAQEP which also funded the next group of students that enrolled in late 2001. This second group comprised 200 from widely varying backgrounds. The average age of this second intake was 30 with an between three and four years of teaching experience. Only 22% of those enrolled were female. This is a rather lower percentage than might have been hoped.

The restructuring of the GAQEP in 2002 means that the future of the program beyond 2002 is in some doubt although it is clear that the demand is there, both from the school system and from people wishing to enrol.

Ideally, the teachers attending this course would be specialized in the areas in which there are shortages. Although the University of Goroka has produced an extremely extensive report it is not entirely clear as to exactly how many physics, chemistry, biology etc specialists were involved. However, it has been possible to give rough estimates as to the academic background of students based upon their academic qualification. This information is shown in the table below for both the 2000 and 2001 intakes.

*Table 26 Background of PGDE students, 2000 and 2001*

	2000 intake	2001 intake
Agriculture	25%	14%
Science / maths related	33%	32%
Economics / commerce	10%	11%
Arts including language	25%	31%
Other	7%	12%

### ***Implications of progress for future planning***

The rapid expansion in the number of secondary schools offering Grades 11 and 12 has happened partly because of the success of the first schools that were established.

The NEB decision regarding the future of the National High Schools has an implication for the selection process for Grade 11. A decision was made in 1994 regarding the way in which selection should take place for Grade 11. This was that the Secondary Schools in the provinces should have '1<sup>st</sup> pick' of the students graduating from Grade 10 in their provinces. The National High Schools would then select from the students in provinces that did not have a secondary school and those who did not achieve high enough marks to gain a place in the secondary school in their province. The selection of students for the Australian Secondary School Scholarship Program was carried out at the same time until 1999, which was the final year for selection for the program.

The rationale behind this decision was threefold. Firstly, it was thought important that the new Secondary Schools should not be seen as being 2<sup>nd</sup> class institutions. Secondly, nobody at the time realised that the demand for the establishment of new secondary schools would be so great. In the early years of implementation provinces were wary of committing themselves without a clear commitment regarding the development of infrastructure and provision of materials. Finally, there was an unwritten understanding that the National High Schools would eventually become provincial institutions and be treated in the

same way as other secondary schools. As we now know this will not be the case and the National High Schools will continue to be national institutions.

This process of selection operated well in the early years. The National High Schools got their share of high ability students from the provinces that did not have secondary schools and from, in particular the Western Highlands and the NCD, where there were far too many high performing students for the one secondary school in the two provinces.

The situation now is rather different. The proliferation of secondary schools means that the National High Schools now take rather lower quality students, based upon Grade 10 examination results, than was the case in the past. Selection in the NCD is carried out by the National High School Principal along with the four Principals from the Secondary Schools in the capital. This ensures that the schools get students of a comparable ability range and also that some consideration is taken of the students' location in the city. A similar arrangement could be made to work in the other provinces that have got both a National High School and a Secondary School. Unfortunately, this has yet to happen as effectively as hoped.

The concerns raised in an earlier section regarding opportunities for Grade 10 graduates can be repeated at the upper secondary level. The increasing number of Grade 12 graduates is leading to similar concerns. These are about what they will do upon graduation. The number of places at the Universities has not risen significantly in recent years. It is to be expected that the demand for more and more tertiary education places will increase in the next ten years. The building of more and more institutions is not going to be economically feasible. Innovative thinking will again be required to solve this important and emerging issue.

The chief objective for Government in education will continue to be that of achieving Universal Primary Education. Whilst bearing this in mind, Government will have to look seriously at strategies for expanding access to the tertiary sector. Some important questions are going to have to be asked of the Universities and other tertiary institutions. There are already a large number of small institutions that many do not think are economic.

Technical Education is a further area that needs attention. To many people, tertiary education just refers to the universities. This is not the case. There is a great need for more well trained, competent tradesmen in the country. There is no shortage of educated young people all too willing to take up training places. Despite this, the number of students attending full time technical education at the colleges has not risen significantly in recent years.

# **TECHNICAL VOCATIONAL EDUCATION TRAINING**

## **A Vocational Education**

### **Introduction**

As a result of Education restructure in 1999 Vocational Education and Training sectors were amalgamated with Technical Division. Before the reform Vocational Branch was located under the wings of various Divisions. The Curriculum Section was with CDD, Inspections with Inspections & Guidance Division and Vocational Administration with School Administration & Liaison Division now General Education Services.

There is still a great deal to be done within the Vocational Branch of the TVET Division. There are three sections within the Vocational branch – Support Services for Provincial Centres; a Curriculum Section; and an Inspections Section.

### **Vocational Co-ordination & Support Services**

This Section is now part of TVET Division having been relocated from SALD. It has a Superintendent who reports to the Assistant Secretary – TVET Division four Professional Staff and two Support Staff.

The main roles of the Vocational Co-ordination & Support Services are to:

- i. support the operation of Vocational, Curriculum and Inspections;
- ii. liaising and consulting with provinces on professional matters;
- iii. maintain Teachers Professional files, issuing Teachers Eligibility Certificates, Vocational Training Certificates and Schools Administrative materials;
- iv. facilitate, coordinate and support the development of project submissions; and
- v. monitor and evaluate VTC projects, both NDOE and donor funded

### **Inspections**

Vocational Centre Inspectors are now part of the TVET Division, having been relocated from the Inspections and Guidance Division. The Senior Inspector for Vocational Centres now reports to the Superintendent of Inspections of the Technical Division. The students at these schools sit for the Grade 10 School Certificate Examination. It is expected that both the Vocational Centre Inspector and the Secondary Inspector will inspect these institutions. In 1999 the Inspections and Guidance Division issued a set of guidelines for the inspections of these institutions. At present, there are eleven Inspectors based in provinces with the Senior Inspector at Headquarters. Ultimately, there is expected to be an Inspector in each province.

## **Curriculum**

Vocational Curriculum section is now part of the TVET Division, having been relocated from Curriculum Development Division (CDD). The Vocational Curriculum Section has eight professional staff. Principal Curriculum Officer (PCO) Vocational Centres report to the Superintendent of Curriculum of the Technical Division. Their main tasks are to develop curricula for Competency Based Training (CBT) and conventional VTCs in the seven core trade areas (Mechanic, Plumbing, Carpentry, Metal Fabrication & Welding, Business Studies, Hospitality & Tourism and Agriculture).

Vocational Centre curricula are at present considered by the Secondary Board of Studies. It is expected that during 2002 a separate Board can be established for this sector. It is hoped that there will be more locally relevant curriculum developed and that the relevant Boards of Studies can approve these courses.

Transition between Grades 8 and 9 will continue to drop in a number of provinces. The Vocational Centres have always been seen as providing an alternative form of post primary education. In the past these were post Grade 6 institutions but as the education reforms have been implemented they are rapidly becoming post Grade 8 institutions.

There are a number of different types of vocational centre operating at the moment. It is expected that vocational institutions will continue to evolve over the next few years in response to the needs of individual provinces, and communities, and as the shift in emphasis towards skills development is implemented.

### *Traditional Vocational Centres.*

These institutions still take children from Grade 6. They will continue to do so until all children are allowed the opportunity of an education to Grade 8. It is clear, however, that they will increasingly take children from Grade 8. A lot of these centres also provide CODE courses to try and upgrade the student's academic qualifications. The perennial problem with these centres has been the absence of articulation into further training opportunities. The qualifications gained have really only been recognised at the local level. This lack of formal recognition and national accreditation has caused some provinces to move toward the establishing of Technical High Schools (THS).

There are a few new Vocational Secondary Schools, although not necessarily using that designation, established in a number of provinces. Some of these have been approved, many have not. It is not clear exactly what curriculum some of these schools are following. The danger with these institutions is that, despite the good intentions, they will become like the high schools and concentrate on the academic areas as opposed to their strengths, which are in the vocational trades. This is because of the enormous demand that there is around the country for academic qualifications and the lack of understanding of the values of skills or vocational training. There is still the feeling in some quarters that a Grade 10 certificate will open the doors to employment.

There have now been a number of vocational centres turned into Vocational

Secondary Schools or Technical High Schools. The Mean Rating Index in 2000 for all of the eight schools in this broad category was lower than the national average, although three of the schools had ratings in the 40s. Overall, the results tend to reinforce the fears of many that these schools are in danger of being neither one thing nor the other. In particular, the three West New Britain schools all had single digit Indices.

The Board of Studies has endorsed a VSS curriculum structure. This requires that 60% of the curriculum will be devoted to the trade areas and 40% on traditional academic subjects. This is to be trailed.

1. There are some VTCs following the Competency Based Training (CBT) approached introduced by GTZ under Promotion of Vocational Training Project. Courses have been developed according to the National Competency Standards. This project started in 1994 and the pilot phase with six Vocational Training Centres was completed in 1998. National implementation started in 1999. In line with that seven proposed Trade Testing VTCs were upgraded, only one of which has been certified as a Trade Test Level one VTC. The Project emphasis has changed to entrepreneurial management as the NATTB project on trade testing has taken over a lot of the responsibilities of Competency Based Training Curriculum.

The latest phase of the project ended on 31 March 2001 has three major activities:

- To develop modular Competency Based Training courses
- To link staff development and teacher training program with Staff Development Unit – the DOVET; and
- To improve the performance of Vocational Training Centre managers.

### Access

There are presently approximately 14,000 young people attending vocational centres around the country. The National Education Plan Update 1 calls for a 7% annual rise in enrolment. It is hoped that a greater percentage of these can be girls. Female enrolment is discussed in the section on gender issues below.

*Table 27: Vocational Centre enrolment by gender 2000*

	Male	Female	Total	%age female
<b>Western</b>	149	43	192	22.4
<b>Gulf</b>	202	26	228	11.4
<b>NCD</b>	1036	251	1287	19.5
<b>Central</b>	114	42	156	26.9
<b>Milne Bay</b>	235	193	428	45.1
<b>Oro</b>	443	47	490	9.6
<b>Southern Highlands</b>	566	325	891	36.5
<b>Eastern Highlands</b>	562	235	797	29.5
<b>Simbu</b>	513	195	708	27.5
<b>Western Highlands</b>	418	195	613	31.8

<b>Enga</b>	325	163	488	33.4
<b>Morobe</b>	1201	284	1485	19.1
<b>Madang</b>	495	176	671	26.2
<b>Sandaun</b>	654	218	872	25.0
<b>East Sepik</b>	435	146	581	25.1
<b>Manus</b>	146	42	188	22.3
<b>New Ireland</b>	392	223	615	36.3
<b>East New Britain</b>	914	519	1433	36.2
<b>West New Britain</b>	718	310	1028	30.2
<b>Bougainville</b>	224	64	288	22.2
<b>KLMD</b>	195	80	275	29.1
<b>Papua New Guinea</b>	9937	3777	13714	27.5

There was an enormous range of ratios in 1999 from a low of less than 10 in Manus Province to a high of almost 30 in East New Britain. The student teacher ratio is minimum of 1:18 and maximum of 1:20 for Trade Subjects. This will allow for larger classes to be taught in the academic subjects. Staffing is shown in the table along with the student instructor ratio by province.

*Table 28: Vocational Centre staffing by gender and province, 2000*

	<b>Male</b>	<b>Female</b>	<b>Total</b>	<b>Ratio</b>
<b>Western</b>	23	3	26	7.4
<b>Gulf</b>	14	3	17	13.4
<b>NCD</b>	40	22	62	20.8
<b>Central</b>	19	11	30	5.2
<b>Milne Bay</b>	19	18	37	11.6
<b>Oro</b>	18	5	23	21.3
<b>Southern Highlands</b>	32	10	42	21.2
<b>Eastern Highlands</b>	25	15	40	19.9
<b>Simbu</b>	54	26	80	8.9
<b>Western Highlands</b>	42	15	57	10.8
<b>Enga</b>	41	10	51	9.6
<b>Morobe</b>	62	18	80	18.6
<b>Madang</b>	27	10	37	18.1
<b>Sandaun</b>	42	12	54	16.1
<b>East Sepik</b>	33	10	43	13.5
<b>Manus</b>	6	2	8	23.5
<b>New Ireland</b>	21	13	34	18.1
<b>East New Britain</b>	50	34	84	17.1
<b>West New Britain</b>	47	22	69	14.9
<b>Bougainville</b>	13	5	18	16.0
<b>KLMD</b>	10	4	14	19.6
<b>Papua New Guinea</b>	638	268	906	15.1

### ***Teacher education***

This is a major problem in the vocational sector. There are now no pre service courses for male instructors. The one year Vocational Instructors certificate course for both male and female was phased out in 1997. A recent development has been the introduction of the Diploma in Vocational Education and Training (DOVET). This has been designed to allow instructors already working in the

field to be able to get a teaching qualification through a mixed mode of training. This program is catering for two groups of people:

- i. Upgrading of Certificate Teachers to Diploma
- ii. Trade Teachers to Teaching qualification

Since the introduction of (DOVET) in 1999 no students have graduated yet.

There is also a Female Pre-service instructors three-year diploma program offered at the PNGEI. There are approximately 60 places available each year on this course. The University of Goroka is offering PVTC for Vocational teachers as well.

### ***Inspections***

Vocational Centre Inspectors are now part of the TVET Division, having been relocated from the Inspections and Guidance Division. The Senior Inspector for Vocational Centres now reports to the Superintendent of Inspections of the Technical Division. An issue needs to be resolved concerning the newly established Vocational Secondary Schools. The students at these schools sit for the Grade 10 School Certificate Examination. It is expected that both the Vocational Centre Inspector and the Secondary Inspector will inspect these institutions. In 1999 the Inspections and Guidance Division issued a set of guidelines for the inspections of these institutions. At present, there are eleven Inspectors based in provinces with the Senior Inspector at Headquarters. Ultimately, there is expected to be an Inspector in each province.

### ***Gender issues***

Girls participate very poorly in vocational education compared with other sectors of the general education system. The overall percentage is only just over 25%. It is hoped to increase female enrolment in two ways. Firstly, by providing courses that are seen to be relevant for girls. Secondly, by encouraging girls to enrol on courses that have previously been considered in the male domain. New courses developed will have to be approved by the appropriate Boards of Studies.

There are many more single sex institutions in the vocational sector than there are elsewhere. There are 26 boys only centres and 21 girls only centres in the country. This contrasts greatly with the number of single sex secondary schools or high schools that there are. Many of these are mission centres. It is interesting to note that about 45% of girls at Vocational Centres attend mission run institutions as against only 22% of boys.

