



## Papua New Guinea

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### Education for All 2015 National Review

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# PAPUA NEW GUINEA EFA 2015 REVIEW

Department of Education

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## Acronyms and abbreviations

AusAID	Australian Agency for International Development
BoM	Board of Management
CRIP	Curriculum Reform Implementation Project
CSMT	Curriculum Standards Monitoring Test
CDAD	Curriculum Development and Assessment Division
DoCD	Department of Community Development
DFAT	Department of Foreign Affairs and Trade (formerly AusAID)
DoE	Department of Education
DSIP	District Support Improvement Program
ECCE	Early childhood care and education
EFA	Education for All
EGRA	Early Grade Reading Assessment
EGMA	Early Grade Maths Assessment
EMIS	Education Management Information System
ESIP	Education Sector Improvement Program
EU	European Union
FODE	Flexible Open Distance Education
GAR	Gross admission ratio
GDP	Gross domestic product
GER	Gross enrolment ratio
GoPNG	Government of Papua New Guinea
GPI	Gender parity index
ICT	Information and communications technology
JICA	Japan International Cooperation Agency
LNG	Liquefied natural gas
MDG	Millennium Development Goals
MSB	Measurement Services Branch
NAR	Net admission ratio
NCD	National Capital District
NEB	National Education Board
NEC	National Education Council

NEP	National Education Plan
NER	Net enrolment ratio
NETA	National Education Trust Account
NGO	Non-governmental organisation
NLAS	National Literacy and Awareness Secretariat
OBC	Outcomes-Based Curriculum
OBE	Outcomes-Based Education
P&C	Parents and Community/Citizens
PEB	Provincial Education Board
PIRLS	Progress in International Reading Literacy Study
PISA	Programme for International Student Assessment
PM	Pass Mark
PNG	Papua New Guinea
PNGEI	Papua New Guinea Education Institute
PSIP	Provincial Support Improvement Program
PTR	Pupil to Teacher Ratio
RR	Retention Rate
RCM	Regional Consultative Meeting
SABER	Systems Approach for Better Education Results
SBC	Standards-Based Curriculum
SBE	Standards-Based Education
SEOC	Senior Education Officers' Conference
SGD	Standards and Guidance Division
SLIP	School Learning Improvement Plan
SO	Standards Officer
SRGBV	School-related gender-based violence
TFF	Tuition Fee Free
TIMMS	Trends in International Mathematics and Science Study
TR	Transition rate
TSC	Teaching Service Commission
TVET	Technical and vocational education and training
UBE	Universal Basic Education
UN	United Nations

UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
VSO	Voluntary Service Overseas

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## Minister's statement

I begin with the assertion that an educated person makes wise decisions in life. He or she begins to know themselves in realising the potential that is endowed upon them. They cannot be easily exploited and deprived. That person must access and participate in every opportunity that is made available in society.

Embedded in the National Goals and Directive Principles of the country's constitution is the call for the integral human development of all citizens. Hence, the government of Papua New Guinea has prioritised the provision of education, not only by allocating more funds to education, the internationally recommended six per cent of government budgets, but by providing the policy framework that properly governs and drives education relevant to the people, that is best suited to their situation. Among other successes, the government has instituted the Tuition Fee Free education policy, which will be reinforced by the information and communications technology policy that is pivotal to providing high-quality education across the nation.

The government also recognises various international commitments, including the UNESCO-led Jomtien (1990) and the Dakar (2000) Education for All (EFA) agreements, which were seen as international emergency calls for national and local responses to appalling education failures around the world. The EFA Strategy Framework (2000) and the six EFA goals became the signpost for governments to make emergency responses to education problems.

Papua New Guinea, I am sure, has lived up to its commitments to ensuring that its people get the relevant education that best suits their situation. The 2015 report on EFA progress outlines education achievements and the challenges that lie ahead for Papua New Guinea.

In that regard, the government will continue to provide the policy environment conducive to the provision of education that is relevant to the people of Papua New Guinea, a challenging journey that may not be tirelessly travelled without the kindest support from our friends within the international community, the relevant bodies of the United Nations, NGOs, churches and interested groups and individuals who also see education as a noble tool to constructing peace in the minds of men and women.

Thank you.

**Honourable Nick Kuman MBE, MP**  
Minister for Education  
Chairman, National Commission for UNESCO

## Secretary's statement

The upcoming World Education Forum in Incheon, Republic of Korea in May 2015 will allow the international community to take stock of progress in education, in particular towards the Education for All (EFA) goals. It will allow everyone to consider what lessons have been learnt, to examine emerging issues, to forge priorities and to predict future challenges for education. Papua New Guinea is looking forward to the meeting; it contributed well to the Asia Pacific Regional Conference in Bangkok this year where a regional communiqué was agreed on education priorities beyond 2015.

The six EFA goals provide guidance to governments and stakeholders on organising and managing national EFA reviews, with the aim of accelerating progress on the EFA agenda for the next decade. The Papua New Guinea review covers the implementation of the six EFA goals in the country over the last two decades under various government policy directives that are intended to promote education for its citizens.

Vigorous attempts have been made to examine what has been achieved and how and what challenges there are for the country. The review highlights some good practices and key factors behind successes and makes recommendations for each of the six goals in the future. The country's National Education Plan (NEP) 2009–14 has improved access and participation at all levels of education, with remarkable achievements since 2000, including emerging evidence of improvements in gender parity across the sector. The NEP 2015–19 will provide guidance for us to pursue high-quality education for all, and even beyond 2019 that will be further enhanced through the implementation of the government's Tuition Fee Free policy, which was launched in 2012.

The Department of Education has been very keen to implement the six EFA goals. It has been successful in relation to universal primary education, skills for youths and adults, gender equality and equity and the quality of education; however, the adult literacy and early childhood education and care goals still remain a challenge for the Department of Education. It is expected that extra effort will be necessary in promoting those goals within the education sector. In this regard, the review recommends that the responsibilities for the two goals be transferred to the department from other government agencies, so that it can implement them more effectively and in coordination with the other EFA goals.

On the whole further improvements in the implementation of these goals will be subjected to realising the new standards-based curriculum in the school system of the country, through development of educational tools and capacity-building programmes including teacher training and development.

At this juncture, I wish to congratulate our experts who are behind the scene in ensuring that the national EFA 2015 Review has materialised under difficult circumstances. Special gratitude is due to UNESCO for its financial support for this important project.

**Dr. Michael F. Tapo**, EdD  
Secretary for Education

## Executive summary

This EFA review outlines the progress that Papua New Guinea has made towards meeting its commitment to the six goals of the Education for All (EFA) movement of 2000, which is led by the United Nations Educational, Scientific and Cultural Organization (UNESCO).

The six EFA goals that Papua New Guinea and other countries committed to at Jomtien, Thailand in 1990 and reaffirmed in Dakar, Senegal in 2000 are:

Expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children;

Ensuring that by 2015 all children have access to free and compulsory primary education of good quality;

The learning needs of all young people and adults are met through equitable access to appropriate learning and life skills programs;

Achieving a 50 per cent improvement in levels of adult literacy by 2015, especially for women, and equitable access to basic and continuing education for all adults;

Eliminating gender disparities in primary and secondary education by 2005 and achieving gender equality in education by 2015, with a focus on ensuring girls' full and equal access to and achievement in basic education of good quality; and,

Improving all aspects of the quality of education and ensuring excellence so that recognised and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills.

This progress review, by the National Department of Education (NDoE), with input from education authorities and non-governmental organisations (NGOs), to identify education priorities and strategies that will help the country achieve the EFA goals and will make EFA an integral part of the National Education Plan (NEP) 2015–19.

The review is based on reports, NDoE data and interviews conducted over a nine-day period. Staffs in the NDoE and stakeholders have reviewed the report to ensure its accuracy.

The government's commitment to free and compulsory education for all, backed by the allocation of a large share of public resources to education, is expected to move Papua New Guinea steadily towards achievement of the EFA goals.

Papua New Guinea and other UNESCO members will report their progress towards the EFA goals in Incheon, South Korea in May 2015.

Furthermore, The National Literacy and Awareness Secretariat in the Office of Libraries and Archives is currently drafting a proposal on how to address Goal 4: adult literacy. Also recommendations have been made on moving the mandate for early childhood care and education (ECCE) from the Department of Community Development to the NDoE, which may make a significant impact on EFA Goal 1.

The government has been very enthusiastic in its pursuit of four of the six EFA goals: universal primary education; skills for youth and adults; gender equality and equity in education; and quality of education. These goals are interwoven into the fabric of education plans for the education development goals of the government.

The sector is working towards achieving the six EFA goals, but it is clear that GoPNG will have to invest a considerable amount of money to achieve all of them.