*Table 29: Vocational Centre enrolment by year and gender, 2000*

	<b>Boys</b>	<b>Girls</b>	<b>Total</b>	<b>%age girls</b>
<b>Year 1</b>	4795	1844	6639	27.8
<b>Year 2</b>	3207	1076	4283	25.1
<b>Year 3</b>	1646	611	2257	27.1
<b>Other</b>	289	246	535	46.0
<b>Total</b>	9937	3777	13714	27.5

### ***Constraints to implementation***

The major constraints to the implementation of the Vocational component of the education reform is the fact that provinces have already developed their plans in line with the reform and Corporate plan. There is still a great deal of misunderstanding about the different types of centre that there are in the country. It will depend on the outcome of TVET Policy.

There is at present no clear policy for TVET and this will be addressed. It is important that this be consistent with the many other papers that have been published on vocational and technical education.

There are also other areas that still need to be considered by this new Division. In particular, the issues involved with curriculum, such as National Trade Standards, Competency Based Training, the development of modular training programs and the need for other training providers to align their training programs with those of the NATTB. All need to be resolved before vocational education can really move ahead.

## **B Technical Education**

### ***Introduction***

The perception that people have of technical and vocational education has improved since the education reform started in 1993. People are beginning to understand the need for a greater emphasis on skills training and skills formation and this has been helped by a greater public awareness campaign in 1999 and the introduction of trade testing system.

The major changes that have been seen in technical education and training are:

- the unification of Technical and Vocational sectors under the Technical Vocational Education and Training (TVET) Division.
- the rationalisation of technical and business colleges and their courses. This involved the relocation of similar courses, equipment and teachers to “home colleges”.
- The development of the two-year broad-based (multi skilling) Technical Training Certificate (TTC) courses, which will gradually replace the existing one-year Pre-Employment Technical Training (PETT) courses.
- The upgrading of diploma courses, development of community-need courses and the support to the trade testing system.

The long-term effects of this structural change will be seen as the five-year TVET Corporate Plan (1999-2003) is implemented. The vision for TVET Division, that is defined in the TVET Corporate Plan is:

*Technical Vocational Education Division shall be a demand driven government agency providing broad based technical and vocational education and training that meets National Competency Standards and the ongoing needs of the community, government, commerce and industry.*

### ***Access***

Traditionally, technical and business colleges offered one-year Pre-Employment Technical Training (PETT) courses. These were largely accessed from Grade 10, but there is an increasing intake from Grade 12 leavers. The new TTC courses will ultimately be Grade 12 intake when the reform has been fully completed, though currently Grade 10s are still being accepted.

Increasingly, the entry level for students into Technical Colleges is Grade 12.

The rationalisation of colleges and their courses has resulted in colleges specialising in certain trade areas. The specialisations are shown in the table below:

*Table 30: Technical Colleges and their specialisation*

Lae Technical College	Metal trades
	Draughting
	Science and Technology
	Business Studies
	Tourism and Hospitality
	Various Diploma courses
Madang Technical College	Building trades
Mt Hagen Technical College	Vehicle trades
Port Moresby Technical College	Electrical trades
	Various Apprenticeships
Port Moresby Business College	Business Studies
Goroka Business College	Business Studies
Kokopo Business College	Business Studies

The National Education Plan Update 1 envisages a 10% annual rise in enrolment at the Technical Colleges.

The TVET Division has experienced severe problems in attracting, and then retaining, suitably qualified Papua New Guinean staff to serve as lecturers in the Technical and Business Colleges. This is particularly true in the higher level courses where the salaries that are on offer are not sufficient to attract the calibre of lecturer that is required. The shortage of highly qualified Papua New Guineans in trade areas has meant that these people are in constant demand from the private sector. The real advantage that technical colleges have over private enterprise in attracting high quality people is the provision of housing that is provided at the colleges, as well as the job satisfaction of training young people to become useful citizens of this country. Papua New Guinean lecturers do not at the moment receive any Domestic Market Allowances or “Expertise” allowances. This is a relatively small allowance but it might provide an incentive for some lecturers to remain in the teaching service. All of this has resulted in certain courses still requiring a fairly large number of expatriates to be employed as lecturers. In 2001 about 20% of full time lecturers were expatriates

The Division aims for a 1:15 lecturer student ratio in the trade areas, and 1:20 in business studies.

Full time Technical and Business College enrolment for 2001 is shown in the table below. The numbers are disaggregated by those on Technical Training Certificate courses and those on the Pre Employment Technical Training Courses. The table also splits up those students on National Scholarships and those that are self-sponsored. Self sponsored students now account for more than 20% of the total full time students at the technical colleges.

Table 31: Technical and Business College enrolments by college, 2001

	TTC	PETT	Total	HECAS	Self Spon
<b>Goroka Business</b>	74	119	193	145	48
<b>Kokopo Business</b>	96		96	84	12
<b>Mt Hagen Technical</b>	48	162	210	162	48
<b>Madang Technical</b>	22	111	133	125	8
<b>Lae Technical</b>	238	163	401	323	78
<b>Port Moresby Business</b>	114		114	82	32
<b>Port Moresby Technical</b>	62	103	165	136	29
<b>Total</b>	654	658	1312	1057	255

### Curriculum

In 1999 a policy document on curriculum emphasised the importance of Competency Based Training. It stressed that this concept be used for the development and delivery of new programs.

There are a number of courses at different levels offered at the Technical and Business Colleges. These courses cater for both school leavers and those already in employment.

The PETT courses are gradually being phased out and are being replaced by a two-year Technical Training Certificate (TTC) program. It is expected that the introduction of these TTCs will all be completed by the year 2003. These courses are more broadly based, multi skilled courses in various trade areas and designed to overcome the problems associated with the PETT courses that were too specialised.

The Tourism and Hospitality course at Lae Technical College and the Business Studies program at the Port Moresby Business College were the first to start. The table below shows the TTCs that are now operating and their location:

Table 32: TTCs by college

Trade areas	Technical College
Motor Vehicle	Hagen Technical College
Electrical	Port Moresby Technical College
Building Construction	Madang Technical College
Business Studies	Goroka, Kokopo, Port Moresby and Lae
Printing and Composing	Port Moresby Technical College
Metal	Lae Technical College
Science Technology	Lae Technical College
Draughting	Lae Technical College
Tourism & Hospitality	Lae Technical College

There are TTCs for three trade areas that are still to be completed. They are the Painting and Decorating, Furniture and Timber, and Plumbing and Sheet Metal trade areas. These three will all be offered at the Madang Technical College.

Extension courses are conducted for apprentices. These courses are completed in blocks of eight weeks over a period of three years. Diploma, formerly technician, courses are offered in twenty week blocks over a three year period.

The TVET Division is taking steps toward the accreditation of the Diploma Courses which are currently offered at Port Moresby Business College and Lae Technical College. This is in line with the 1990 National Higher Education Plan and the National Policy for Accreditation Programmes and Institutions of Higher Education in PNG. It is hoped that the accreditation of these programmes to institutions of higher learning will provide a framework of affiliation agreements for the recognising of the quality and relevance in academic programs.

Finally, the colleges are attempting to be responsive to industry by providing specialised courses on demand from organisations that have special training requirements.

### ***Pre Service Teacher training***

The Pre-Service Technical Teacher Training for potential technical teachers are currently being conducted at the University of Goroka (formerly Goroka Teachers College). During the 1990s the University was only able to produce about eight per year against a requirement of 15 or more but of late there has been an improvement. The problems faced at the University have included the lack of qualified lecturers and outdated curricula. In 1999 a meeting was held between the Education Department and the University administration to discuss the above issues. The university is presently in an advanced stage of planning for the creation of a new faculty for Technical and Vocational Education. There are indications that this will be endorsed this year by the University Council for implementation in 2003.

### ***In Service training***

There is also a need for In-Service training for existing staff. The constant advances in technology mean that lecturers must continually keep up with innovations and technology. There is very little professional development happening in the colleges at present.

A number of technical and business college teachers have had the opportunity of eight-week fellowships in Australia as a component of the Trade Testing Project. These are considered of more value than long term courses to upgrade their knowledge and experiences in the application of competency based training.

### ***Infrastructure***

It has long been recognised that a significant amount of new infrastructure would be required in the colleges for targets to be achieved. This includes a need for more teaching resources as well as housing for the teaching staff. AusAID is funding the National Trade Testing and Certification Support Project through which the technical and business colleges have been developed into trade testing centres. The work that has been completed at the colleges includes:

- the construction, renovation and maintenance of college and workshop facilities; and
- the construction of student dormitories and libraries;

Despite this, there is still a constant need for maintenance of college infrastructure and training equipment as well as staff housing.

### ***Tools and Equipment***

Materials have been a constant problem for the colleges as they attempt to keep up to date with the latest in technology. The technical colleges have long been characterised by having large quantities of old equipment that require maintenance and repair. The situation has, however, improved in recent years with the National Trade Testing and Certification Support Project providing some tools and equipment as well as helping the development of teaching resources and materials. Although not all courses have been specifically included in this component of the project it must be said that all colleges have benefited enormously.

### ***Libraries***

The National Trade Testing and Certification Support Project has ensured that for the first time all colleges have a suitable library facility. In addition to ensuring that infrastructure was adequate the project has also provided K40,000 in 2001 for book purchases for each college. This will be followed up with a further K30,000 in 2002. The TVET Division also secured some QIPE funding for technical college libraries.

### ***Gender issues***

Many of the technical courses have traditionally been male dominated. In fact, during the 1980s the technical colleges were the only part of the education system where there were barriers to females participating in education.

Positive efforts are now being made to encourage female participation in male orientated trade areas. An example of this is that a female dormitory has been constructed at the Port Moresby Technical College. In 2001 of the 473 females 76 were on courses that would be generally considered male orientated. There is still a long way to go although there has been a considerable improvement in recent years.

Approximately 30% of full time staff in the Technical Colleges are female. It is unsurprising that they are all in the colleges that offer business courses or tourism and hospitality.

### ***Trade Testing***

TVET Division is providing support for the introduction of trade testing in PNG. All 7 technical and business colleges are now certified trade test centres. The trade testing project has assisted the National Apprenticeship and Trade Testing Board, through the trade panels to develop the Industry Competency Standards for the 7 core trades (Electrical, Carpentry Construction, Metal Fabrication and Welding, Maintenance Fitting and Machining, Plumbing, Motor Vehicle Mechanics, and Business Studies).

### ***Constraints to implementation***

Firstly, lack of adequate finance is the major impediment to the Department of Education achieving its aims in this sector. There are two ways in which adequate financing can be sourced. Firstly, through increased budgetary

provision. Secondly, through the support of the donor community. Both of these avenues need to be pursued.

Secondly, lack of incentives to attract sufficient qualified Papua New Guinean lecturers. The situation is critical now and needs urgent attention.

Thirdly, the weaknesses in institutional and financial management, poor attitude and professional commitment of some teachers are also contributing factors.

## CURRICULUM

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One of the pressures for change that was noted in an earlier chapter was that of relevance in our schools. The education reform agenda involves both a structural reform and a curriculum reform. To date the curriculum changes at all levels have not been keeping pace with the structural changes. This was to be expected. The time taken to develop and trial a curriculum, and then train teachers, takes a great deal longer than a structural change.

The progress being made in each sector is noted in the relevant parts of this book. The upper secondary level has seen more progress than others. Innovative work has been carried out in schools in the areas of rural and urban technology, and personal development. This is, again, not surprising given that the National High Schools in the past have had a tradition of producing their own curriculum. In addition, the teachers in this sector are much more likely to have a background in curriculum development. They are also more likely to have the tools with which to carry it out than do those in the lower levels of the system.

The Curriculum Development Division has responded to the needs of the reform by reorganising as part of the Departmental restructure in 1999. The Division is now split by sectors rather than by subject areas, as was the case in the past. There are now elementary, primary and secondary sections. The vocational curriculum is now the responsibility of the Technical Vocational Education and Training Division. There are, however, vocational components within the general education sector. The appropriate section within the Curriculum Development Division deals with these.

The Curriculum Reform Implementation Project (CRIP) has provided a large amount of support to the process of curriculum reform. The *Curriculum Management Plan 2001 to 2005* and the *In Service Management Plan 2001 to 2005* that were produced in 2001 are now being implemented. These two plans focus only on the elementary and primary sectors.

Additionally, there is now a great deal of work being carried out on skills development. It is hoped that this will be reflected in the classroom. There are now plans for equal emphasis to be placed on academic and vocational subjects at the primary and secondary levels. It is to be hoped that there will be strong links with the community when these courses are being developed. This is already happening at the elementary level.

School based curriculum will be encouraged in the future. Students will be better prepared to either return to their communities or to continue with further studies. One of the problems with this is that teachers in both primary and secondary schools do not have the skills required in curriculum development. Standard formats and training workshops to be facilitated by the Curriculum Development Division, to be supported by the Teacher Education and Staff Development Division, will be required to aid these teachers.

## **SPECIAL EDUCATION**

Children with special learning needs had largely been ignored by the National Education System until the 1990s. Children with special needs are those with hearing, vision, physical, intellectual (mild), and emotional, behavioral and learning disabilities. There was very little provision, aside from a few initiatives taken by the mission agencies, for these children to be included in the regular school system. It was generally accepted that these children would remain at home in the village and be cared for by the community. It was becoming increasingly clear that the country owed it to these children to promote a policy of inclusivity, meaning that all children should have an opportunity to gain an education and, if at all possible, that this education should be provided within the National Education System. This would have to be done if Government was to ever achieve its goal of Universal primary Education.

Special Education was finally absorbed into the National Education System in 1994 following the National Executive Council's approval of the National Special Education Plan, Policy and Guidelines in 1993. The National Special Education Committee is now in the process of redrafting the National Special Education Plan, Policy and Guidelines after eight years of implementation. Despite the financial constraints experienced during this period, a great deal has taken place in the area of special education in the country.

The Special Education Unit was established following initial approval of the Plan and was accommodated within the Teacher Education & Staff Development Division. The functions of the Special Education Unit are monitored by the National Special Education Committee. There are three working committees, one for training, one for research and one for curriculum. Each of these Committees meets two or three times a year.

The Unit is staffed by three officers; the Superintendent, an Inspector and a Curriculum Officer. In addition to these, there have been 43 Teaching Service positions created and these are allocated to the eleven Special Education Resource Centres established around the country. Special Education lecturer positions have also been created and allocated in each of the Primary Teachers Colleges as well as the PNG Education Institute.

Eleven Special Education Resource Centres have been established since 1994.

- Mt Sion Centre for the Blind, Goroka
- Callan SERC, Mt Hagen
- Callan SERC, Wewak
- Callan SERC, Rabaul
- Morobe Special Education Resource Centre
- Madang Creative Self-Help Centre
- Red Cross Special Education Resource Centre
- St John Association for the Blind.
- Callan Mendi
- Callan Buka, and
- Callan Kiunga

These centres provide a number of services. The first of these is to deal directly with children with special needs. All of the centres have children based at them who are not able, for the time being, to be absorbed into the mainstream education system. In addition to these, they also have an interest in those who are being integrated into normal schools. They design Integrated Education Programs for this group of children. It is estimated that there are more than 800 children based in the centres and almost 2000 who have been integrated into the school system. The community based rehabilitation program caters for about 700. In total, then, there are about 3500 children who have benefited from special education programs.