### EFA Goal 1: Early childhood care and education

The government wants to make education available to all children starting from age three. But there is currently no national early childhood care and education (ECCE) sector in the national education system; and, therefore, there are no data available to monitor the progress made in ECCE.

The Department of Health is responsible for the development of the child from antenatal to the age of six, and the Department of Community Development (DoCD) is responsible for the care and welfare for all children up to age fifteen. Despite the lack of formal ECCE system, there are over three 300 private-sector ECCE schools around the country. They do not provide the NDoE data and, therefore, the NDoE does not have key indicators for children attending the schools.

- Recommendation 1)** Transfer the responsibility for ECCE from the Department of Community Development to a new NDoE with adequate resources.
- Recommendation 2)** Develop a national ECCE framework and strategy.
- Recommendation 3)** Establish more ECCE schools.
- Recommendation 4)** Give local-level governments responsibility for ECCE schools.

### EFA Goal 2: Universal Basic Education

The basic education enrolment projections for 2014 in the Universal Basic Education (UBE) Plan 2010–19 have been exceeded, and there has been a considerable increase in the numbers of teachers and schools since 2000. However, further resources will be required to accommodate the increase in enrolment numbers that are expected if barriers to access and participation are taken down through initiatives such as TFF and the proposed compulsory education policy.

However, 15 per cent of pupils do not continue school after Elementary Grade 2. If they progress to Grade 8, this would result in 40 per cent extra enrolments in primary schools. Worryingly, it is evident that some children do not attend school because they lack an interest in obtaining an education or parents will not allow their children to attend school. The DoE needs to understand why this is before addressing the underlying issues.

Participation and access rates have significantly increased for children of all ages since 2000. However, growth seems to be from over- and underage children entering or re-entering the system. Moreover, more under- and overage children are starting school than children of the correct age. Action is required to correct this situation. Further research is required. However, one possible reason is that Teachers in Charge (TIC) at elementary schools are allowing underage children into the first grade.

A previous lack of data has meant that provincial education planners have not been able to develop the capacity and tools to analyse and plan to prevent various issues arising, such as a shortage of teachers and space to absorb new pupils. It is apparent that funding is limited and that there is a lack of capacity to monitor and review the implementation of provincial and district education plans.

- Recommendation 5)** Increase the capacity of the elementary and primary sectors to absorb the full impact of TFF and the proposed compulsory education.
- Recommendation 6)** Revise the Education Act, to authorise Provincial Education Boards to legally establish District Education Boards in all districts.
- Recommendation 7)** Develop and implement a strategy to increase the proportion of pupils, particularly girls, who transit from elementary to primary schools.
- Recommendation 8)** To improve classroom management, reduce the numbers of under- and over-aged children starting school.
- Recommendation 9)** Develop tools and training to empower provincial planners to use data, for evidence based planning.



- Recommendation 10)** Conduct research into why children lack interest in education and why some parents do not allow their children to attend school.
- Recommendation 11)** Undertake community awareness initiatives on the impact of a child not being educated on both the family livelihood and the overall growth of the country.

### EFA Goal 3: Learning opportunities for youth and adults and life skills

Access and participation rates have considerably improved in the secondary and vocational sectors, although these rates are still very low as a result of GoPNG's decision to prioritise basic education in the NEP 2005–14.

Considerable disparities between provinces should be addressed. The pupil-teacher ratio in the secondary sector is now a manageable 31 students to one teacher, but it is highly likely that this will dramatically increase in the future. Furthermore, as the number of enrolments increases, the current chronic lack of textbooks and teaching resources is likely to worsen significantly. The previous lack of data has reduced opportunities for monitoring and evaluation. However, the NDoE now have data for evidence-based planning and monitoring that it is hoped will lead to significant improvements in progress towards the EFA goal.

- Recommendation 12)** Increase the capacity in the Secondary and Technical Vocation Education and Training (TVET) sectors to absorb the full impact of TFF within five years and the proposed compulsory education policy. This will require new secondary schools and vocational centres, the expansion of current institution, new teachers and better use of TFF money to purchase resources.

### EFA Goal 4: Adult literacy

A National Alternate Basic Education Programme is being developed, but little progress in literacy has been made since the LIFE programme (2009–11) ended. Papua New Guinea is highly unlikely to achieve its EFA goal. In light of disparities across the country, further literacy research is required to understand the cultural issues that impede progress in each province.

- Recommendation 13)** Adopt, and monitor the National Alternate Basic Education Programme.
- Recommendation 14)** Strengthen the National Literacy and Awareness Secretariat (NLAS) to allow it to set up adult literacy centres in the provinces and to supervise non-formal education throughout the country.
- Recommendation 15)** Fund the NLAS to conduct research on adult literacy.
- Recommendation 16)** Improve adult literacy through the use of schools and teachers when schools are not in operation.

### EFA Goal 5: Gender parity and equality

There is a strong indication that gender disparities are gradually falling despite a lack of progress in implementing the Gender Equity Strategic Plan (2009–14). It is speculated that the reasons for this are threefold. Firstly, gender awareness is raised in pre-service and in-service teacher training, as well as in the way the School Learning Improvement Plan (SLIP) is implemented; Secondly, strict rules on gender stereotypes are used in curriculum development and curriculum statements and are very gender aware. Thirdly, the EFA Goal 5 philosophy is woven into national education plans and activities.

That being said, gender gaps still exist in some areas. It is therefore essential to research the effectiveness of interventions.

- Recommendation 17)** Align gender strategy with the new National Education Plan 2015–19, incorporating gender equality as a cross-cutting theme in any activity. This more inclusive approach

may gain greater traction than the Gender Equity Strategic Plan, which should be revised.

- Recommendation 18)** Increase awareness of school-related, gender-based violence as a barrier to education.
- Recommendation 19)** Support provincial planners in developing gender activities in provincial education plans in geographic areas where the gender gaps are widest.
- Recommendation 20)** Enforce legislations or regulations that recognise equal participation of both genders in all basic education institutions.
- Recommendation 21)** Undertake research to assess how knowledge, local attitudes, local practices, interventions, school performance, student attendance, and teachers' qualifications and experience impact on the success of males and females at schools.

### EFA Goal 6: Quality in education

It is believed that the quality of education has suffered due to the way OBE was implemented. Tuition Fee Free (TFF) funds have only been enough for schools to make minor improvements in resources, facilities, and teaching aids, and additional investment is seriously required. For example, there is a severe shortage of textbooks caused by the increased enrolments; this has worsened progressively since 2000. The number of teachers has considerably increased at all levels, with the exception of the elementary sector, and it is argued that the shortage of elementary teachers is a result of poor administration in elementary pre-service training. It is apparent that teacher training colleges will not meet the future demand for teachers, as enrolment numbers increase.

Even more perplexing is that recently qualified teachers throughout the system have been reported to lack the required proficiency in the English language to perform their role (Voluntary Service Overseas in Partnership with the British Council, 2014). Declining standards at the elementary level severely impedes pupils' ability to learn as they progress through the system. It is thought that a very high teacher absenteeism rate may also have contributed negatively to the learning process.

It is evident that many more children are progressing through the system, but it is highly debatable whether the quality of education has improved as most pupils are unable to perform to the required standard in national examinations. The Measurement Services Branch (MSB) of the NDoE will shortly disseminate national, provincial, district, and school levels data.

- Recommendation 22)** GoPNG should commit money in the national and provincial budgets for the implementation of SBE.
- Recommendation 23)** Provide pre-service and in-service teacher training for the Standard Based Curriculum.
- Recommendation 24)** Increase investment in textbooks and teaching resources to meet current and future needs.
- Recommendation 25)** Introduce a Diploma in Vocational Education and Training to address the shortage of staff in Vocational Centres.
- Recommendation 26)** Direct Vocational Centres to use a proportion of their TFF funds on tools and equipment to help develop the technical skills of students.

## 1. Introduction

### 1.1. Papua New Guinea context

During Australia's colonial administration, Papua New Guinea adopted that country's education system. Since independence in 1975, the system has gone through a couple of major reforms to suit the needs of the people and the economy and has grown to around 11,000 institutions and around 1.9 million pupils who are taught by 48,000 teachers in the basic and post-basic sectors (National Department of Education, 2014).

The initial major education expansion and quality initiative was in 1991, when education coverage and capacity were increased by relocating Grades 7 and 8 from high schools to community schools and introducing elementary schools. The relocation of Grades 7 and 8 was to increase access at primary schools for two further grades but, more importantly, to avoid alienating elementary school-age children from their traditional cultures in the name of formal education.

The curriculum was reformed to make it more relevant to children's cultures, to prepare children to go back to their communities, as well as for further education and employment.

Recently, to sustain the growth of the system in line with the national population growth the government has used economic growth to increase investment in education, but it needs to increase the budget further to ensure that education at all levels is adequately funded and is of good quality.