A second type of service is that of support to teachers in the field. There is a great demand to provide some training to assist children with special needs enrolled in schools. In recent years, Special Education Resource Centre staff have provided special, or inclusive, education awareness programs for field teachers using the Special Education In-service training package developed by the Special Education Curriculum Sub-Committee. The Resource Centres have in-serviced primary and elementary school teachers during the last number of years on special/inclusive education.

More formal training has been provided by the Teacher Education and Staff Development Division who conducted a one year in-service training program (Certificate in Hearing Impairment Studies) at Vunakanau for serving teachers from a variety of provinces in 1999. This program was transferred to the PNG Education Institute in 2001 as Certificate Studies in Special Education. It is now being upgraded to become a Diploma level course.

Thirdly, the Centres work in local communities running informal rehabilitation programs for children and also early childhood intervention programs.

To date the emphasis has, quite rightly, been at the elementary and primary levels. However, as the students with disabilities or special needs move through the system to the higher grades, the Special Education Unit is now in the process of negotiating with the University of Goroka for possible inclusion of special education course for secondary school teachers. It is the National Department of Education's policy that all teacher-training programs in Papua New Guinea include special education as part of their training program. This includes the University of Goroka who then will cater for students with special needs in the secondary schools. This policy is further reflected by the fact that both the Elementary Teacher Education Support Project and the Primary and Secondary Teacher Education project have Special Education components. Over the last three years Special Education Advisors from these projects have given support in special education curriculum development for teacher education.

## **MANAGEMENT**

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The Department of Education underwent a restructure in the middle of 1999. The objective of this exercise was to comply with Government requirements to rationalise the Public Service and to put in place a structure that could respond to the needs the Organic Law on Provincial and Local-level Governments. However, in the final analysis there was very little change in the total number of positions in the Department. There is a case for further considered rationalisation to fully support the needs of the education reform. This further restructuring was due to take place in late 2001 but has now been deferred.

Two new Divisions were created following the initial restructuring. The most significant of these is the Technical and Vocational Education and Training TVET Division. This was created as a consequence of the TVET Corporate Plan.

The Department of Education has still got problems in attracting suitably qualified, multi skilled and dedicated officers. Housing continues to be a huge problem for many and there are no signs of any solution being found. This is also the situation in many provinces. The ability to find a place to live is the most important qualification that any potential officer could have. This situation has resulted in many less than satisfactory appointments being made at all levels of the system. This is one of the reasons for the lack of managerial and planning capacity in the provinces.

The restructuring of Provincial Divisions of Education has been a long drawn out process. This has resulted in a number of officers in the provinces becoming somewhat unsure about their futures. It is also unfortunate that there continue to be large disparities in Grade levels and major differences in job descriptions between officers in different provinces doing much the same jobs. This issue has also affected the rate of take up of the District Education Administrator positions.

There are two areas of concern at the Management level outside of the Department of Education. Firstly, during the early years of reform implementation there was a very high turnover of education division heads in the provinces. The Department feels that continuity in these positions is vital for successful implementation. It was estimated that approximately 50% of heads of education divisions in the provinces changed each year over this early period. The record of changes has been slightly better over recent years. This may have been due to the issue having been raised during the Ministerial Consultations. It is significant that those provinces with relatively stable leadership have performed rather better than those with one that is constantly changing.

Secondly, the pace of developments at the District level varies enormously from province to province. The Department sees the development of elementary and primary education being the responsibility of the Local-level Governments and it is vital that a District Education Administrator oversees these initiatives<sup>2</sup>. It is important that suitable officers be put in these positions at the earliest possible

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<sup>2</sup> There are many different designations around the country but for the purpose of this book they will be referred to as District Education Administrators (DEAs).

opportunity. They should be the most important players in the provincial education planning process. There has been enormous variation with regard to the appointment of District Education Administrators, and the calibre and background of those appointed. The latter has been due in some cases to the very low level that has been accorded to the position.

### *Institutional Strengthening*

Two projects have been put in place to help strengthen management capacity. They are the Institutional Strengthening Project (ISP) funded by AusAID, and the Regional Management and Planning Advisors (RMPAs) project which is a component of the much larger World Bank funded Education Development Project. The ISP was formally completed at the end of 1999 but there have been extensions agreed to by AusAID to allow the existing activities to be continued.

There will be a follow up to the ISP but there has still been no definite decision as to when it will start. It was originally called the Education Reform Support Project (ERSP) and was due to start in early 2001. This has now been reconsidered and it will now follow a program approach that will allow greater flexibility. This program has a working title of the 'Education Capacity Building Program'. Design work began in the second half of 2001 and it is now hoped that the new program will commence sometime in 2003. The program will build upon the lessons learnt from the ISP.

The ISP strengthened managerial capacity through a number of different strategies. Firstly, the Facilitating and Monitoring Unit (FMU) was established. FMU comprised of eight members initially. There were four expatriate core officers who were contracted by the Government of PNG for the period of the project and four Papua New Guinean officers paid as a part of the project. The Papua New Guinean officer were often called associates which was a bit of a misnomer in that they were very much an integral part of the FMU team. Members went through an in house training program with the support of their 'mentors' when required. In effect, the four Papua New Guinean FMU members became multi skilled officers proficient in all areas of planning and management of the education reforms. They were all specialists in their particular fields at the start of the project. A series of management courses were conducted in areas such as Effective Management, Change Management and Project Planning. Consultants, contracted from Australia by the ISP Managing Contractor, working with a Papua New Guinean counterpart, usually an FMU member, conducted these courses. Repeat workshops have been successfully run by the counterparts. The people attending these courses were middle level officers from the Department of Education and Provincial Education Advisors from the provinces.

Towards the end of the project a further strategy for improving provincial capacity was introduced. This was for provincial officers, usually those with a responsibility for planning, were attached to FMU for a period of three months. They travel with FMU officers as well as attending meetings and workshops alongside FMU staff. Where needed, the officers are put through basic computer courses to help them cope with some of the higher level work required. This has proved a highly successful strategy. To date officers from fourteen provinces have benefited. One of the key advantages for the visiting officers is to allow them to work in an environment where there is a very high level of commitment and a

strong work ethic. It is hoped that this will be continued and that two attachments will be taken each quarter with a conscious effort made to ensure that at least one of the two is female, although this has not proved possible on many occasions.

One of the reasons for the success of the ISP was the quality of the officers who were placed on the FMU training positions. It has to be said that the Department was only able to achieve this through the inclusion of housing as a component of the project. It is unusual for this to happen as part of a project. However, AusAID, to their credit, accepted that it was needed in order to attract and retain the calibre of person required. This is one lesson that should be taken from the ISP. Housing, quite rightly, is not a condition of service within the Public Service, but the housing situation in Port Moresby is now critical. This means that if the Department needs to employ people in key positions that require specialised skills and knowledge then they are going to have to be prepared to pay for it. The provision of housing, or a generous housing allowance, is the most obvious way in which this can be achieved. FMU personnel are in this category. They joined on condition that they were provided with housing as part of the project.

The ISP did not just cover the FMU. It also involved the Measurement Services Unit (MSU) and Corporate Data (CD). Officers from both MSU and CD benefited from attachments in Australia.

The CD component was aimed at improving the accurate collection of data. This is of critical importance for education planning. This has become a problem in recent years. The ISP supported development of an Education Management Information System (EMIS). This has now been installed on computers in all provinces. It will allow for more efficient access to, and analysis of, data.

The MSU component included the construction of a new building and the development of a Computerised Examination Processing System (CEPS). MSU officers have attended the annual conference of the Australian Curriculum and Certification Authorities (ACACA). There have been a number of attachments in Australia.

The RMPA project was originally developed to train provincial planners. However, following the passage of the Organic Law, the focus was moved towards officers working at the district level. The RMPAs run courses developed to provide district officers with training in areas such as: Data Analysis, Teacher Deployment and Budgeting. Management courses, based upon the ISP courses noted above, are being further adapted for future presentation. The courses that are available now take about two weeks to present. All provinces have now benefited from this course with the final courses being run in 2001. These will be followed by repeat courses in those provinces that were the first to benefit, or have had a large turnover of DEAs.

In addition, the World Bank approved the purchase of computers for the districts. These have been supplied during 2000 and 2001 on condition that the provinces satisfy certain criteria. The DEAs are required to complete the basic computer-training program before they are able to take the computers back to their districts. The computer courses last between one and a half and two weeks. All

the provinces apart from the Southern Highlands received their computers and their training before the end of 2001.

These projects have all been developed with a view to introducing greater sustainability within the system. One innovative aspect of the ISP was that one component of the project allowed for an officer from the Department to undergo a Ph.D. program through the award of an AusAID fellowship. The title of the thesis was *'The Sustainability of Education Reform in Papua New Guinea'*. The findings of this study will be used in the development of the Education Capacity Building Program.

All provinces have completed their education plans although many have yet to get them endorsed by both their Provincial Education Board and Provincial Executive Council. This in itself shows great progress. A number have started the process of reviewing and updating their plans in 2000 and 2001. The ISP extension has allowed for the printing of multiple copies of the plans that have been approved by the Provincial Executive Councils.

There is rather more of a problem with the Provincial Education Acts. The Organic Law required all provinces to redraft their Provincial Acts to ensure consistency with both the Organic Law and the amended Education Act. By the end of 2000 very few provinces had successfully managed to achieve this. The majority of provinces have their Acts in draft form ready either for some professional input or for presentation to their respective Provincial Executive Council. Until provinces do all of this they will be subject to the National Education Act (Amended, 1995).

### ***Community awareness***

One of the weakest areas of the reform implementation to date has been community awareness. Although there has been a widespread community acceptance of what Government is trying to achieve, it is probably also true to say that the community awareness programs that have been put into place have not been entirely successful. There is not a real understanding of the objectives of the reform process beyond that of increasing access. People have also demonstrated that they are very much in favour of children learning to read and write in their own languages. There is a need to improve the understanding of the rather more complex issues that relate to the relevance of what is being taught in the schools, and the relationships that need to be developed between the communities and the schools.

Awareness is being generated at many different levels, by many different organisations, and through the use of a variety of media. There was an awareness component to the Institutional Strengthening Project but it was one of the less successful aspects of the project. A materials package for awareness use in the school and community was developed and distributed, and inspectors trained in its use. The first package, which is now in the process of being updated, targeted the elementary level of education, provides for professional awareness among educators, as well as materials and strategies for community awareness. It was unfortunate that financial constraints meant that the Inspectors were unable to visit as many schools as would have been desirable.

The primary package has also been developed, printed and distributed. AusAID

has printed many more to provide every teacher and teachers' college student with a handbook on the reform at the primary level. It has since been reprinted. Twenty three radio programs in each of three languages – English, Tok Pisin and Hiri Motu – have been developed. These, in association with CRIP and the National Media Centre, will be produced in 2002. It is then expected that they will be distributed to 25 radio stations, as well as to schools, during 2003.

The Working Document for Secondary Education Awareness was completed in 2000 and has been distributed for comment. Positive feedback was obtained from the Secondary School Principals at their Conference in 2001 and it is expected that a final version will be made available in 2002.

The Media and Communication section, a part of PRC, which was strengthened following the Departmental restructure, is incorporating information about the education reform in the Departments' regular Education News broadcasts and Pipeline newspaper. The Education Gazette will also be used as a vehicle for communicating reform information providing that the funds are made available. Despite this, the Media and Communication section is still seriously under resourced in terms of personnel, equipment and budget if it is to undertake any widespread information and awareness campaign. At the moment, much of its resources are taken up by internal department requirements.

The Media and Communication section facilitated a workshop, entitled 'Planning and Implementing Awareness' in October 2000, to consider strategies for improving awareness of the education reforms and how best to make use of the materials already available. A representative from each province attended this workshop and awareness is now seen very much as a provincial responsibility. Following this, Bougainville is known to have formed an awareness steering committee and has conducted workshops for Boards of Management and Headteachers in three districts. It is unfortunate that few provinces seem to have taken the effort to distribute available materials effectively to their schools.

Until now, Community Awareness activities have been undertaken as part of the ISP. Some of these activities are being incorporated into the budgets of line divisions and provinces. Most of the work in 2001, however, is being carried out because of support from CRIP and the Quality Initiatives in PNG Education (QIPE) program. The DOE budget, for example, has not yet picked up any significant responsibility for the printing and distribution costs of awareness materials.

Sources of funding will need to be identified to address public awareness needs through the mass media. Further materials for post-primary, vocational and skills development are also to be developed, as well as pamphlets for the parents of children at all levels.

A Reform Implementation Adviser study, funded through the ISP extension, was undertaken in late 2001. This resulted in a comprehensive education awareness strategy, and also provided advice on the resource requirements, and possible sources, of the different strategy options.

### ***Possible Future Strategies***

To resource and support implementation of the preferred Education Awareness strategy options that emerge from the anticipated RIA report. These strategies can be expected to include both provincial /local-school level and national level components.

The provincial component is likely to include:

- personnel and funding for capacity building workshops for provincial, district and school level personnel to plan and facilitate awareness activities and produce materials.
- funding for small scale provincial initiatives such as translating and the printing or broadcasting of awareness information in local languages, transporting awareness materials to schools, and local level workshops with Boards of Management, Local-level Governments, ward and school personnel.

The national level component will need to support measures that increase the capacity of Media and Communication section and the IMG Awareness Working Group to both produce and distribute awareness materials, and assist the provinces with planning and implementing awareness activities at school and community level. This will require funding for equipment, training, and materials production and distribution. It will also require the personnel and financial resources to out source at least some of the activity. Any increased manpower for communication and awareness within DOE will require a revision of DOE structure.

National level activities are likely to include some or all of:

- the production and distribution of brochures and audio /drama programs in a number of languages, for the general public and specific target groups
- the capacity to write regular newspaper information about education and education reform
- the capacity for a sustained major public media information and awareness raising campaign including provincial and national radio, TV, print, billboards, drama and music
- an ongoing revision, printing and distribution of The State of Education, the Elementary Primary, and Secondary Education Awareness Handbooks, and quarterly production of the Education Gazette
- the revised, updating and improvement of BOM information (based on the CDD /UNICEF handbook and BEICMP materials). The material needs to be simplified, translated into languages nominated by provinces, and then distributed. Strategies to communicate this information then need to be developed and supported by manpower, training and funding.
- the attachment of additional manpower to Media & Communication section, including at least one journalist and one layout artist /website designer, with supply of appropriate computer hardware and software, and
- the development, maintenance and updating of a DOE website to make education reform information readily available to anyone with access to the internet.

## *Data Collection*

The collection of data continues to be an enormous problem. The situation with regard to the 2000 statistics was that there were so many schools missing that estimates were used from the available 1999 data. These projections were then checked for consistency with the 2001 data as it became available.

This will become an increasing constraint to the effective implementation of the education reforms. Basic information such as the annual enrolment and staffing returns is becoming less and less reliable. Provinces often do not know vital information such as the names of elementary schools that have opened and the primary schools that they feed into. Officers from FMU collect this information on their regular visits to the provinces. If wrong information is given it is likely to have a severe negative impact on the delivery of materials, teacher education and so much more.

## **COST SAVING AND COST RECOVERY MEASURES**

There are a number of major areas in which costs can be saved in the management of the education sector.

It is encouraging that a number of the recommendations made as a result of the Resource Allocation and Reallocation Study have been taken up in recent years. These include:

- An increase in the disadvantaged school allowance as a part of the 2000 teacher pay determination;
- The nationwide introduction of the multi grade school allowance as a part of the 2000 teacher pay determination;
- Encouragement for schools to become more self reliant through incentives provided as a part of the GAQEP;
- The phasing out of secondary scholarships as the PNG system has expanded and the use of the savings within PNG;
- Greater resources made available for in service training as a part of the GAQEP; and
- Greater resources made available for inspectors to visit all schools in the country as a part of the GAQEP.

There are still many more things to be done. Two are briefly discussed here.

### ***Teacher deployment***

Teacher salaries are by far the greatest component of the education budget. This is particularly true at the primary level where they account for more than 80% of the budget. The present situation is characterised by worrying disparities between provinces. Pupil teacher ratios range from the low 20s in Manus to 40 or more in the NCD. This is shown in an earlier table.

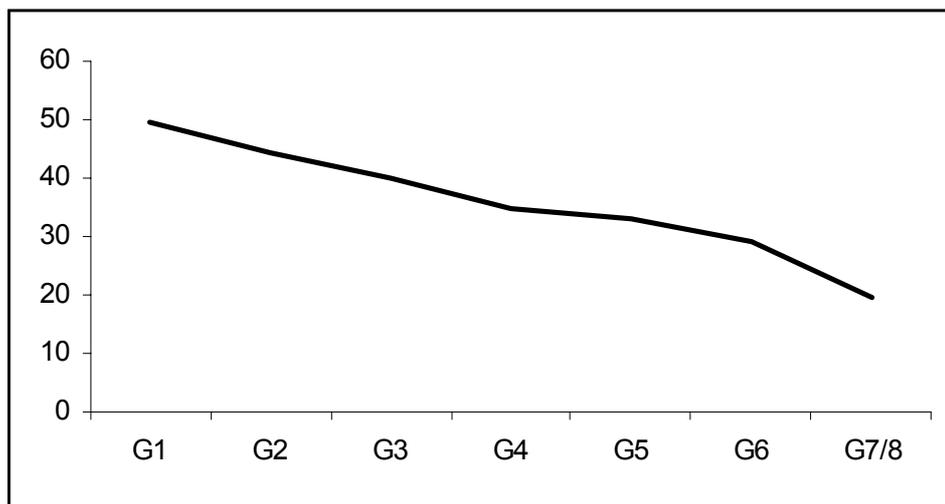
These differences are due to the way in which the provinces deploy their teachers. The number of teachers allocated to a school is based on the number of classes in that school, rather than the number of children. There will need to be a real change in mind set in order for this to change. There will undoubtedly be problems at the school level if such a policy were to be introduced without a large amount of preparation.

Multi grade teaching is one strategy that could be used. Although there is already a lot of such teaching occurring around the country it is largely through necessity rather than as a considered policy. The first move has to be the institutionalisation of multi grade teaching around the country. This started a number of years ago with AusAID funding for teacher training workshops and technical assistance for the design of course materials through AusAID. Trial workshops were held in three provinces. Teachers in these provinces were then paid a multi grade teaching allowance amounting to 10% of their gross salary. This arrangement has since been extended to all provinces following the recent determination agreed to between the TSC and PNGTA.

The situation in 1999 was that of the 373 schools that could have had multigrade classes only just over one in four actually did so. This is no better than it was a number of years ago.

At present, teachers are allocated to Grade 1 classes based upon the number of children. The same number of teachers then continue teaching the classes as they progress through the Grades **regardless of the number of children that might have dropped out on the way**. As an example, there might be 60 children in a Grade 1 and so two teachers will be allocated. If 18 children drop out between Grades 1 and 6 there will be only 42 left. There will still be two teachers allocated when there is only a need for one. Provinces need to see the economic advantages for the regrouping of children and the consolidation of classes wherever this is possible. The restructuring of the system means that regrouping of classes will be possible at Grades 3, 6, 9 and 11. In the old system this only occurred at Grades 7 and 11. The present situation is best shown by the chart below. This shows, for 2000 the way in which the pupil teacher ratio drops between Grade and Grades 7 and 8.

*Figure 20 Teacher pupil ratio by Grade, 2000*



As noted the improvement in the Disadvantaged School Allowance is designed to have a positive effect on teacher deployment. There is still a lot to be done, however. The criteria used for the teachers in a school to be eligible for the Disadvantaged School Allowance were outlined in a 1989 TSC Instruction. These criteria are shown below:

**CRITERIA**

*Any school more than 4 hours combined walking distance from a centre supplying basic services will be given disadvantaged status.*

*Basic Services include the following:-*

- 1. Medical care*
- 2. Stores carrying basic food and other items.*
- 3. Cheque cashing facilities.*
- 4. Minimum communications which include postal services and reasonable access to a transceiver.*

*Where a school has at least fortnightly communications by sea, land or air to a centre supplying these basic services, it will not qualify for disadvantaged status.*

These criteria clearly need updating. The term 'walking distance' would appear to preclude some of the many island schools where the mode of transport to the provincial centre is by sea. In addition, no high schools have yet been designated as disadvantaged. Although this was the case in 1989 it may well be that there are now a number of newly established high schools in truly disadvantaged areas.

Teacher deployment is critically important but it must also be acknowledged that there is also an absolute shortage of teachers and that this shortage is particularly acute in certain areas. One or two provinces have made a conscious attempt to try and do something for themselves in this area. A Local-level Government in the Southern Highlands has taken it upon themselves to sponsor teachers to a Primary Teachers' College. Gulf province have requested, through the Incentives Fund, sponsorships for their students who are not able to gain a place in the Teachers' Colleges through normal channels. An agreement has also been made between the Secretary for Education and the Gulf Province to allow a certain number of Grade 10 graduates into the Colleges. This is consistent with the Secretary's Circular concerning the entry level for Colleges rising to Grade 12. This Circular stated that Grade 10 students would still be allowed to go to Teachers' Colleges if they were from areas that had a proven teacher shortage.

There have been suggestions that further teachers colleges be built in order to increase output but this would be a most costly exercise. One encouraging initiative has been the introduction of trimesters at the Madang Primary Teachers College. This resulted in a group of students from Madang graduating in September, 2001 and have the effect of increasing output by 50%. Six of the seven teachers colleges (Holy Trinity being the exception) will take on this program in 2002. This means that 1200 students can be enrolled and all will be Grade 12 graduates with good grades. However, the budgetary situation in 2002 will mean that the colleges can be expected to struggle during the 3<sup>rd</sup> semester.

### ***Community involvement***

There have always been significant contributions made to education by the church agencies, individual community groups, NGOs and, to a lesser extent, by the private sector resource developers. These will need to be continued if the ambitious reform program is to be fulfilled.

There have already been numerous examples around the country of parents themselves taking on a large part of the burden of providing the required infrastructure for the reforms to take place. If this support continues there will be considerable scope for the reduction in infrastructure costs of the reforms.

The National Education Plan clearly outlines the responsibilities of different groups of people. These responsibilities are further reflected in the Provincial Education Plans.

There is a further area in which the community should become more involved, and that is in the development of locally based curriculum. This is particularly

important at the elementary level but there is provision for local communities to become involved in curriculum development at other levels as well.

### ***Self Reliance***

The principle of self-reliance has been preached by successive Governments but there is still little done within our institutions. There is enormous potential, particularly in vocational centres, for institutions to become increasingly self-reliant. Many mission agency vocational centres, as well as the Pacific Adventist University, have shown what is possible. It is now up to other institutions to learn from them.

The National Education Skills Plan, entitled “Enhancing Their Futures”, provides further examples of self-reliance within schools. A component of the GAQEP to provide incentives to schools that can illustrate initiatives that they have undertaken to become more self-reliant. The General Education Services Division will administer this component of the GAQEP. It is unfortunate that there was very little progress made on this in 2000.

### ***Cost Recovery***

The Resource Allocation and Reallocation Study suggests a number of areas of possible cost recovery. The Department has been successful in implementing a number of them.

The Teacher Education and Staff Development Division has been successful in instituting the user pay principle for many of its in service courses. This is most notably with the DEP(I). As noted earlier, participants at the residential courses are liable for paying the cost of their board and lodging. Participants at provincial workshops are expected to pay a fee of K50 for each of the courses that they undertake.

The Measurement Services Unit has long been deprived of the funding that they require to carry out their roles and responsibilities. The notion of charging for examinations was floated in the Resource Allocation and Reallocation Study. The problem with doing this was one of how to enforce it. It would be very difficult to refuse to certificate a student simply because he or she had not paid their examination fee. The funds would have to be deducted from source for such a proposal to be practical. It was tried in 1999, when the situation was critical. MSU were provided with funding through the Education Reform Support program. This was a precursor to the Government Assistance to Quality Education Program that started in 2000. The funds raised were sufficient to pay all of the MSU examination costs including the development, printing and distribution of all examinations. The money was then refunded to the fund from the third quarter subsidy to schools. The rates levied were K2 for Grade 6, K5 for Grade 8, and K10 for Grades 10 and 12. This practice was not carried over into future years.

## **THE ORGANIC LAW ON PROVINCIAL GOVERNMENTS AND LOCAL - LEVEL GOVERNMENTS**

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The major change in the law that has taken place that affects the provision of education services has been the passage of the Organic Law on Provincial Governments and Local - level Governments (OLPGLLG). This law has considerable implications for the general education sector.

The OLPGLLG represents a major effort by the national government to redirect the focus of government towards districts and local communities. This principle must underlie the provision of services by all government departments and donor agencies. This section relates specifically to the general education sector at national and provincial level, and as appropriate at local level. General education here is defined as all forms of education up to grade 12. This includes pre-school, elementary, primary, high, secondary and vocational education.

Consistent with this intent, important amendments were made to the Education Act and the Teaching Service Act. The relevant amendment to the Education Act makes provision for the establishment of District Education Administrator (DEA) positions. The relevant amendment to the Teaching Service Act vests disciplinary authority over teachers within a province in the Provincial Administrator.

Under the Organic Law on Provincial Governments and Local-level Governments, the operation and development of schools and the delivery of education services in the provinces and districts are directly the responsibility of Provincial and Local-level Governments. The Provincial and District administrations, in close cooperation with communities, school boards of management and education agencies such as the churches are responsible for the operations of these schools.

The National Department of Education can no longer receive budget allocations for school operations or infrastructure development. The 5000 or so Provincial Institutions in the National Education System must be catered for within Provincial, District and Local-level Government plans and budgets. They must be allocated resources within the budgets at those levels and receive support from parents and local communities.

# FINANCING OF EDUCATION IN PAPUA NEW GUINEA

This chapter aims to consider the trends in the Department of Education budget provision for the last five years. No attempt has been made to take into account the provincial and Local-level Government budgets that also play a large part in the financing of education in Papua New Guinea.

Put very simply, the budget is divided into two parts – the **recurrent** budget and the **development** budget. The recurrent budget includes all of those things that are required on an annual basis to actually administer the education system. This includes the salaries for all Department of Education staff. Teacher salaries are considered separately although they still constitute a part of the recurrent budget. The development budget, that as we will see is almost entirely donor funded, includes all of the new initiatives – the projects and the programs- that are being undertaken. These projects usually take a number of years to complete and so are included in successive budgets.

It is very difficult to effectively analyse the education budget over a period of time because the formulation of the budget changes from year to year. For example, the education subsidies being placed within the education recurrent budget gives the appearance of a very large rise in appropriation. This may not be the case. On the development budget side, there are often donor contributions that are ex budget (outside the budget). The European Union projects are included in the budget in 2002 whereas they were not in previous years.

## *Recurrent Budget*

The largest part of the recurrent budget is of course teacher salaries. This is dealt with in a separate section.

The recurrent budget for the Department comprises a number of Main Programs and Programs. Each of the Programs has a number of activities within it. These have remained relatively constant over the period that is being considered. The table shows all of the Main Programs and the Programs along with a few accompanying comments about the activities within each Program.

*Table 33: Structure of Department of Education budget*

<b>Main Program</b>	<b>Program</b>	<b>Comments on activities</b>
Pre primary, primary and Secondary Education	Policy Formulation and General Administration	All the policy, planning and administrative functions of the Department and Ministerial Services.  This Program also includes the Education Subsidies
	Development and Implementation of	Curriculum, Inspections and Guidance and

	Education Standards	Measurement Services
	Primary Education	Primary Education Coordination.  This Program also includes the costs of primary education in the NCD.
	Literacy and Awareness	Coordination and Provision of Literacy Awareness Services
	General Secondary Education	Secondary Education Coordination, including all of the National High School costs, and the College of Distance Education.  This Program also includes the costs of Secondary education in the NCD.
	Vocational Education	Vocational Education Coordination and Special Education.  This Program also includes the costs of vocational education in the NCD.
Tertiary Education	Technical Education	All aspects of Technical Education and the Office of Higher Education.
	Teacher Education	Pre Service and In Service Teacher Education.
Cultural Education	Library Services	Library operations
Government Archives Maintenance	Government Records and Archives	Maintenance and Storage of Government Archives

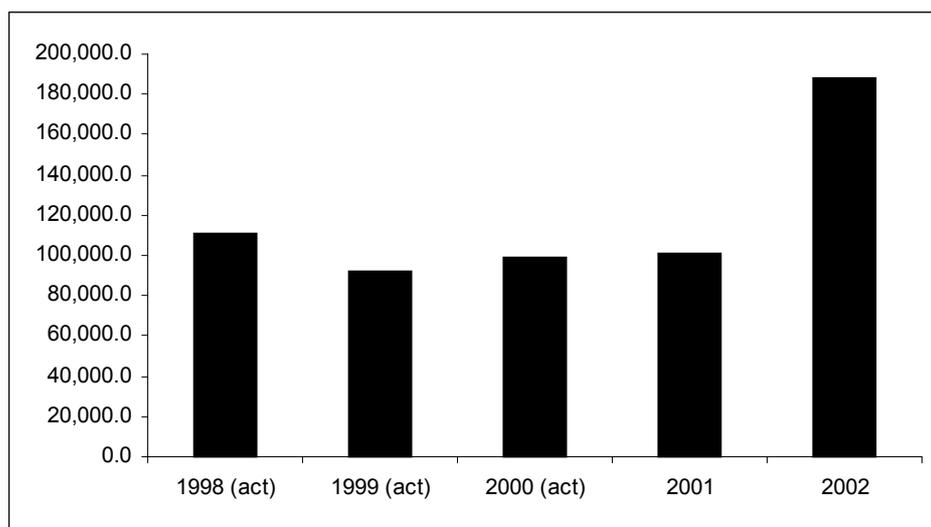
As will have been noted many of the activities included in the budget shown in the table are not directly related to the administration of the National Education System. Notwithstanding, the table below shows budget allocations by program for the years 1997 through to 2001. The accompanying chart shows total allocations. The act in brackets following certain years signifies that the figure is an actual figure expended.