The growth in access and participation has been remarkable since 2000. Also, gender equity in access to education has been achieved since 2007, and there is emerging evidence of improvements in the gender parity across the sector.

Significant improvements can be seen across the basic education sector since the introduction by the Government of Papua New Guinea (GoPNG) of the Tuition Fee Free (TFF) policy in 2012. It also plans to introduce compulsory education, to further improve access and participation.

Although access and participation rates have improved, the current Objectives-Based Curriculum (OBC), which was only developed in the last decade, has received much criticism. As a result, the government instructed the National Executive Council to review the failing OBE. The subsequent 'Report of the Task Force for the Review of Objective Based Education' (Fr Jan Czuba, 2013) concluded that the main causes of OBE failing were that: 'OBE was originated by outside experts; it was difficult to lead and manage; at national level there was inadequate planning and resources to support implementation; the majority of teachers did not understand the conceptual framework; and finally, parents did not understand it either.'

The NDoE is therefore replacing OBE with Standards-Based Education (SBE). The GoPNG, the National Department of Education (NDoE), and stakeholders will have to work together to ensure the mistakes of the past are not repeated. The government will have to invest heavily over the coming years to ensure the SBE curriculum is accompanied by teaching materials and teacher training. Awareness of the change must be increased.

The NDoE has urged provincial governors to invest their Provincial Support Improvement Program money and District Support Improvement Program money into basic education. It has also consulted other partners like the church education agencies, provincial education divisions, donors, and civil society organisations to develop more effective and efficient ways of delivering high-quality education, especially to the large rural and remote population that is vulnerable to neglect.

The extensive list of recommendations in this report, many of which were from the Czuba report (Fr Jan Czuba, 2013), have already been adopted by the NDoE. A Standards-Based Curriculum (SBC) is rapidly being developed by the Curriculum Development and Assessment Division (CDAD) using a highly participatory approach.

Funding to implement this new curriculum is being sought from the government and other sources. These recommendations, when implemented, should contribute to overall improvement in the quality of education.

Papua New Guinea is a signatory to the Education for All (EFA) movement of 2000, led by UNESCO, which aims to boost education through six goals for 2015.

Six EFA goals were committed to at Jomtien, Thailand in 1990 and reaffirmed in Dakar, Senegal in 2000. They are:

1. Expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children;
2. Ensuring that by 2015 all children have access to free and compulsory primary education of good quality;
3. The learning needs of all young people and adults are met through equitable access to appropriate learning and life skills programs;
4. Achieving a 50 per cent improvement in levels of adult literacy by 2015, especially for women, and equitable access to basic and continuing education for all adults;
5. Eliminating gender disparities in primary and secondary education by 2005 and achieving gender equality in education by 2015, with a focus on ensuring girls' full and equal access to and achievement in basic education of good quality;
6. Improving all aspects of the quality of education and ensuring excellence so that recognised and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills.

This review of progress towards meeting the EFA goals is based on reports DoE data, and interviews conducted over a nine-day period. Staffs in the NDoE and stakeholders have reviewed the report to ensure its accuracy.

## 1.2. National development

Papua New Guinea is a constitutional monarchy with a parliamentary democracy. It occupies the eastern half of the New Guinea Island and is the largest country (461,690 km<sup>2</sup>) in the Pacific region. With a population of an estimated 7.5 million and more than 850 indigenous languages, it is one of the world's most ethnically diverse countries. Demographically, it is a young country; 76 per cent is under 35 years old and 40 per cent is under the age of 15. There is an annual population growth rate of 2.3 per cent, and the population is expected to reach 9 million by the end of the decade. It is estimated that 85 per cent of the population lives in rural and remote areas. The capital is Port Moresby, which has a population of approximately 400,000. Other main regional centres are Goroka, Mt. Hagen in the densely populated Highlands Region, the commercial port of Lae in the Momase (Morobe, Madang, East and West Sepik) region, and Kokopo/Rabaul in the New Guinea Islands region (United Nations Development Programme, 2014).

In economic terms, the country is rich in natural resources (forestry, agriculture, fisheries, and minerals) and has vast natural ecosystems hosting a unique range of biodiversity. Papua New Guinea is ranked as a lower- to middle-income country with a gross national per capita income of US\$2,386. It has a dual economy comprising a formal, corporate-based sector and a large informal sector where subsistence farming accounts for the bulk of economic activity.

The investments in oil and gas, a recovery in mining output, and construction activity have allowed the economy to expand strongly over recent years. In 2012, real gross domestic product (GDP) grew by 9.1 per cent, the 10th year of uninterrupted economic growth. Inflationary pressures continue, although monetary tightening in 2011 slowed inflation to an annualised rate of around 8.4 per cent at the end of the year, and it further slowed to 4.0 per cent in 2012 (Australian Department of Foreign Affairs and Trade, 2014). Growth in GDP is forecasted at 6.0 per cent in 2014, picking up to a record 21.0 per cent in the following year, although the poor quality of macroeconomic data continues to limit the accuracy of these forecasts.

Leading this growth is oil and gas, with liquefied natural gas production commencing in late 2014, making 2015 the first full year of production. A rebound in mining and quarrying is expected to continue as new operations further expand production, boosting real growth in that sector to 14.0 per cent in 2014 before falling back to a forecasted 3.1 per cent in 2015. In contrast, activity in the rest of the economy is expected to continue to slow, with growth forecasted at just 1.6 per cent in 2014.

The formal sector provides a narrow employment base, consisting of mineral production, a relatively small manufacturing sector, the public sector, and service industries including finance, construction, transportation, and utilities. It is estimated that 75 per cent of households depend on subsistence agriculture, with 40 per cent of the population living on less than \$1 a day (United Nations Development Programme, 2014).

### 1.3. Educational development

Papua New Guinea has made significant improvements in the capacity, equity, and effectiveness of its education system. The gross enrolment rate for basic education was 98 per cent in 2013, as opposed to 71 per cent in 2000. In the secondary sector, the rate has improved by 10 percentage points since 2000. Despite these achievements, significant disparities exist across the country.

The remoteness of much of the country and the rapid expansion of the system since the introduction of TFF pose challenges in designing and implementing policies and programs. Whilst the rapid growth since 2010 is a significant achievement, the provision of suitably qualified teachers to deliver a high quality curriculum to schools in some of the world's remotest areas has been a challenge. Since the country gained its independence from Australia in 1975, the GoPNG has promoted effective governance and management of education in a decentralised system, in a way that respects local traditions. However, achieving this goal in a country as diverse and geographically challenging as Papua New Guinea presents challenges that are not experienced anywhere else in the world.

The 2014 State of Education in Papua New Guinea report (Department of Education, 2014) details the major policies, strategies, and reform initiatives in education and learning. The goals are to make education universally available to all Papua New Guineans, by increasing access and retention, and to provide high quality of education for all.

These initiatives include provincial education plans, the School Learning Improvement Plan (SLIP), the Student Behaviour Management Policy, the Gender Equity in Education Policy, the Special Education Plan, the Language Policy, the Literacy Policy, and the Technical and Vocational Education and Training (TVET) Strategic Plan.

The most noteworthy plans include:

**National Education Plan (NEP) 2005–14**, which was meant to serve as a road map for education. The prime objectives were to provide a basic education for all and the opportunity of further education or training for all students completing nine years of basic education (Department of Education, 2004).

**Education Sector Strategic Plan 2010–30**, which was drafted in response to the need to align government departments' development mandates, programs, and activities with the government's Vision 2050 and the National Development Strategic Plan, 2030. The plan includes NDoE goals, mission statements, outcomes, indicators, and strategies for the next 20 years (Department of Education, 2012).

**Universal Basic Education (UBE) Plan 2010–19**, which was the first serious attempt by the GoPNG to fast-track the achievement of UBE (see Chapter 2). Two related programs were also created to achieve the NEP 2005–14 targets. The Education Access and Expansion Program, was aimed at providing basic education for all children, and the Relevant Education for All Program, was aimed at developing an education system that will meet the needs of Papua New Guinea and its people and prepare children for a return to their communities, for formal employment, or for further education and training.

Development partners have implemented programs, in collaboration with the government, to support the country's education priorities. These included the Elementary Teacher Education Support Project, the Primary and Secondary Teacher Education Project, the Curriculum Reform Implementation Project (CRIP), the PNG School Journal Project, Basic Education Infrastructure and Curriculum Materials Project, the Basic Education Development Project, the Education Capacity Building Program, the Textbook Procurement and Distribution program, the Human Resource Development Program II, and the Institutional Strengthening Project.

The most significant initiative is TFF, which was initiated in 2011 and first implemented in 2012 (National Department of Education, 2014). The policy abolished school fees, particularly for basic education, and subsidised fees for post-basic education institutions, except universities. The aim is to increase access to education. However, it is increasingly evident that the quality of education is being compromised. To attain the desired access, retention, and quality, equal emphasis should be given to the impediments, particularly the outcomes relating to the quality of learning (Department of Education, 2014).

#### **1.4. National Education System (NES)**

The education system is decentralised under the Organic Law on Provincial and Local-level Government. To meet the requirements of this law, the Education Act (1983) detailed that the National Education System (NES) was to be administered by the national government and by provincial governments. Provincial education authorities operate under provincial education legislation. This means institutions are split into two groups.

1) National institutions such as Flexible Open and Distance Education (FODE) centres, national high schools, primary teachers' colleges, and technical and business colleges, are all administered from the national level by education authorities such as the Minister for Education, the National Education Board (NEB), and the Secretary for Education.

2) Schools other than national institutions, i.e., elementary, community, primary schools and secondary schools, vocational centres, and community colleges, are administered by provincial authorities such as provincial executive councils, education services chairmen, provincial governments, provincial education advisers, provincial education boards (PEBs), local level governments, district education administrators, church agencies, and school governing bodies.

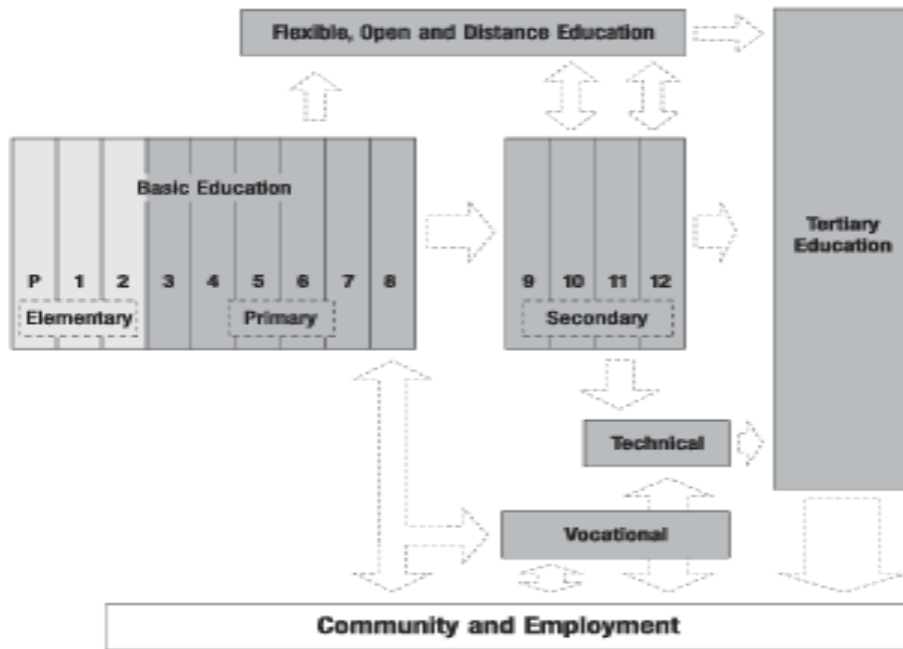
The NDoE determines national policies and coordinates their implementation, monitor and maintain national educational standards, and provides professional support and advisory services for planning, research, training, and staff development.

PEBs and school Boards of Management (BoMs) have the autonomy to interpret and translate national policies into strategies that address the provincial and local needs. This involves a considerable amount of planning and management of basic educational needs, including the establishment and operations of schools (The World Bank, 2013).

Although the NES originated from the Education Act (1983), it was reviewed in 1991. It was believed that the restructuring of the 'six year–four year–two year' education system to the three–six–four system would enable more Papua New Guineans to have access to appropriate education and training through increasing the system's capacity.

Exit examinations are held at the end of Grades 8, 10, and 12. Pupils who do well in Grades 8 and 10 progress to Grades 9 and 11 respectively, and those who perform well in Grade 12 examinations have the opportunity to progress to tertiary education or take up technical training in a technical or a polytechnic school. Those who do not do well academically are given the opportunity to enrol in a vocational school (Grade 8 leavers) or a FODE centre if they wish to upgrade their grades.

Figure 1: Current National Education System structure



Source: National Education Plan 2005–14

It is believed that the NES provides educational opportunities for all Papua New Guineans and a progressive pathway for attaining a higher education qualification (Department of Education, 2014). The structure might change should the government decide to include early childhood care and education (ECCE) in the formal education system.

The Department of Community Development (DoCD) is presently responsible for ECCE, and the Office of Higher Education administers all the tertiary institutions including the universities and research institutes.



## 2. Progress towards EFA goals

### 2.1 Introduction

The GoPNG has been very enthusiastic in its pursuit of four of the six EFA goals, which are universal primary education, skills for youth and adults, gender equality and equity in education, and quality of education. These goals are interwoven into the fabric of education plans and the education development goals of the government.

With regard to EFA goals 1 and 4, the National Literacy and Awareness Secretariat in the Office of Libraries and Archives is finalising a proposal to meet the adult literacy goal and it has been recommended that the government move the mandate for ECCE from the Department of Community Development (DoCD) to the DoE.

This analysis is based on secondary data sources, the annual school census, examination data, and studies and from academic and research organisations. Feedback received was incorporated in the revision of the initial draft.

### 2.2 EFA Goal 1: Early Childhood Care and Education (ECCE)

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EFA Goal 1: Expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children

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The ECCE goal is key because it should be the foundational period of a child's education. As such, it can impact the likelihood of a child surviving to the last grade of education, as well as the readiness for learning. Unfortunately, there is no current national ECCE sector in the education system. As a result, there are no data on progress in ECCE. The DoCD is struggling to make progress with this goal because, for example, lack of capacity to licence and monitor private ECCE centres.

Despite the lack of data, it is believed that the majority of the most vulnerable and disadvantaged children live in rural remote areas and are vulnerable to malnutrition, HIV/AIDS, cultural abuse, and lack of education because there may not be any schools or educated individuals to provide some form of education.

Presently, the Department of Health has the remit for the development of child from antenatal to the age of six, and the DoCD is responsible for the welfare of children up to the age of 15. Despite the nonexistence of ECCE in the formal education system, there are over 300 private ECCE schools.

Because the schools are privately managed, they do not provide the DoE with data and so the DoE does not have indicators for the children attending these schools. UNICEF has conducted a survey to try to fill data gaps, but the processing of data is behind schedule, so results are yet available.

The NDoE works with Department of Health, the DoCD, and national and international NGOs in an ECCE technical committee and an ECCE networking group.

The government is considering making education available to all children starting from age three. This would require a transfer of responsibility for ECCE from the DoCD to a new division in the DoE. The new division would have to be adequately staffed and funded, and a national ECCE framework and strategic plan developed. Considering the huge diversity of the country's geography, population, culture, and political aspirations, it would be advisable to incrementally rollout the establishment of ECCE schools.

#### 2.2.1. Access and participation

Currently there are no data on the number of ECCE centres operating in the country and the number of children three-to five-year old enrolled. Most centres are in urban areas and privately run with a fee that only working



parents can afford. There are a very few centres that are run and supported by national and international NGOs and churches for children from disadvantaged families, and some of these are in the peri-urban areas and remote areas.

### 2.2.2. Quality

There is no set curriculum for ECCE and no minimum operating standards. Each centre may have its own curriculum and own guiding principles. The University of Goroka runs an early learning centre for children aged three to six and has developed its own early learning development standards.

There is a recognised early childhood development teaching qualification from the University of Goroka and the International Education Institute. However, this teaching qualification is not accredited by the DoE.

The ECCE teacher training curriculum and ECCE regulation should be part of the NES. Currently, the NDoE is running bachelors and masters early childhood courses for selected teachers with support from the government of Australia. These teachers on completion of their degree are teaching elementary grades since there are no government run ECCE centres.

### 2.2.3. Conclusions and way forward

Stakeholders are fully aware that there has been a lack of progress towards this EFA goal, and the GoPNG is planning to assess how this sector could be developed, on the basis of recent developments both nationally and globally. The NDoE is awaiting the findings of the scales assessment and the facility survey in order to develop a curriculum framework and minimum operating standards for all ECCE providers. However, no decision about who should licence and regulate ECCE centres has been made.

The current thinking among academics, politicians, and professionals is to formalise early childhood care by institutionalising and making it a part of the formal education system in PNG, and transferring the responsibility for ECCE from the DoCD to a new division in the NDoE.

Therefore, the NDoE needs to be directed to either review its current structure or develop a new structure that will include ECCE teacher training, curriculum development, monitoring and evaluation, gender, and policy and planning.

As PNG is highly diverse in geography, population, culture, and political aspirations, it is advisable to incrementally rollout the establishment of the ECCE schools in the country.