*Table 34: Budget allocations by Program – 1998 to 2002 (K'000)*

	1998 (act)	1999 (act)	2000 (act)	2001	2002
Policy Formulation and General Administration	47,735.0	47,535.5	50,434.0	52,239.8	142688.1
Dev and Implementation of Education Standards	7,999.1	7,156.8	8,455.3	8,434.5	6907.7
Primary education	9,891.4	11,040.7	11,523.3	9,371.1	11192.6
Literacy and Awareness	209.4	189.8	193.1	226.6	208.5

General Secondary	9,595.6	9,125.0	10,642.2	11,456.6	8907.7
Vocational	1,323.1	1,463.5	1,698.3	2,638.5	2144.1
Technical	28,694.0	8,797.7	9,186.4	9,005.2	8911.1
Teacher Educ	5,088.8	5,595.6	5,662.6	6,459.9	6052.0
Library Operation	480.2	513.2	537.4	739.5	675.1
Govt Archives	251.4	255.4	419.8	489.1	347.6
Total	111,268.0	91,673.2	98,752.4	101,060.8	188034.5

Figure 21: Department of Education recurrent budget – 1998 to 2002



This chart would suggest that there have not been significant changes in the recurrent budget until 2002. The huge rise in 2002 was due to the exceptional appropriation for education subsidies. This issue of education subsidies is discussed separately.

As noted earlier, there are items included within the recurrent budget appropriation that are not strictly to do with the administration of the National Education System. These budget items include:

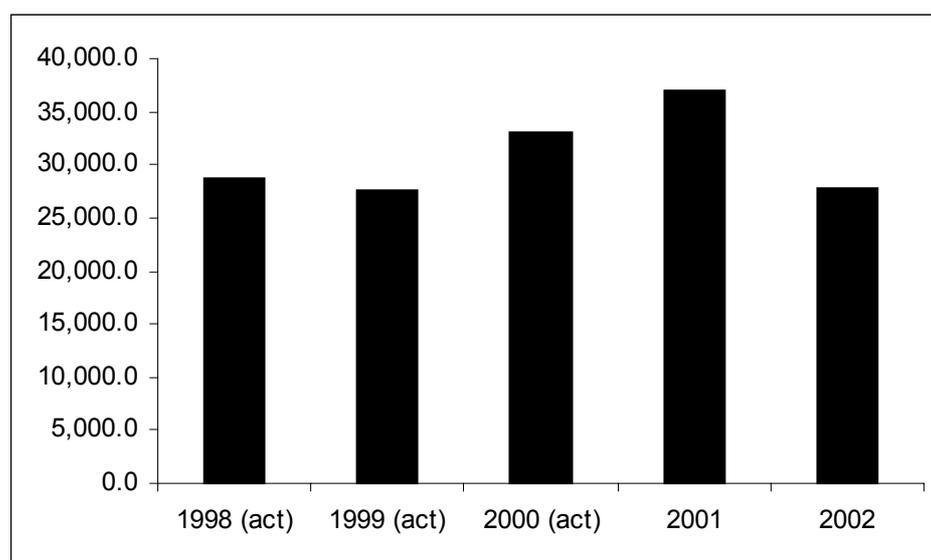
- Education subsidies
- NCD teacher salaries
- Office of Higher Education
- Technical Education
- Library operations
- Literacy and Awareness
- Government Archives

The next table and chart have taken these categories out of the recurrent budget to give a fairer indication of the money available to the Department for the administration of the General Education System.

*Table 35: Budget allocations for education administration by Program – 1998 to 2002 (K'000)*

	<b>1998 (act)</b>	<b>1999 (act)</b>	<b>2000 (act)</b>	<b>2001</b>	<b>2002</b>
Policy Formulation and General Administration	7,735.0	7,536.3	10,438.9	12,239.8	7688.1
Dev and Implementation of Education Standards	7,999.1	7,156.8	8,455.3	8,434.5	6907.7
Primary education	201.3	246.6	262.3	322.8	245.5
Literacy and Awareness	209.4	189.8	193.1	226.6	208.5
General Secondary	7,091.3	6,335.3	7,276.3	7,740.4	5544.2
Vocational	492.2	575.1	760.3	1,523.1	1128.9
Technical					
Teacher Educ	5,088.8	5,595.6	5,662.6	6,459.9	6052
Library Operation					
Govt Archives					
<b>Total</b>	<b>28,817.1</b>	<b>27,635.5</b>	<b>33,048.8</b>	<b>36,947.1</b>	<b>27,774.9</b>

*Figure 22: Department of Education 'administration' budget – 1998 to 2002*



The recurrent budget has dropped by some 25% in 2002 even though initial perusal of budget documents may have indication a substantial rise. Looked at on a per capita basis the administrative cost to Government ranged from a high of just over K40 in 2001 to about K29 in 2002.

### ***Development budget***

The development budget is that part of the budget that is set aside for 'projects', both new and continuing. There is great competition for development funding.

The table below shows the Development Budget by program from 1998 to 2002. The figures for 1998 through to 2000 are actual figures. This is significant because there is frequently slippage in the implementation of projects. This can

mean that the appropriation for a project in a given year may bear no resemblance at all to what is actually spent.

*Table 36: Development budget by Program – 1998 to 2002*

	<b>1998 (act)</b>	<b>1999 (act)</b>	<b>2000 (act)</b>	<b>2001</b>	<b>2002</b>
Policy Formulation and General Administration	23,828.0	1,748.3	1,771.5	2,153.5	6,118.6
Dev and Implementation of Education Standards	2,742.0	9,275.9	19,216.8	31,059.5	23,939.8
Primary education	10,268.4	16,451.6	45,320.1	6,661.5	18737.3
Literacy and Awareness			87.0	10,261.9	
General Secondary	17,185.1	37,076.5	19,987.8	4,330.8	500
Vocational		74.6	101.1	496.5	52,000
Technical	4,102.6	860.2			
Teacher Educ	9,858.0	11,138.2	7,542.0	23,360.8	26,243.6
Library Operation	1,302.9	321.5	278.9	2,229.5	
Govt Archives					
<b>Total</b>	<b>69,287.0</b>	<b>76,946.8</b>	<b>94,305.2</b>	<b>80,554.0</b>	<b>127,539.3</b>

The table below gives brief descriptions of the projects that are included within each of the programs. The programs within the development budget are the same as those in the recurrent.

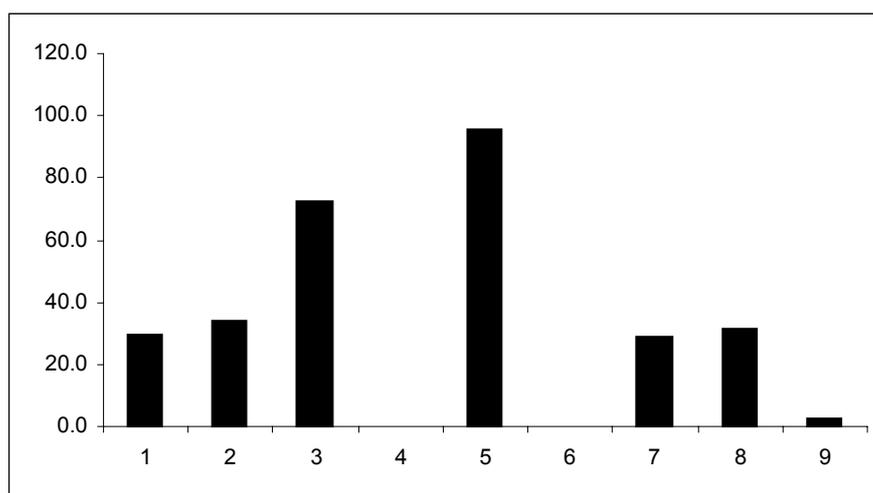
*Table 37: Description of projects by program, 2001*

<b>Program</b>	<b>Comments on projects</b>
Policy Formulation and General Administration	This Program includes the Capacity Building programs. Prior to 2002 it included the RMPA and PIU components of the World Bank funded Education Development Project.
Development and Implementation of Education Standards	The main projects in this component were the Inspections and Curriculum components of the World Bank funded Education Development Project. The Basic Education Infrastructure and Materials Project and CRIP are now the two major ones that explain the large increase in amounts for this program in the last two years.
Primary Education	This is the Commodity Assistance Support Project (CASP).
Literacy and Awareness	The sole project in this program was the JICA funded Media Centre.
General Secondary Education	The main projects include infrastructural support for upper secondary education from China and AusAID and development maintenance component of the World Bank funded Education Development Project. The big drop in the Program is due to the phasing out of the Australian Secondary School Scholarship Project. This was worth K24.4m in 1999.
Vocational Education	The GTZ project was the only one in this program but from 2002 it includes the very large European Union funded Human Resource Development 2 program.
Technical Education	No projects at the moment. The last one was the AusAID funded Home Colleges project.

Teacher Education	There are two projects in this Program – the Elementary Teacher Education Support Project (ETESP) and the Primary and Secondary Teacher Education Project (PASTEP).
Library Services	This was the Library component of the World Bank funded Education Development Project. In 2002 there are no library related projects.

Some of these programs have only been allocated very small amounts of development funding. The actual development budget expenditure by sector from 1997 to 2000 is shown in the chart below. As can be seen primary and secondary education are the sectors that attract the bulk of the development budget. This is in line with the major Government priority of providing a quality basic education for all Papua New Guineans. Much of the expenditure in the teacher education and the development and implementation of education standards programs is targeted at elementary and primary education. The amount of money spent on secondary education may surprise some but these figures include the secondary school scholarship project and a number of schools being provided with infrastructure. These are both high cost activities.

*Figure 23: Development Budget by sector – 1997 to 2000 (K millions)*



#### Key

1	Policy Formulation and General Administration	6	Vocational
2	Dev and Implementation of Education Standards	7	Technical
3	Primary education	8	Teacher Education
4	Literacy and Awareness	9	Library Operation
5	General Secondary		

The percentage of the development budget that is donor funded continues to rise. In 2001, for example, K71.7m of the education development budget came from donor agencies – this was 90% of the total. The table below shows this information by program for the years 2000 and 2001.

*Table 38: Percentage of development budget funded by donors by program – 2000 and 2001*

	<b>2000</b>	<b>2001</b>
Policy Formulation and General Administration	45%	77%
Dev and Implementation of Education Standards	91%	89%
Primary education	100%	100%
Literacy and Awareness	99%	100%
General Secondary	95%	92%
Vocational	100%	
Technical		
Teacher Educ	96%	84%
Library Operation	71%	80%
Govt Archives		
<b>Total</b>	<b>94%</b>	<b>90%</b>

The relative contribution of the various donor agencies is shown in the table below. Please note that the European Union projects are not included in the Development Budget.

*Table 39: Share of Development Budget by donor, 2000 and 2001*

	<b>2000</b>	<b>2001</b>
World Bank	5.9%	20.2%
AusAID	80.4%	65.3%
European Union	3.1%	
New Zealand	0.6%	
JICA	8.9%	14.3%
GTZ	1.0%	
UNFPA	0.1%	0.2%

### ***School Fee Subsidies***

It has long been recognised that Government is not going to be able to achieve its target of Universal Primary Education without compulsory education. Compulsory education has got to be free. Free or heavily subsidised education is also, of course, an extremely popular policy politically. There are a number of key dates that help map out the recent history of the subsidy in the country. The Government Assistance to Quality Education Program (GAQEP) has been mentioned frequently throughout this book and is the latest in a long line of Government initiatives designed to take the pressure of paying very high levels of school fees off the parents. It was implemented in 2000 and 2001 and came about following problems that have been identified in the implementation of previous versions of the school fee subsidy policy.

The argument has usually revolved around names – should it be called ‘free’ education or should it be described as ‘subsidised’ education? Using the basis that nothing is free the term subsidised is generally preferred.

In **1993** the Wingti Government introduced a free education policy that was largely seen as being a ploy to win the 1992 general election. Parents were told that they were not going to be required to pay any fees at all. This was seen to include boarding fees, agency fees and project fees. Many problems arose including a large rise in enrolment, which is a good thing but the rise was such that the system was unable to cope, in terms of teacher supply and materials, with the many extra children in Grade 1. Numbers in Grade 1 in 1993 rose by some 12% against the average rise of about 4%, the figure that was used for all future planning and teacher projections. This very high enrolment worked its way through the system and is still causing problems today. In the end, it became clear that ‘free’ education was not sustainable and schools started to charge fees again – indeed many schools charged project fees even in 1993.

The School Fee Subsidy was reintroduced, following the failure of the Wingti initiative, in **1996** with K32m provided to the Department. Financial support to schools from the National Government continued in **1997, 1998** and **1999** in various forms. The amounts of money allocated each year varied as did the method of distributing the money. Lessons had clearly been learnt. The term ‘free’ was never used. The idea of a subsidy was stressed in all the rhetoric and it was portrayed as being to take some of the burden away from parents whilst still emphasizing the need for partnership. Indeed, the Departmental theme for 1998 was ‘Partnerships in Education’. The objective of this theme was to reiterate stakeholders participation in education development and their role in sharing the cost of education. Successive Ministers and Departmental officials made sure that this message was relayed to the people at numerous forums and gatherings around the country.

There were a number of issues that arose from the policies and administration involved with the school fee subsidy in these years.

1. It was found that small schools in particular were unable to effectively spend the funds. In the really remote areas, for example, schools would have to spend large amounts of money simply to get to a place where they could actually spend the money. In addition, some schools did not have bank accounts in which to deposit their cheques. In others, changes in the Headteacher or the Chairman of the Board of Management meant that schools were unable to access their bank accounts. This was the reason behind a major change in 2000 toward central purchase and distribution of materials as opposed to cheques being sent directly to schools.
2. At the post primary level different subsidies were given to boarding and day students. This had the effect of encouraging parents to place their children in boarding schools. Questions were also asked as to whether the state should really be paying for the board and lodging of students during a time of financial difficulties and also when only a small percentage of the population ever had the opportunity of such an education. Against this argument would be that many of the boarding students come from the remote areas where the parents have less access to income generating activities and so will be less

capable of paying the school fees required. In later years, as we will see, the subsidies granted were the same for all students and provincial governments were encouraged to utilise their component of the school fee subsidy for boarding subsidies as they saw fit.