## 2.3. EFA Goal 2: Universal primary/basic education

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EFA Goal 2: Ensuring that by 2015, all children, particularly girls, children in difficult circumstances, and those belonging to ethnic minorities, have access to and complete free and compulsory primary education of good quality

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UBE was prioritised over the other education sectors since government wants all Papua New Guineans to access and complete at least a basic education in order to acquire the minimum knowledge and skills necessary for them to function effectively in society. Moreover, this was a more viable policy option given the country's socio-economic constraints. Thus, the UBE Plan 2010–19 (Department of Education, 2009) continues to be the government's number one education priority and the main focus of its education policy development and planning and resource allocation (Department of Education, 2014).

The NDoE strategy to achieve the EFA goal of Universal Primary Education was detailed in the NEP 2005–14, and revised in the UBE Plan 2010–19, to give the DoE a stronger focus on improving this important goal. The overarching

goal of the UBE Plan is that "All children of school age must enrol in school, complete nine years of basic education and should have learnt skills, knowledge and values covered in the basic education curriculum."

More specifically, the targets for the net admission ratio (NAR)<sup>1</sup>, gross admission ratio (GAR), and completion rate (CR) are 100 per cent; and the gross enrolment ratio (GER) target is 96 per cent. In addition, all teachers should be fully qualified, and the projected pupil to teacher ratio (PTR) is 1 to 32.4 at elementary level and 1 to 37 at primary level. The quality indicators are examined under EFA Goal 6, and this section deals with access, participation, and efficiency.

Two related programs were developed. The 'Education Access and Expansion Program' aims at providing basic education for all eligible school age children. The 'Relevant Education for All Program' aims to develop an education system that meets the needs of the country and its people, and provides appropriately for the return of children to their communities for formal employment, or for their further education and training.

The government introduced subsidised education more than two decades ago and this resulted in an increase in the number of children enrolling in schools throughout Papua New Guinea. In 2009, the government introduced the TFF policy for all children attending school up to Grade 10 and a subsidy for Grades 11 and 12 students, resulting in a significant increase in the number of eligible school age children enrolling in schools.

Although school fees in theory have been abolished, schools can charge parents project fees for major capital projects such as building classrooms because TFF is mainly for funding curriculum-related materials and equipment.

To implement government priorities, donors have funded programs such as Textbook Procurement and Distribution, Basic Education Infrastructure and Curriculum Materials Project, Elementary School Teacher Education Project, Primary and Secondary Teacher Education Project, the Curriculum Reform and Implementation Project, PNG School Journal Project, the Basic Education Development Project, Education Capacity Building Program and the Institutional Strengthening Project.

### 2.3.1 Analysis

This section assesses progress towards achieving Goal 2 by examining access, participation, quality, and efficiency using the appropriate indicators.

#### 2.3.1.1 Has access and participation improved in the elementary and primary sectors?

Yes, access and participation have rocketed since the EFA goals were introduced. This growth was initially fuelled through the education reforms of the late 1990s and the TFF policy. On the other hand, the admission of children of the correct age has decreased because schools have started to enrol underage children in the Prep Grade.

Progress in access and participation will be analysed using the number and percentage increases in schools, classes, enrolments, teachers, and enrolment rates. These indicators measure both the coverage and the absorptive capacity of the basic education sector.

Considerable improvement has also been made with regards to access to basic education. The total enrolments in Prep are used to examine the growth in year 1 of basic education. This analysis reveals that enrolments increased by 81 per cent from 61,333 in 2000 to 312,551 enrolments in 2013, and this is in excess of the enrolment projections in the UBE Plan 2010–19. The GAR increased from 42 per cent to 143 per cent during this period as the absorptive capacity increased due to the number of new elementary schools that were opened (The Preparatory Grade was

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<sup>1</sup> The Net Admission Rate is the term used in PNG for the Net Intake Rate

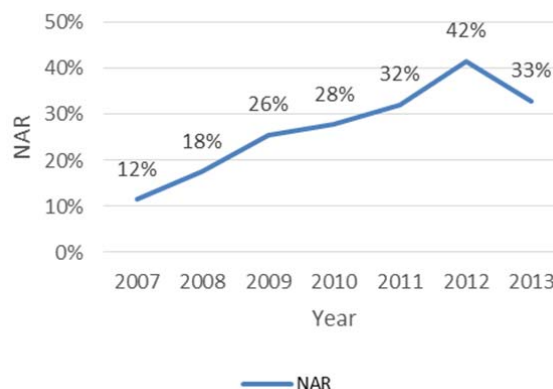
being phased in during the early part of the decade, and therefore, it is worth noting that if Grade 1 had been the first grade in basic education, the GAR would have been 104 per cent in 2000).

Figure 2: Gross admission ratio (GAR) and preparatory enrolments, 2000–13



Source: PNG Education Info

Figure 3: Net admission ratio (NAR), 2007–13



Source: PNG Education Info

The NAR<sup>2</sup> displayed in Figure 3 increased from 12 per cent in 2007 to 42 per cent in 2012, and then dipped to 33 per cent. This drop may have been caused by Teachers in Charge (TIC) at elementary schools allowing underage children into the Prep Grade (the first grade of school). There are two potential reasons for this: in the first place, it is understood that government was considering reducing the entrance age to five years, and secondly, the TIC want to boost school enrolment numbers in order to increase the TFF subsidy awarded to schools. Ideally, children should be of the appropriate/accepted age for the grade they are in. However, the reality is that the age range of children will expand and class sizes will increase unless action taken. At present, there is no specific cut-off date when children at the age of six should be admitted into the Prep Grade. It is understood that due to logistical difficulties in the country, not every birth is registered despite the standing memorandum of agreement between the DoCD and the DoE. Many parents are still uncertain of the exact age of their children. However, a specific cut-off date set and published by the DoE and enforced by all key players would immensely reduce the increase in underage enrolments in all elementary and primary schools.

It is worth highlighting at this stage that the UBE Plan projection of 221,786 Preparatory Grade enrolments in 2010 was surpassed by 90,765 enrolments (+41 per cent).

Although both the GAR and NAR indicate that access has increased, the NAR, which measures the rate at which children of the correct age are accessing the Prep Grade, is growing at a far lower rate than the GAR. ***This provides an indication that more under- and overage children are starting school than children of the correct age, and action is required to reverse this trend.***

As far as participation in basic education is concerned, considerable improvement has also been made. Figure 4 show that the number of elementary schools increased by 151 per cent from 2,797 schools in 2000 to 7,017 schools

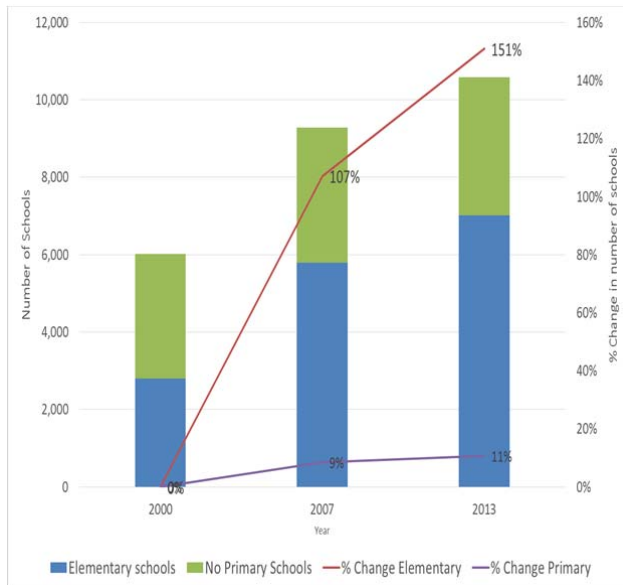
<sup>2</sup> Footnote: The Gross Admission Rate (GAR) and Net Admission Rate (NAR) are based on students in the Preparatory Grade in elementary schools which were being slowly phased in at the start of the decade. The GAR and NAR are the terms used in PNG for the Gross Intake Rate and the Net Intake Rate

in 2013. By a lesser degree, the number of primary schools increased by 11 per cent from 3,215 schools in 2000 to 3,561 schools in 2013. Thus, overall, the number of schools in the basic education sector grew by 4,566 (75 per cent) between 2000 and 2013 to increase its absorptive capacity and provide more children with the opportunity to access and participate in education.

Figure 5 shows that the enrolment numbers have increased from 795,407 pupils in 2000 to 1,716,809 pupils in 2013, which is a 138 per cent increase. This rapid increase in enrolments has surpassed the projections for 2013 in the NEP 2005–14 for the elementary and primary sectors. During this period, the GER in the primary sector increased by 27 percentage points from 71 per cent to 98 per cent.

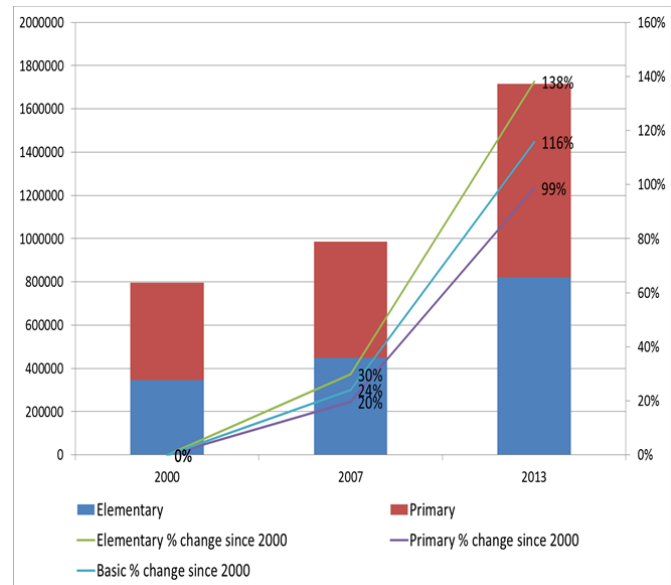
Figure 7 show that the net enrolment rate (NER) increased from 53 per cent in 2007 to 79 per cent in 2012, which is an increase of 26 percentage points (data prior to 2007 are not available). Although in 2013, the NER dipped to 74 per cent, a probable cause is underage enrolments entering the system. Because of increased underage enrolments, the number of out-of-school children may be lower; however, this is an undesirable scenario. As will be explained further on, this downward trend is likely to continue unless urgent action is taken.

**Figure 4: Number of schools and percentage increase in the basic sector, 2000–13**



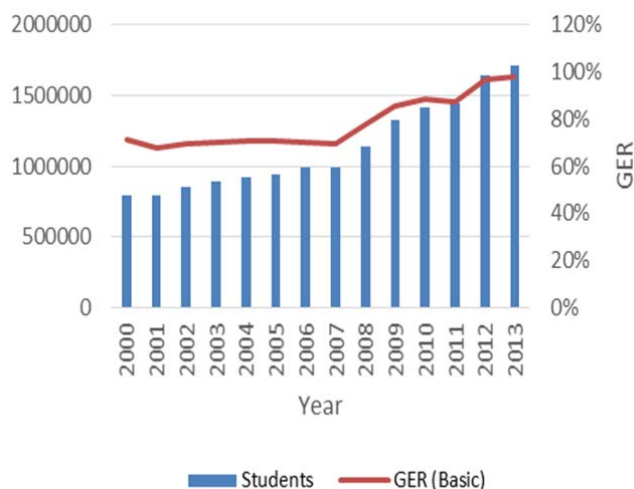
Source: PNG Education Info

**Figure 5: Number of enrolments and percentage increase in enrolments in the basic sector, 2000–13**



Source: PNG Education Info

Figure 6: Gross enrolment ratio (GER) and enrolments in basic sector, 2000–13



Source: PNG Education Info

Figure 7: Net enrolment ratio (NER) in basic sector, 2007–13



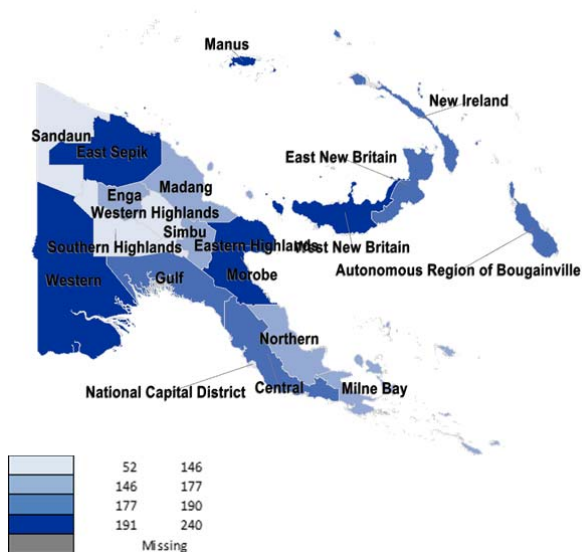
Source: PNG Education Info

### 2.3.1.2 Is improvement in access and participation consistent across all the regions and provinces?

No. Participation and access rates vary widely across the country. Most provinces in the Momase and Highlands regions have lower participation and access rates than the rest of the country.

Table 1 shows the GAR by province, which reveals that the capacity to absorb new pupils in all provinces has considerably improved. This capacity has grown mostly in Momase and the Islands regions. By examining Figure 8, there is evidence that East Sepik and Sandaun Provinces in the Momase region and most provinces in the Highlands regions have the lowest GARs in 2013.

Figure 8: Gross admission ratio by province, 2013



Source: PNG Education Info

Table 1: Change in gross admission ratio, 2000 v 2013

Province	2000	2013	Change
Western	107%	240%	133%
Gulf	69%	182%	113%
Central	103%	187%	84%
National Capital District	97%	52%	-45%
Milne Bay	36%	168%	132%
Northern	68%	173%	104%
Southern Highlands	16%	93%	76%
Enga	36%	159%	123%
Western Highlands	31%	111%	80%
Simbu	67%	105%	38%
Eastern Highlands	28%	147%	119%
Morobe	23%	212%	189%
Madang	30%	177%	147%
East Sepik	23%	194%	171%
Sandaun	40%	146%	106%
Manus	62%	228%	167%
New Ireland	34%	191%	157%
East New Britain	74%	191%	117%
West New Britain	41%	208%	167%
Autonomous Region of Bougainville	39%	182%	143%

Source: PNG Education Info

That said, Table 2 reveals that the growth in enrolment numbers in the basic education sector in the north western provinces of East Sepik, Enga, Sandaun, and Madang have significantly improved since 2000. Indeed, it can be seen that enrolment numbers have gone up in excess of 188 per cent in the Enga, Western Highlands, and Southern Highlands provinces. The last column of Table 2 also shows that most of the growth came between 2007 and 2013. For example, in Southern Highlands, there was 189 per cent growth between 2000 and 2013, as opposed to 55 per cent growth between 2000 and 2007. Therefore, the green highlighted cells show that enrolment numbers have more than doubled in 10 of the 20 provinces.

At this point, it is also worth noting that the GAR and the GER figures appear to be very high in some provinces and this could be because population projections are too low, head teachers have over-reported the enrolments, or there may even be high repetition rates. Furthermore, it is worth remembering that gross enrolment rates reflect over- and underage children, and this may contribute to lower participation rates in higher grade levels.