3. The very large subsidy granted to Grade 7 and 8 primary school students was inconsistent with the education reform agenda. The problem was that many people still considered Grades 7 and 8 a part of high school education. Consequently, the allocation to primary Grade 7 and 8 students was the same as that for the day students in high schools. The rapid rise in numbers in the upper primary sector meant that this policy would not be sustainable over even a short period of time. This problem was alleviated in latter years but reemerged following an National Education Board decision in 2001 regarding 2002 school fee limits.
4. The acquittal process was causing problems in some areas. The regulations were such that schools had to acquit their 1<sup>st</sup> quarter subsidy before they could receive the 3<sup>rd</sup> quarter allocation.
5. The main Government thrust in education has always been to achieve Universal Primary Education. The comparatively large parts of the school fee subsidy program directed at the post primary section runs contrary to this. Generally speaking, everybody in the community benefits from children receiving a basic education whereas the major beneficiaries of post primary education are those who receive that education. There is a strong argument for those that receive post primary education to pay a much larger proportion of the costs of providing that education. Against that argument is the fact that there may be a significant proportion of the population who would not be in a position to pay the fees required. It is for this reason that an effective and efficient scholarship system needs to be developed to ensure that scholarships reach talented children who have genuine problems in being able to access education opportunities.

There was a slight change in 1999 when a certain amount of money was held back by the Department. This was, firstly, to pay for recurrent activities that had not been included in the budget. The Inspections and Guidance Division and the Measurement Services Unit were particularly badly hit and were given no money at all for operational purposes. Secondly, money was aside for primary school infrastructure. This should have been included in the Local-level government budgets following passage of the Organic and so the Department lost the Access to Grades 7 and 8 project. This never happened for a variety of reasons and the Department felt it important that support be given to newly established primary schools. All of this money held back by the Department from the School Subsidy funds was termed 'Reform Support'.

It was because of the problems relating to subsidies for basic education that there was a change in strategy for the **2000** subsidy scheme. It was decided that the Department would bulk purchase, and then distribute, basic school materials for the elementary and primary schools. Eight tenders were let – four for the procurement of materials (one for each region) and four for the distribution of then materials to each individual school. The lead time was such that no materials arrived in any schools until early 2001. This was only in the southern

region. The Department is still involved in court action regarding the materials for the other three regions.

Cash grants continued to be sent to post primary institutions in 2000.

In addition, the Reform Support program of 1999 was expanded considerably and developed into the Government Assistance to Quality Education Program (GAQEP). This is described fully in the 2001 section below.

### ***2001 School fee subsidies***

The procedures for the Government Assistance to Quality Education Program (GAQEP) was adapted slightly to take account of lessons learnt from previous years. The GAQEP in 2001 comprised a number of components.

#### *Elementary and primary education*

The comparative failure of the centralised purchase of materials in 2000 meant a rethink of this component. Cheques were sent to provinces for the elementary and primary schools based upon the projected enrolments by school. The Department was again responsible for the 1st and 3rd quarters, with the provinces taking on the 2nd and 4th. Provinces were given the option of either sending the money out directly to the schools or to purchase materials themselves and distribute them to the schools. A few provinces were innovative enough to distribute cash to a number of their larger schools, those that had the capacity to spend it efficiently, whilst purchasing materials for the remainder of the institutions.

Provinces were required to send in acquittals and enrolment returns from the 2nd quarter in order to qualify for the 3rd quarter subsidy. Many of these were very late in arriving which resulted in the 3rd quarter grants being delayed. This component of the GAQEP was administered by the Curriculum Development Division.

#### *Secondary and vocational education*

All secondary and vocational schools received their K150 per child subsidy grants from the National Department during the school year. It was distributed in two tranches – in the 1st and the 3rd quarters. Provinces were expected to distribute grants in the 2nd and 4th quarters. Funds were released very early in the 1st term, which was a considerable improvement on recent years.

The General Education Services Division administered this component.

In addition to these cash allocations from the National Government there was also funds made available in the provincial budgets for school fee subsidies. These are shown in the table below for 2001.

*Table 40: Provincial budget school fee allocations, 2001 (K'000s)*

	Allocation
Western	607.2
Gulf	422.9
Central	787.6
NCD	

Milne Bay	1,181.1
Oro	539.1
SHP	150.0
Enga	1,007.3
WHP	660.4
Simbu	1,851.2
EHP	4,044.2
Morobe	1,731.8
Madang	1,417.6
East Sepik	870.5
Sandaun	675.9
Manus	306.1
NIP	1,238.6
ENBP	1,814.2
WNB	1,694.3
Bougainville	
Total	21,000.0

#### *Teacher education*

Funds were made available to resurrect the National In Service Training Week, to adequately fund the practical component of the primary teacher training program and to properly equip the Primary Teachers Colleges.

The Teacher Education and Staff Development Division administered this component.

#### *Inspections and Guidance*

Funds were made available to allow all Inspectors to be able to visit as many schools in the country as possible. This has not been the case in previous years. It is difficult to ascertain just how successful this particular component has been.

The Inspections and Guidance Division administered this component.

#### *School Infrastructure*

Grants have been made available, through the District Education Administrators, for primary schools that had their first Grade 7 classes in 1998 and 1999. It is in the form of an establishment grant. The success of this component has varied across the country and is, to a great extent, dependent upon the capacity of the District Education Administrator to be able to develop, with the support of the Headteacher and Board of Management, a suitable program of works. The five trial provinces in the Basic Education Infrastructure and Curriculum Materials Project (BEICMP) have not been included in this component of the GAQEP.

The Planning, Facilitating and Monitoring Division administered this component.

There has also been money set aside for urgent maintenance work to be carried out at the National High Schools, which is administered by the General Education Services Division.

### *Student support*

Funds were made available, amongst other things, for student scholarships for post primary institutions and grants for schools initiating self reliance activities.

Basic school administrative materials, including stock books and transfer certificates, have also been purchased and will be distributed to schools.

The General Education Services Division administered this component.

### **2002 School fee subsidies**

Late in 2001 Government decided to budget a large amount of money for school fee subsidies in 2002. This was to be partly financed through the sale of the Papua New Guinea Banking Corporation. K150m was the figure noted in the media as being available for school fee subsidies. This was portrayed in some parts of the press as being the 'free education' policy resurrected, although Government continued to call it subsidised. In effect, parents would not be required to pay any fees at all and Government would provide subsidies to all schools based upon the fee limits for each sector of education as proposed by the National Education Board.

However, there was only K135m in the budget that would be sent directly to the schools. The other K15m was to be in the form of Grade 7 and 8 materials supplied to the primary schools as a part of the CASP – Commodity Assistance Support Project funded by AusAID.

The table below shows, by sector, the NEB fee limits, the projected enrolments and the total of the subsidy that will be paid out. The EP to Grade 2 sector includes children in Grades 1 and 2 in both the elementary schools and the community schools. It has been assumed that 80% of students attending post primary institutions are boarding students.

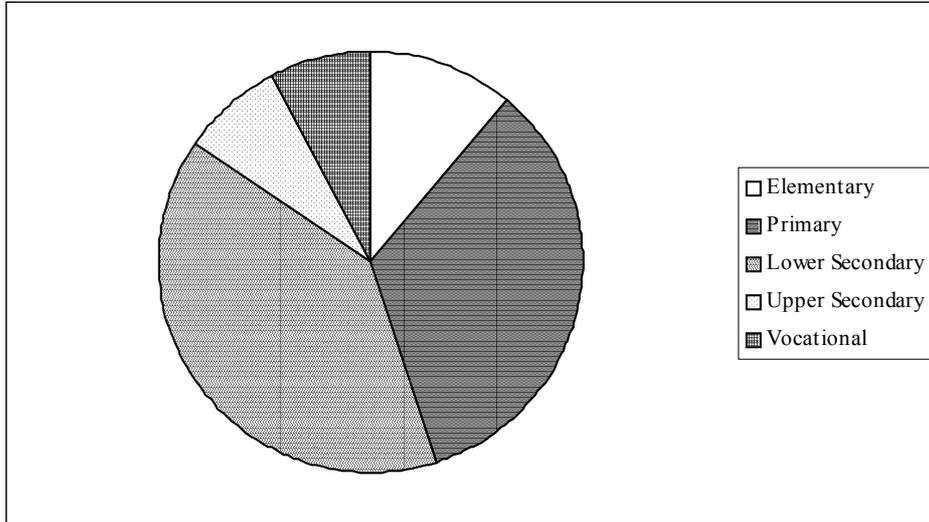
*Table 41 2002 allocation of school fee subsidies*

	<b>NEB fee limits</b>	<b>Projected enrolments</b>	<b>Total (K'000s)</b>
<b>EP-G2</b>	40	408239	16,330
<b>G3-G6</b>	80	382945	30,636
<b>G7/8 Prim</b>	250	77755	19,439
<b>Sec 7-10(D)</b>	600	13860	8,316
<b>Sec 7-10 (B)</b>	900	55441	49,897
<b>Voc (D)</b>	600	2715	1,629
<b>Voc (B)</b>	900	10861	9,775
<b>G11/12 (D)</b>	1000	1990	1,990
<b>G11/12 (B)</b>	1200	7962	9,554
<b>CODE</b>	40	26000	1,040
<b>Total</b>			148,606
<b>Perm</b>	40	12000	480
<b>Grand Total</b>			<b>149,086</b>

Of particular note should be the very high differential between the fee limits for Grades 3 to 6 and those for Grades 7 and 8 in primary education sector. This is one area that will not be sustainable because of the rapid rise that is projected in Grade 7 and 8 primary enrolment.

The pie chart below shows the break up of the proposed education subsidies by sector.

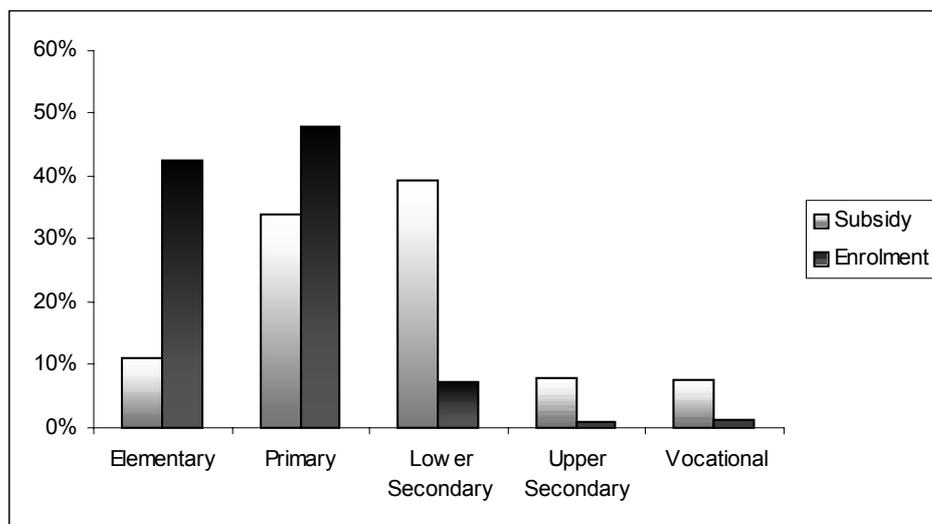
*Figure 24: Education subsidy break up by sector, 2002*



It is clear from both the chart and the table that the primary and lower secondary sectors get the largest part of the cake, with 34% and 39% respectively.

The next chart compares the percentage of the subsidy received by each sector with the percentage of the projected enrolment in that sector. This illustrates the fact that even though both the elementary and primary sectors have greater than 40% of the projected enrolments they have far less in terms of their share of the subsidies.

Figure 25: Percentage of projected enrolment and subsidies received by sector



In fact, if we consider basic education to be elementary and primary sectors through to Grade 8, then the respective shares of subsidies and proportion of enrolment is shown in the table below. This indicates that 55% of the subsidy has been allocated for only 10% of the enrolments in the post primary sector. This is despite the fact Government's stated objective is basic education for all.

Table 42: Share of subsidies and projected enrolments by major sector

	%age of subsidy	%age of enrolment
<b>Basic Education</b>	45%	90%
<b>Post Primary</b>	55%	10%

One of the key reasons for this great disparity is the fact that Government has agreed to pay boarding as well as tuition fees for all post primary schools. Many question whether this should be the case when only the privileged few are able to have the opportunity of such an education.

It remains to be seen as to whether the worries of many regarding the administration of the subsidy program are realised or not. These concerns are as a result of the previous attempts in 1993. A major concern revolves around the attitudes of parents to contributing to schools in kind when they have been led to believe that education is free.

The other components of the 2000 and 2001 GAQEP such as the support for infrastructure, inspections and guidance, teacher education etc, were not catered for in the 2002 education subsidy program. This will undoubtedly cause problems for the Department during 2002.

### ***Quality Initiatives in Papua New Guinea Education (QIPE)***

Towards the end of 2000 AusAID offered the Department of Education a total of K10m to be spent on quality initiatives. This was called the Quality Initiatives in PNG Education program. This support was to be paid in two tranches of K5m.

The first of these was received in January of 2001. Funds were placed in the National Education Trust Account. These funds were to be expended on agreed activities. The list of activities to be funded include:

- Special Audit Inspections / Investigations
- Technical Vocational
- Inspections and Guidance
- Training and Skills Development
- Printing
- Publication of awareness documents
- Auditing of TSC positions, and
- Development of Grade 11 / 12 course under the College of Distance Education.

It is unfortunate that the Department has not been eligible to make use the second tranche of K5m. This was because of the inability to adequately spend the original allocation. The reasons for this are many and it is very easy to be critical. Quite simply, the Department has not got the capacity to be able to spend large amounts of 'new' money at short notice in worthwhile areas. The Department, quite rightly, set up a high level committee to consider requests for the money and a simple format was established for applying for funds. This committee meets as and when it is needed. Due to the money becoming available late in 2000 and a number of Divisions not having the lead-time to be able to prepare for new activities. There was a reluctance to spend money purely for the sake of it and officers are becoming aware of the importance of sustainability. Noted below is a list of some of the activities funded under the QIPE:

*Table 43: QIPE expenditure by sector, 2001*

<b>Division</b>	<b>Amount (K'000s)</b>
Teacher Education and Staff Development	1329.7
Planning, Facilitating and Monitoring	159.6
General Administration and Personnel	173.7
Technical and Vocational Education Training	195.1
Finance and Budgets	248.9
Audit Branch	5.1
General Education Services	397.8
Inspections and Guidance	629.5
NCD Education	162.2
Policy, Research and Communications	462.9
TSC	2.3
National Literacy and Awareness Services	14.4
Central Province education services	13.3
<b>Total</b>	<b>3,794.5</b>

## **EDUCATION PROJECTS**

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A number of projects have been noted throughout this book. This chapter attempts to bring them all together with a brief description of each to show how they affect education in the provinces and the districts.