Figure 9: Gross enrolment rate by province, 2013

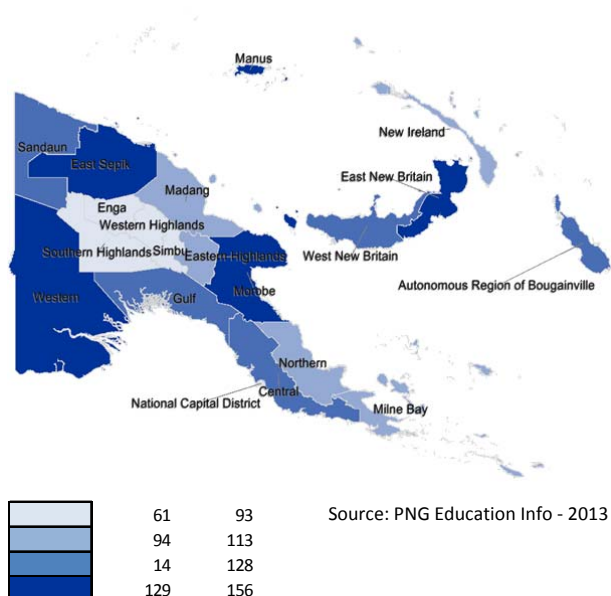


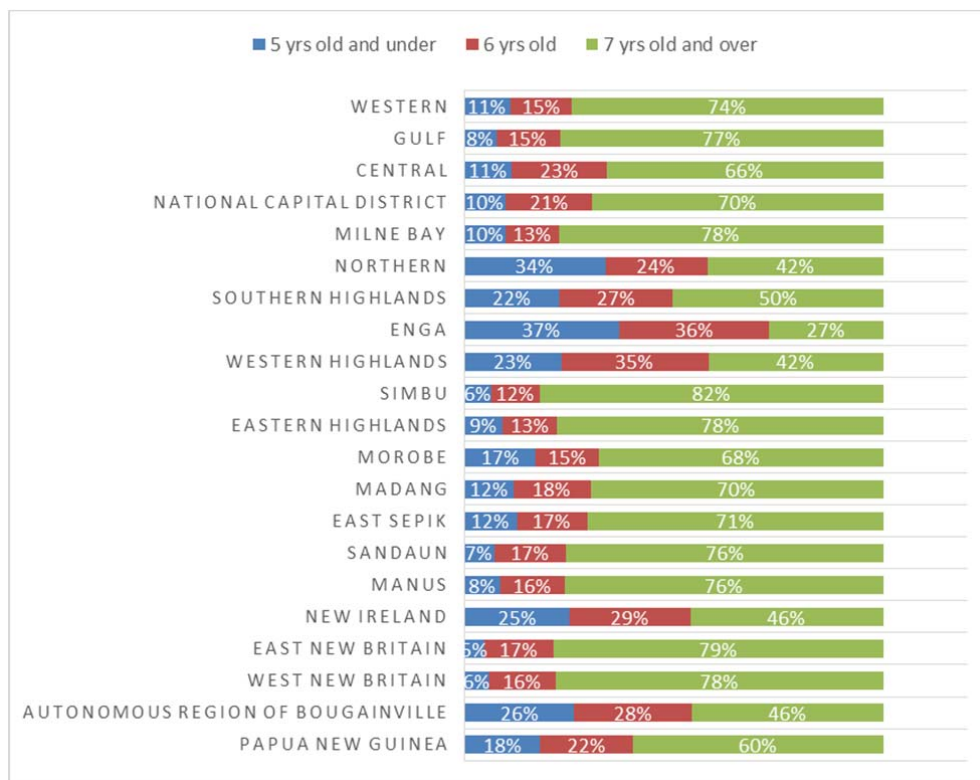
Table 2: Increase in enrolments in the basic education, 2000–13

Province	Basic Education				
	Year			Change since 2000	
	2000	2007	2013	2007	2013
Western	27,959	32,660	52,127	17%	86%
Gulf	17,929	18,786	25,713	5%	43%
Central	36,984	43,544	63,045	18%	70%
National Capital District	45,413	52,915	68,873	17%	52%
Milne Bay	34,126	45,114	63,346	32%	86%
Northern	21,613	20,497	45,576	-5%	111%
Southern Highlands	56,810	88,054	163,682	55%	188%
Enga	38,499	37,786	117,732	-2%	206%
Western Highlands	56,606	87,886	163,931	55%	190%
Simbu	42,359	50,941	76,435	20%	80%
Eastern Highlands	68,789	71,471	142,613	4%	107%
Morobe	75,799	100,617	164,129	33%	117%
Madang	53,025	72,134	131,615	36%	148%
East Sepik	53,775	51,394	120,078	-4%	123%
Sandaun	28,901	36,402	55,225	26%	91%
Manus	9,061	10,091	13,851	11%	53%
New Ireland	19,276	23,919	42,841	24%	122%
East New Britain	41,305	49,908	71,722	21%	74%
West New Britain	31,870	42,912	66,713	35%	109%
Autonomous Region of Bougainville	35,308	50,196	67,562	42%	91%
<b>Total</b>	<b>795,407</b>	<b>987,227</b>	<b>1,716,809</b>	<b>24%</b>	<b>116%</b>

Although Figure 3 showed a significant dip in the NAR in 2013, from

Figure 10, it can be seen that 13 provinces had 10 per cent or more Prep pupils who were five years old or younger in 2013. It follows that these pupils will be six years old in Elementary 1 in 2015, so the NAR can be expected to dip further in 2014.

Figure 10: Percentage of over- and underage pupils in the first year of elementary school, 2013



This problem is occurring in every province, and action is required to address it before the NAR access rate, and subsequently, the NER participation rate drops further. Although no research has been conducted to identify reasons for children being held back from attending schools, anecdotal evidence suggests that parents do not feel their children are ready for school. **Therefore, it is strongly recommended that national and provincial education departments urgently develop appropriate strategies to curtail this dip or reverse the trend.**

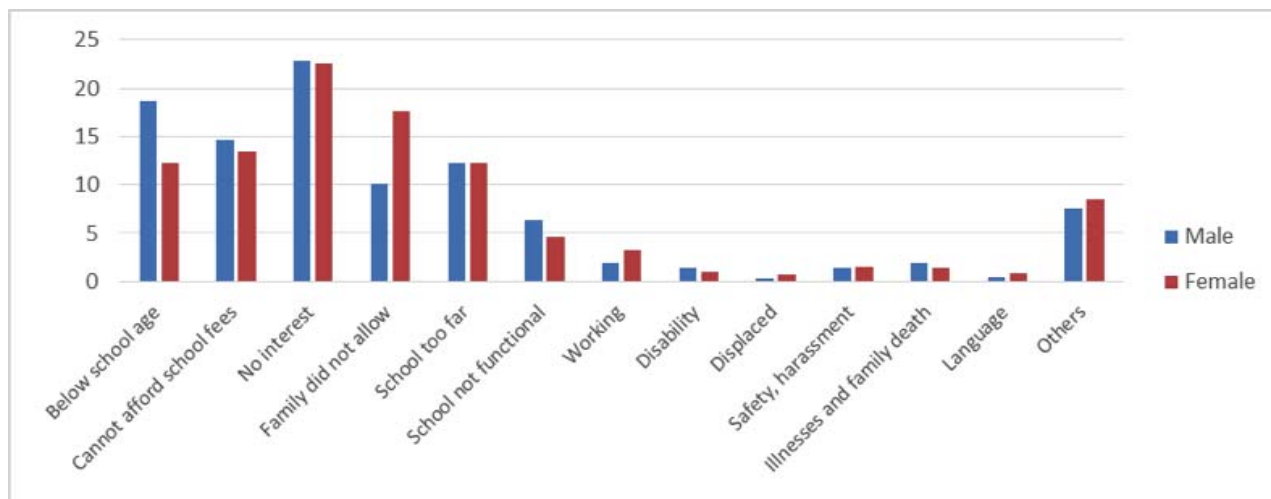
### 2.3.1.3 Why are children never attending school?



Figure 11 provides insight into why children never have attended school, which was reported in the Household Income Expenditure Survey (HIES) (2009–10). No interest, inability to afford school fees, and distance from school seem to be the most common reasons. However, what is also interesting to note is that in some parts of the country, and for various reasons, parents still stop their children from going to school, as shown in

Figure 11, approximately 18 per cent of girls not attending and 10 per cent of boys.

Figure 11: Why do children not attend school?



Source: HIES Survey 2009–2010

The HIES also examined for all age groups, the reasons for not attending school and found that 5 per cent of females stopped attending school because they got pregnant or married and that less than 1 per cent of males stopped school because they married. In Papua New Guinea, inter-tribal warfare and street violence are common, and this can prevent children from attending school due to school closures and fear of safety.

Although there are no indicators available that measure the exact number of children who are affected by this issue, it was reported that in the six to fifteen year age group, 6 per cent of students nationally stopped attending school because of safety and harassment.

This issue needs to be addressed mainly in the Highlands region as it affected 11 per cent of students, in comparison to the other regions, where less than 1 per cent of students stopped attending school for this reason (National Statistics Office, 2012).

#### 2.3.1.4 Have quality and efficiency improved in the elementary and primary sectors?

Yes. Enrolled children are progressing at a faster rate through each grade, but around 15 per cent of children are not progressing from elementary Grade 2 to 3. The pupil-teacher ratio has remained constant and in line with national targets, but in the elementary schools, it has increased to an unmanageable 49 children to one teacher across the country.

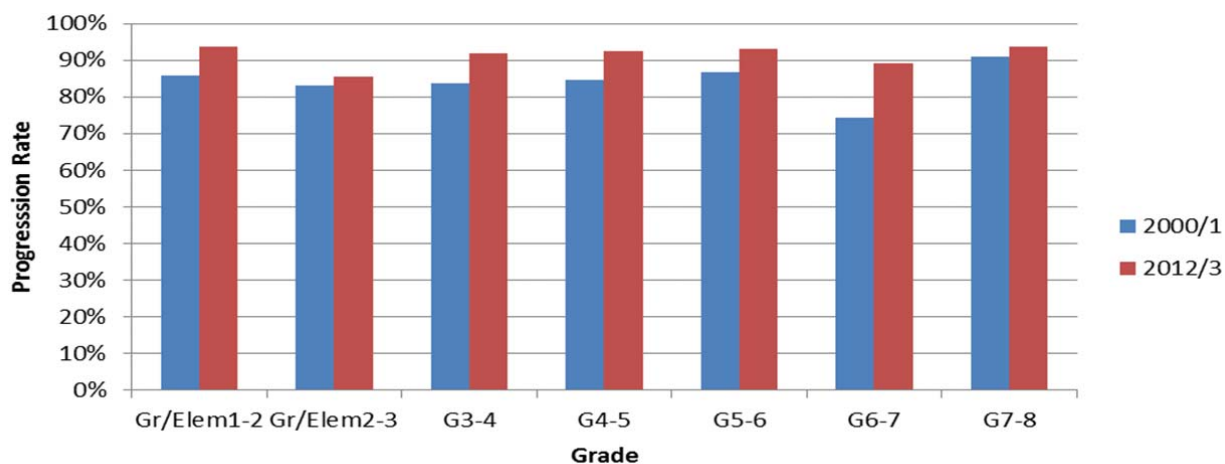
This section analyses quality and efficiency using the PTR, in theory, are a joint measure of quality and efficiency and the progression rate (PR) of pupils passing from one grade to another.