There is a major problem emerging that affects many of the projects that are described here. This is the problem of counterpart funding. Counterpart funding is the money the Government of Papua New Guinea is expected to put in as it's part of each project. This has caused particular concern in relation to the World Bank Education Development Project, some components of which require large amounts of Government funding, and also some of the AusAID projects.

### ***AusAID projects***

#### **Institutional Strengthening to Department of Education (ISP)**

The ISP was designed to help the Department of Education implement and coordinate the education reform agenda. Improved planning and management capacity resulting from the project should enable the school system to increase enrolments, quality, student access and cost effectiveness.

The major components of this project were the:

- Establishment of the Facilitating and Monitoring Unit (FMU)
- Construction of MSU building
- Capacity building in FMU, MSU, the Department of Education and Provincial Divisions of Education
- Development of an Education Management Information System (EMIS)
- Provision of computers and basic computer awareness to Provincial Divisions of Education
- Development of a computer based education planning model

This project was completed at the end of 1999 but funding for the continuation of a number of the activities in 2000 and 2001 has been extended. It will be followed by another capacity building project, or program.

Value:	A\$4.6m
Length of project	3.5 years
Date Commenced	20/8/1996
Estimated completion date	31/12/2000

#### **Elementary Teacher Education Support Project (ETESP)**

The objective of this project is to enable the training of elementary teachers (5000 to 6000) at the rate required to meet planned targets over the three years of the project.

The major components of this project are the:

- Training of Elementary Teacher Trainers

- Delivery of Elementary Teacher training workshops
- Development of curriculum for elementary teacher education
- Development of Self Instructional Units for elementary teacher trainees
- Development of orthographies
- Strengthening of capacity in financial management at the provincial level
- Construction of houses for Elementary Coordinators in the provinces.

As noted earlier this project was completed at the end of 2000 and a two year extension has been agreed.

Value:	A\$16.5m
Length of project	2.5 years
Date Commenced	8/9/1997
Estimated completion date	September 2002

### **Targeted Training Project (PATTAP)**

This project is designed to target training assistance more effectively. Components include technical assistance to the Departments of Employment and Youth and Personnel Management, to support the selection and placement of long term awardees, to manage the delivery of short-term programs and to evaluate training effectiveness.

Value:	A\$15m
Length of project	5 years
Date Commenced	2/4/1998
Estimated completion date	14/1/2002

### **Australian Development Scholarships (ADS)**

This project supports training for Papua New Guinean tertiary students in Australia. 150 candidates commenced in 1999 when there were 400 students in Australia. ADS awards are in three categories – public sector, private sector and Open.

PATTAP (above) will support the delivery of ADS over the next five years.

Value:	As above
Length of project	On going
Date Commenced	1/7/1989
Estimated completion date	On going

### **Primary and Secondary Teacher Education Project (PASTEP)**

The purpose of the project is to assist Papua New Guinea raise the quality and relevance of teacher education to meet the requirements of education reform agenda, to promote and implement gender equity approaches in the teaching system and to enhance change management. The six main components are:

- Primary Teacher Education,
- Secondary Teacher Education,
- Special Education Teacher Education,
- Gender Equity Program,
- Infrastructure Support and

- Distance Education.

A recent refinement to the project has seen AusAID and the Department of Education have approved a design for the staged implementation of Learning Centres at the seven Primary Teachers' Colleges (PTCs) and the PNG Education Institute (PNGEI). The Learning Centres will provide primary teacher trainees with access to computers for the purposes of developing basic computer literacy through training and regular use for a range of work and study purposes.

Value:	A\$18m
Length of project	6 years
Date Commenced	February 1999
Estimated completion date	2004

### **Curriculum Reform Implementation Project (CRIP)**

CRIP is a major project to support the review and revision of curriculum initiatives under the reforms. The project will be extensive in its implementation phase. There are five components to the project:

- To assist in the development of a new relevant curriculum for Papua New Guinea schools from prep to Grade 8;
- To assist with the development of new teaching and learning materials and improve the distribution of these materials to schools;
- To train teachers through in service to use the new curriculum;
- To monitor the effectiveness of the new curriculum; and
- To manage the project in a cost effective and sustainable manner.

Value:	A\$30m
Length of project	5 years
Date Commenced	October 2000
Estimated completion date	20/11/2005

### **Upgrading Provincial High Schools (UPHS)**

Two schools – St Ignatius in the Sandaun Province and Malabunga in East New Britain—will be upgraded. This is to help Papua New Guinea achieve one of the objectives of the reform agenda, that of raising the number of Grade 12 graduates from 1000 in 1995 to 5000 by 2004. There will be 180 places for Grades 11 and 12 at each of the two schools. AusAID previously upgraded four Provincial High Schools – Kondiu, Namatanai, Papitalai and Fatima.

#### St Ignatius

Value:	A\$4.5m
Length of project	4 years
Date Commenced	7/8/1997
Estimated completion date	30/6/2001

#### Malabunga

Value:	A\$4.5m
Length of project	4 years

Date Commenced 7/6/1999  
Estimated completion date 30/6/2003

### **National Trade Testing and Certification Support Project (NTTCSP)**

This is the major program in Technical Education. It will establish a number of trade testing centres in Papua New Guinea as well as strengthening the National Apprenticeship and Trade Testing Board (NATTB). The major components are the strengthening of the NATTB, the development of training resources in seven core areas, the development of trade testing centres and the strengthening of the Papua New Guinean capacity to train to test standards.

Value: A\$18m  
Length of project 5 years  
Date Commenced 7/7/1997  
Estimated completion date 24/7/2002

### **Basic Education Infrastructure, Curriculum and Materials Project (BEICMP)**

This project started in January 2000 and is concerned with a number of areas including:

- The upgrading and maintenance of existing infrastructure at elementary, community and primary schools;
- The provision of textbooks and other equipment for elementary, community and primary schools

It is intended that this project will use existing Papua New Guinea systems to achieve desired outcomes. This will mean that there is a need for a large amount of training at the provincial, district and community levels.

This project was initially in five provinces – Morobe, West New Britain, Gulf, Eastern Highlands and the National Capital District. The bulk of the work in these provinces was completed by the end of 2001.

It is intended that a further five provinces will start in mid 2002. These provinces will be Simbu, Sandaun, Bougainville, Oro and Western. The title of the project is also likely to change – possibly to the Basic Education Development project. This is to reflect the fact that the curriculum component of the project has been largely passed over to CRIP.

Value: A\$28m  
Length of project 2.5 years  
Date Commenced 6/3/1999  
Estimated completion date 31/8/2002

### **Secondary School Students Project (SSSP)**

This program was discussed earlier in the book. The 1999 intake was the final one and they completed their studies at the end of 2001. The AusAID funding for this project has now been reallocated to other projects within the education sector.

Value:	A\$9m
Length of project	1 year
Date Commenced	1989
Estimated completion date	31/12/2001

### **Monitoring and Review Group (MRG)**

This group of four independent technical experts has been engaged to provide high quality advice on a range of issues affecting the impact of AusAID's assistance to PNG's education system.

### **Commodity Assistance Program (CASP) – Phase 4**

Since 1995 AusAID has provided curriculum materials to almost 350 primary schools for Grades 7 and 8 in three separate phases. AusAID has also provided language and mathematics kits for elementary schools.

### **Commodity Assistance Program (CASP) – Secondary equipment**

This component of CASP has provided equipment to six secondary schools, some of which are being physically upgraded by other donors.

### **Incentives Fund**

This project is not specific to education but there are possibilities for provinces and individual institutions to benefit from the Fund. The objective of this project is to reward excellence. The first awards were announced in early 2001.

There are two components to the Incentives Fund – the Policy component and the Program component. The **Policy** component is the one that is of most interest. This component rewards provinces that have best implemented aspects of Government policy. The Department, in consultation with the Managing Contractor of the Incentives Fund and AusAID, set criteria to be used for identifying the provinces to benefit. In the first round of awards the five provinces were Gulf, New Ireland, East New Britain, Milne Bay and the National Capital District. Each of these provinces has now been allocated K500,000 that is to be spent on education projects in the province. It is not clear as to exactly what the future holds for this policy stream although a review was carried out in early 2002.

The **Program** component is open to any organisation, either private or public. Organisations submit project proposals to the Incentives Fund. In order to qualify for an award the organisation has to demonstrate excellence in their particular field and also a good record of financial and project management. Examples of organisations that have benefited from this component in the education sector are:

- the Salvation Army, which submitted a proposal for the provision of health and education services in Port Moresby, (K1,283,750)
- the Simbu Provincial Government for primary school infrastructure, (K2,947,594)
- Marianville High School for the upgrading of facilities for taking on Grades 11 and 12, (K4,030,405)
- University of Papua New Guinea for the upgrading of its distance education program, (K4,504,802)and
- Divine Word University

## **Quality Initiatives in PNG Education (QIPE)**

See section on Financing Education in Papua New Guinea.

### ***World Bank projects***

There is only one World Bank project although there are many components to it. It should be realised that this project is funded by a loan from the World Bank, or the International Bank for Reconstruction and Development to give its full name.

The project started in 1993 and has been extended on a number of occasions. It was completed at the end of 2001 and an Implementation Completion Report is currently being written.

The components of the project were as follows:

#### **Project Implementation Unit**

The Project Implementation Unit (PIU) was established to manage and implement the whole of the Education Development Project. The unit consists of a Coordinator, Accountant, a High School Maintenance Officer and a Procurement Officer.

#### **Curriculum**

The curriculum component of the project is almost entirely the resupply of textbooks for community and primary schools and also the new texts needed in support of the education reforms. Ultimately, very few new texts were produced.

This is by far the largest component in money terms.

#### **Regional Management and Planning Advisors**

This project has an objective to train four Regional Management and Planning Advisors (RMPAs), to develop training manuals and to run workshops on a provincial basis for District Education Administrators. The RMPAs have undergone both in house and external training. The in house component has largely been done with FMU members. The external training was conducted at the International Institute of Education Planning in Paris.

The RMPAs have now moves to the regions following their training and two houses have already been built for them.

#### **Library**

The library component of the project seeks to improve school libraries in all sectors. This has been achieved through heavily subsidising the purchase of library books. The more remote a school is the greater is the subsidy. Many schools in the country have taken advantage of this component.

#### **College of Distance Education**

This component of the project was to develop a Certificate of Business Studies course for the College of Distance Education. This has been completed and students are now enrolled on the course. It was also intended to develop Grade 11 and 12 courses but this never materialised.

### **Inspections and Guidance**

In order to increase the capacity of the Inspections and Guidance Division (IGD) houses are being built in all provinces for new Inspectors. Training opportunities, both in country and overseas, and computers have been provided for Inspectors and Guidance officers during the latter stages of the project. A number of Inspectors and Guidance Officers have benefited from study tours to the UK and Australia respectively.

### **Development Maintenance**

This component gives cash assistance to schools for infrastructure development. Provincial High Schools, Vocational Centres and College of Distance Education centres are included in this project component.

### **Research studies**

A number of studies were required under the project. The Resource Allocation and Reallocation Study has been completed. The Female Participation study has been completed by AusAID as has been the Literacy Review carried out in 2000.

## ***New Zealand aid projects***

These projects are administered by the New Zealand Overseas Development Agency (NZODA). There have been two main projects.

### **PNG New Zealand School Journal project**

This project has trained Papua New Guinean writers to write both fiction and non-fiction stories and poems. This is done through a series of national workshops and mini workshops. The New Zealand component of this project now provides a small amount of technical assistance and facilitates the running of the workshops. The stories prepared are then produced in journal form for lower and upper primary levels, printed and distributed. It is anticipated that there will be two junior and two senior issues a year sent out free to schools when the project is fully mobilised. To date four issues have been printed.

### **New Zealand Secondary Scholarship Project**

This is a similar project to the Australian Secondary School Scholarship Project although rather smaller. In 1999 there were approximately 150 Papua New Guinean students studying in New Zealand. Students repeat Grade 10 before moving into Grades 11 and 12 in their New Zealand schools.

In 2000 NZODA funded workshops for lower primary teachers in four provinces.

In addition to these, the NZODA is funding a study entitled '*Mi Lusim Skul – Retention and Participation of students in schools in PNG*'. The National Research Institute, in collaboration with the Research and Evaluation Branch of the Department, is carrying out this study. It is expected that the findings will be published during 2001.

## ***European Union aid projects***

A Human Resource Development Project II (known as HRDPII) was initiated during 2000 and comprises a number of components:

- Infrastructure provision at the University of Technology.
- Infrastructure support at Kabaleo Primary Teachers College.
- Provision of equipment for the training of vocational and technical college teachers.
- The upgrading of four Provincial High Schools to secondary status – Mt Hagen, Wabag, Popondetta and Hutjena.
- The upgrading of three vocational centres, Kware in Milne Bay, Hoskins Girls in West New Britain and Malahang in Morobe, to allow them to upgrade the courses that they are teaching.
- A scholarship program both in country and overseas.
- A maintenance program for Provincial High Schools and vocational centres.

### ***Asian Development Bank***

The Asian Development Bank (ADB) has granted a large loan for higher education. This has largely been used by the Universities and for higher education staff to upgrade their qualifications through the completion of Ph.D. studies in overseas universities. There have also been a variety of consultancies provided including in the area of teacher education curriculum.

### **The Employment Oriented Skills Development Project.**

This project has three main components:

- The implementation of a legal and policy framework which will include the reduction of regulatory impediments to informal sector development,
- Institutional capacity building of training providers through the establishment of a Skills Training Resource Unit, and
- The establishment of a sustainable financing mechanism for short term employment oriented skills training.

This project will initially be trialled in three provinces. These were originally intended to be Morobe, Western Highlands and the National Capital District. West New Britain has now been added to this list of trial provinces. AusAID have also provided co financing for this project.

Value:	A\$13m (AusAID contribution)
Length of project	3 years (AusAID input)
Date Commenced	2000
Estimated completion date	2003

### ***Japanese aid projects***

Japanese aid projects are largely administered through the Japanese International Cooperation Agency (JICA). The major education project that JICA has implemented in recent years is the construction of the Port Moresby National High School. The Literacy and Materials Production (LAMP) centres that have been established in all of the provinces are an earlier initiative of JICA. The major project that they have been concerned with is the Media Centre located at the Curriculum Development Division. This was completed in early 2001. AusAID will provide the equipment and some Technical Assistance as a part of this project.

## *Chinese Aid Projects*

The major contribution that the Chinese are making in the education field is the construction of the Wawin, or Markham Valley, National High School. This project has been on the books for a very long time but the school was finally completed in early 2000. The first intake was in January 2001.

## **FUTURE PROJECTS**

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There is just one major AusAID funded project on the horizon at present. This is not including future rounds of existing projects such as the CASP, and the extensions to both the ISP and the ETESP.

This is the **Education Capacity Building Program** which is a follow on from the Institutional Strengthening Project. Design work was carried out in 2001 in preparation for a mid 2002 start.

The **European Union** is preparing a project on basic education infrastructure rehabilitation in rural areas. It is called the Improvement of Rural Primary Education Facilities Project and will be implemented in three disadvantaged districts:

- Ambunti in the East Sepik
- Jimi in the Western Highlands, and
- Raikos in Madang Province

It is anticipated that this will start in 2002. There will be a number of components beyond just infrastructure and these will include teacher and inspector training, and the sponsorship of two students to complete Ph.D. studies at the University of Goroka. The infrastructure will include communications and solar power.

Infrastructure will include the usual houses and classrooms as well as libraries complete with books.

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## Appendix

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### A Elementary enrolment by Province, 2000

	Prep			Grade 1			Grade 2			Total		
	M	F	T	M	F	T	M	F	T	M	F	T
Western	580	480	1060	857	746	1603	907	803	1710	2344	2029	4373
Gulf	1181	1139	2320	1070	775	1845	785	620	1405	3036	2534	5570
National Capital *	3099	2863	5962	2704	2591	5295	2399	2108	4507	8202	7562	15764
Central	2963	2722	5685	2271	1987	4258	1664	1497	3161	6898	6206	13104
Milne Bay	1145	1031	2176	1035	987	2022	898	777	1675	3078	2795	5873
Oro	1437	1309	2746	1183	1028	2211	544	433	977	3164	2770	5934
Southern Highlands	1326	1229	2555	1200	1123	2323	908	750	1658	3434	3102	6536
Eastern Highlands	1839	1791	3630	1773	1719	3492	1401	1322	2723	5013	4832	9845
Simbu	2843	1714	4557	1937	1245	3182	1390	659	2049	6170	3618	9788
Western Highlands	1957	1766	3723	1479	1329	2808	934	827	1761	4370	3922	8292
Enga	1659	1263	2922	1389	1038	2427	1071	797	1868	4119	3098	7217
Morobe	1786	1630	3416	1638	1348	2986	1061	908	1969	4485	3886	8371
Madang	1765	1577	3342	1512	1347	2859	1278	1101	2379	4555	4025	8580
Sandaun	1175	1043	2218	666	569	1235	382	369	751	2223	1981	4204
East Sepik	1218	1126	2344	1023	957	1980	795	781	1576	3036	2864	5900
Manus	447	337	784	240	194	434	133	134	267	820	665	1485
New Ireland	609	595	1204	536	465	1001	456	402	858	1601	1462	3063
East New Britain	2447	2238	4685	1575	1445	3020	1136	993	2129	5158	4676	9834
West New Britain	1238	1069	2307	884	847	1731	690	631	1321	2812	2547	5359
North Solomons	992	994	1986	964	892	1856	1187	1193	2380	3143	3079	6222
Kiunga Lake Murray	890	686	1576	880	682	1562	393	340	733	2163	1708	3871
<b>Total</b>	32596	28602	61198	26816	23314	50130	20412	17445	37857	79824	69361	149185

## B Primary School enrolment by Province, 2000

	Grade 1			Grade 2			Grade 3			Grade 4			Grade 5			Grade 6			Grade 7			Grade 8			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Western	92	97	189	282	292	574	1188	1039	2227	1060	1009	2069	792	777	1569	727	662	1389	647	542	1189	395	338	733	5183	4756	9939
Gulf	756	629	1385	1021	744	1765	1419	996	2415	1017	794	1811	925	774	1699	739	561	1300	356	349	705	260	209	469	6493	5056	11549
NCD	114	110	224	515	492	1007	2661	2570	5231	2540	2233	4773	2321	2079	4400	1954	1955	3909	1974	1771	3745	1788	1657	3445	13867	12867	26734
Central	1122	894	2016	1225	952	2177	2732	2328	5060	2249	1879	4128	1714	1455	3169	1551	1280	2831	816	729	1545	642	493	1135	12051	10010	22061
Milne Bay	2057	1836	3893	1908	1728	3636	2685	2608	5293	2297	2360	4657	1818	1867	3685	1558	1626	3184	875	893	1768	624	628	1252	13822	13546	27368
Oro	860	780	1640	1271	1198	2469	1573	1368	2941	1216	1077	2293	1218	995	2213	1007	890	1897	497	479	976	388	334	722	8030	7121	15151
SHP	5862	4447	10309	5886	4335	10221	5420	3815	9235	3722	2629	6351	3040	2001	5041	2460	1505	3965	1228	789	2017	898	506	1404	28516	20027	48543
EHP	5871	4927	10798	5843	4670	10513	6236	4687	10923	4731	3588	8319	3810	2707	6517	2875	1939	4814	1100	802	1902	820	563	1383	31286	23883	55169
Simbu	2754	2104	4858	2969	2133	5102	3491	2471	5962	2854	2016	4870	2248	1436	3684	1950	1225	3175	1006	744	1750	784	488	1272	18056	12617	30673
WHP	5211	4399	9610	4470	3565	8035	4534	3716	8250	3862	3019	6881	3167	2489	5656	2384	1750	4134	804	635	1439	771	639	1410	25203	20212	45415
Enga	3016	2221	5237	3042	2124	5166	3373	2331	5704	2651	1807	4458	2089	1345	3434	1804	1166	2970	742	473	1215	685	373	1058	17402	11840	29242
Morobe	6089	5026	11115	5925	4885	10810	6558	5226	11784	5538	4406	9944	4808	3756	8564	3908	3220	7128	1336	1098	2434	938	747	1685	35100	28364	63464
Madang	3908	3035	6943	3787	2942	6729	4130	3444	7574	3773	2950	6723	3079	2460	5539	2678	2102	4780	1387	1145	2532	1115	861	1976	23857	18939	42796
Sandaun	2978	2452	5430	2082	1771	3853	2572	1986	4558	1858	1547	3405	1537	1201	2738	1422	1145	2567	298	251	549	91	88	179	12838	10441	23279
East Sepik	4455	3904	8359	4000	3617	7617	4576	3960	8536	4053	3487	7540	3054	2617	5671	2627	2253	4880	1136	947	2083	921	733	1654	24822	21518	46340
Manus	524	456	980	517	484	1001	626	586	1212	512	440	952	460	412	872	450	440	890	220	201	421	163	137	300	3472	3156	6628
NIP	1268	1028	2296	1115	1144	2259	1280	1183	2463	1118	1157	2275	1037	915	1952	832	792	1624	553	523	1076	489	509	998	7692	7251	14943
ENB	1737	1603	3340	1888	1705	3593	2947	2494	5441	2566	2406	4972	2360	2164	4524	2275	1930	4205	1000	951	1951	630	579	1209	15403	13832	29235
WNB	2491	2096	4587	2417	2035	4452	1975	1706	3681	1982	1602	3584	1773	1521	3294	1459	1179	2638	1177	883	2060	1004	775	1779	14278	11797	26075
NSP	1148	1016	2164	2286	1970	4256	3307	2930	6237	2480	2047	4527	2000	1858	3858	1615	1548	3163	645	731	1376	471	505	976	13952	12605	26557
KLMD	309	325	634	590	514	1104	1035	847	1882	826	707	1533	749	575	1324	597	471	1068	514	381	895	387	294	681	5007	4114	9121
<b>Total</b>	52622	43385	96007	53039	43300	96339	64318	52291	116609	52905	43160	96065	43999	35404	79403	36872	29639	66511	18311	15317	33628	14264	11456	25720	336330	273952	610282

**C Secondary School enrolment by Province, 2000**

	Grade 7			Grade 8			Grade 9			Grade 10			Grade 11			Grade 12			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Western	19	13	32	101	81	182	223	148	371	165	124	289	64	23	87				572	389	961
Gulf	220	160	380	228	202	430	214	166	380	195	138	333							857	666	1523
NCD				78	55	133	1012	1034	2046	1044	978	2022	204	190	394	142	117	259	2480	2374	4854
Central	234	201	435	303	256	559	782	538	1320	630	400	1030							1949	1395	3344
Milne Bay	173	209	382	184	217	401	641	589	1230	422	459	881	74	48	122	62	56	118	1556	1578	3134
Oro	127	123	250	101	75	176	359	268	627	297	204	501	41	29	70	36	22	58	961	721	1682
SHP	306	147	453	786	407	1193	1297	669	1966	956	437	1393	380	128	508	220	35	255	3945	1823	5768
EHP	726	454	1180	784	430	1214	1256	683	1939	1031	586	1617	77	55	132	56	44	100	3930	2252	6182
Simbu	617	328	945	476	281	757	750	407	1157	694	333	1027	211	61	272	118	41	159	2866	1451	4317
WHP	731	481	1212	775	408	1183	961	543	1504	988	557	1545	199	98	297	216	78	294	3870	2165	6035
Enga	644	303	947	583	286	869	833	459	1292	702	373	1075	197	88	285	137	66	203	3096	1575	4671
Morobe	879	466	1345	928	565	1493	1266	825	2091	1155	746	1901	135	66	201	185	111	296	4548	2779	7327
Madang	420	265	685	392	242	634	669	491	1160	714	441	1155	78	59	137	73	49	122	2346	1547	3893
Sandaun	454	288	742	404	272	676	356	264	620	267	213	480	120	33	153	102	34	136	1703	1104	2807
East Sepik	398	272	670	432	283	715	862	668	1530	671	502	1173	58	36	94				2421	1761	4182
Manus	162	140	302	146	140	286	277	218	495	197	205	402	74	69	143	41	37	78	897	809	1706
New Ireland	199	184	383	218	239	457	446	387	833	357	317	674	63	41	104	49	29	78	1332	1197	2529
ENB	324	332	656	568	535	1103	904	852	1756	600	550	1150	52	51	103	33	31	64	2481	2351	4832
WNB	16	11	27	12	14	26	602	400	1002	442	312	754	88	34	122	74	39	113	1234	810	2044
NSP	401	385	786	407	320	727	600	529	1129	463	395	858	90	68	158	25	36	61	1986	1733	3719
KLMD	75	46	121	116	72	188	260	177	437	214	142	356	56	47	103	38	25	63	759	509	1268
<b>Total</b>	<b>7125</b>	<b>4808</b>	<b>11933</b>	<b>8022</b>	<b>5380</b>	<b>13402</b>	<b>14570</b>	<b>10315</b>	<b>24885</b>	<b>12204</b>	<b>8412</b>	<b>20616</b>	<b>2261</b>	<b>1224</b>	<b>3485</b>	<b>1607</b>	<b>850</b>	<b>2457</b>	<b>45789</b>	<b>30989</b>	<b>76778</b>

**D Vocational Centre enrolment by Province, 2000**

	Year 1			Year 2			Year 3			Grade 9			Grade 10			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Western	42	2	44	60	25	85	47	16	63							149	43	192
Gulf	187	26	213	9		9	6		6							202	26	228
NCD	385	90	475	317	61	378	334	100	434							1036	251	1287
Central	40	16	56	42	13	55	32	13	45							114	42	156
Milne Bay	111	107	218	72	48	120	52	38	90							235	193	428
Oro	228	18	246	91	17	108	124	12	136							443	47	490
SHP	245	229	474	226	92	318	95	4	99							566	325	891
EHP	437	153	590	125	79	204		3	3							562	235	797
Simbu	248	113	361	153	65	218	112	17	129							513	195	708
WHP	175	121	296	184	59	243	59	15	74							418	195	613
Enga	158	122	280	139	38	177	28	3	31							325	163	488
Morobe	613	117	730	503	88	591		15	15	59	36	95	26	28	54	1201	284	1485
Madang	326	148	474	169	28	197										495	176	671
Sandaun	276	71	347	173	76	249	205	71	276							654	218	872
East Sepik	225	90	315	209	56	265	1		1							435	146	581
Manus	123	39	162	23	1	24		2	2							146	42	188
New Ireland	252	167	419	77	28	105	63	28	91							392	223	615
ENB	325	81	406	326	218	544	263	220	483							914	519	1433
WNB	208	35	243	186	63	249	120	30	150	129	112	241	75	70	145	718	310	1028
NSP	120	64	184	57		57	47		47							224	64	288
KLMD	71	35	106	66	21	87	58	24	82							195	80	275
<b>Total</b>	4795	1844	6639	3207	1076	4283	1646	611	2257	188	148	336	101	98	199	9937	3777	13714

**E Staffing by sector, gender and province, 2000**

	Elementary			Primary			Secondary			Vocational			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Western	129	70	199	251	69	320	38	9	47	23	3	26	441	151	592
Gulf	132	73	205	202	98	300	42	17	59	14	3	17	390	191	581
NCD *	189	250	439	313	514	827	99	91	190	40	22	62	641	877	1518
Central	318	154	472	462	320	782	97	54	151	19	11	30	896	539	1435
Milne Bay	119	143	262	390	405	795	79	64	143	19	18	37	607	630	1237
Oro	152	79	231	216	207	423	42	24	66	18	5	23	428	315	743
SHP	176	96	272	845	273	1118	203	43	246	32	10	42	1256	422	1678
EHP	151	127	278	898	325	1223	159	91	250	25	15	40	1233	558	1791
Simbu	252	78	330	792	251	1043	146	51	197	54	26	80	1244	406	1650
WHP	176	80	256	838	435	1273	173	61	234	42	15	57	1229	591	1820
Enga	147	93	240	519	163	682	140	33	173	41	10	51	847	299	1146
Morobe	119	102	221	884	655	1539	185	84	269	62	18	80	1250	859	2109
Madang	187	50	237	823	426	1249	118	59	177	27	10	37	1155	545	1700
Sandaun	105	49	154	450	221	671	90	35	125	42	12	54	687	317	1004
East Sepik	115	98	213	839	423	1262	118	44	162	33	10	43	1105	575	1680
Manus	38	31	69	156	164	320	54	36	90	6	2	8	254	233	487
New Ireland	68	103	171	267	349	616	62	43	105	21	13	34	418	508	926
ENB	105	156	261	356	547	903	103	95	198	50	34	84	614	832	1446
WNB	123	102	225	617	375	992	61	40	101	47	22	69	848	539	1387
NSP	66	184	250	426	473	899	87	53	140	13	5	18	592	715	1307
KLMD	164	44	208	195	75	270	37	15	52	10	4	14	406	138	544
<b>Total</b>	<b>3031</b>	<b>2162</b>	<b>5193</b>	<b>10739</b>	<b>6768</b>	<b>17507</b>	<b>2133</b>	<b>1042</b>	<b>3175</b>	<b>638</b>	<b>268</b>	<b>906</b>	<b>16541</b>	<b>10240</b>	<b>26781</b>