In theory, a high PTR indicates that the education system is more cost efficient than a system with a low PTR, but conversely, a high ratio will probably have a detrimental effect on teaching quality. With regard to planning and monitoring, the ideal PTR is the ratio that the country plans for, which is 32.4 to one at elementary level and 37 to one at primary level in 2014. Other aspects of quality are examined in more depth under Goal 6.

Figure 12 shows that the PR increased throughout the basic sector from 2000/01 to 2012/13, particularly between Grades 6 and 7. The reason for the latter increase of 15 percentage points was probably due to community schools, which ran from Grade 1 to 6, being upgraded to primary schools now offering Grade 7 and 8 subjects. The lowest PR is from Grade 2 to 3. It can be speculated that the reason is that many children have to travel much further to school

at the end of elementary schools (Grade 2/Elementary 2) to get to the nearest primary school. This indicator is further explored by gender under EFA Goal 5.

Figure 12: Progression rates between grades in 2001/02 compared to 2012/13



In a model presented that indicates the Cohort Survival Rate from Prep to Grade 5 is 66.6 per cent, i.e., for every 100 enrolments that enter Prep, 66.6 are retained in Grade 5. The analysis also shows that the coefficient of internal efficiency is 74 per cent. This is the ideal (optimal) number of pupil-years required (i.e. in the absence of repetition and dropout) to produce graduates from a cycle or level of education expressed as a percentage of the actual number of pupil-years spent to produce the same number of graduates. The input-output ratio, which is the reciprocal of the coefficient of efficiency, is often used as an alternative. N.B. One school year spent in a grade by a pupil is counted as one pupil-year (UNESCO Institute for Statistics (UIS), 2009).

The coefficient of internal efficiency measures the consequences of repetition and dropout on the efficiency of the educational process in children enrolling in Grade 5. Thus, the coefficient of internal efficiency of 74 per cent indicates that there is a high dropout rate.

The PTR is a critical factor in access and participation in schooling as well as in the achievement of quality student learning outcomes. The national target for primary education PTR is 34 pupils to one teacher (primary school class sizes should not exceed 40). This PTR target was based on the importance of having manageable class sizes and the need for every child's learning needs to be adequately attended to and addressed by the teacher (Department of Education, 2014).

Figure 13 illustrates the PTR in the elementary sector. The NEP 2005–14 states that except under exceptional circumstances, the PTR should not exceed 45 pupils to 1 teacher. Despite the number of teachers going up from 5,686 to 15,877—an increase of 279 per cent—the 2013 PTR of 49 highlights that there are not enough teachers to cope with the growth in enrolments brought about by TFF.

The PTR data in the primary sector in Figure 14 show that the teacher numbers have grown in line with the increase in enrolments. However, when the bulge of enrolments that is being experienced in elementary grades reaches the primary grades, the PTR for primary will be exceeded, creating larger class sizes throughout the primary sector.

**Urgent action is required here in certain provinces to prevent primary class sizes becoming too large. Otherwise, these large class sizes will have an adverse impact on the quality of teaching.**

Figure 13: PTR and number of teachers, elementary sector, 2000–13

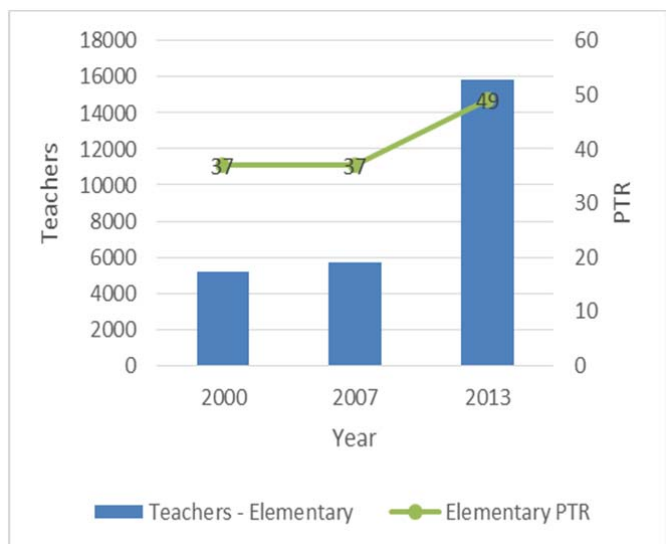


Figure 14: PTR and number of teachers, primary sector, 2000–13

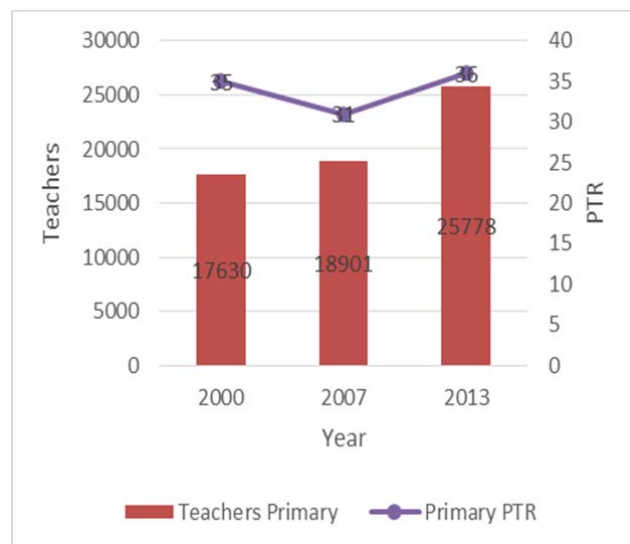


Figure 15 and Figure 16 illustrate the elementary and primary sector PTRs for each province and where the teaching force needs to be strengthened. ***In the elementary sector, the provinces where recruitment urgently needs to take place are in East Sepik, Enga, Madang, Eastern Highlands, and Western Highlands. In the primary sector, the provinces that urgently need to address the high PTR are Northern, Gulf, Eastern Highlands, and Enga provinces.***

When the PTR is examined by individual grade in

Figure 17, it can be seen that although the primary sector as a whole does appear to be manageable, the PTR in the elementary school grades is very high.

Figure 15: Pupil to teacher ratio elementary by province, 2013

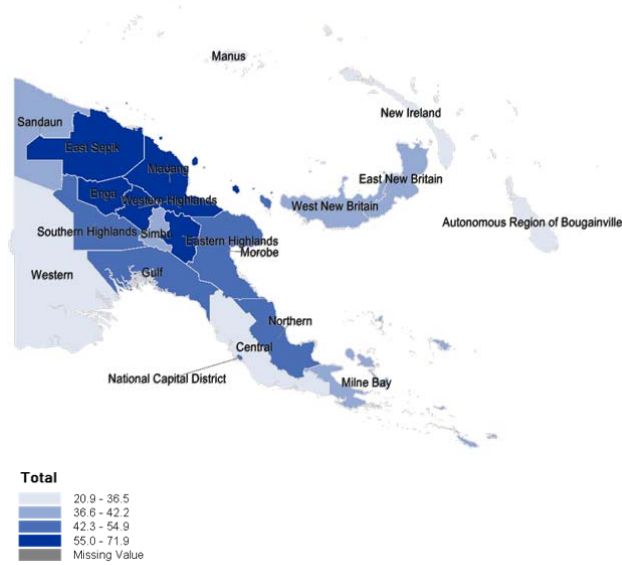
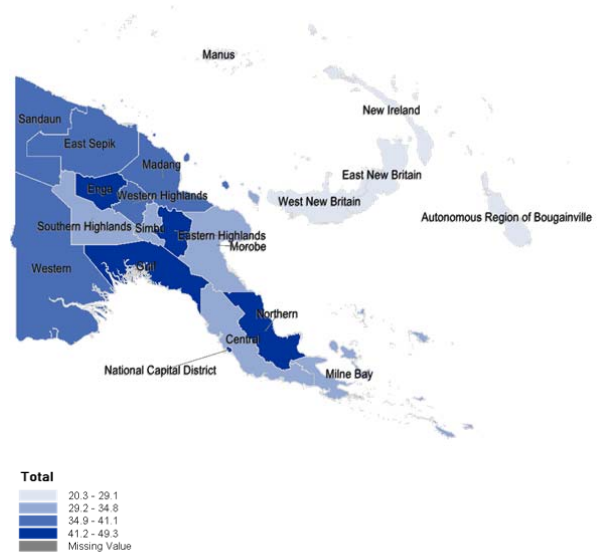
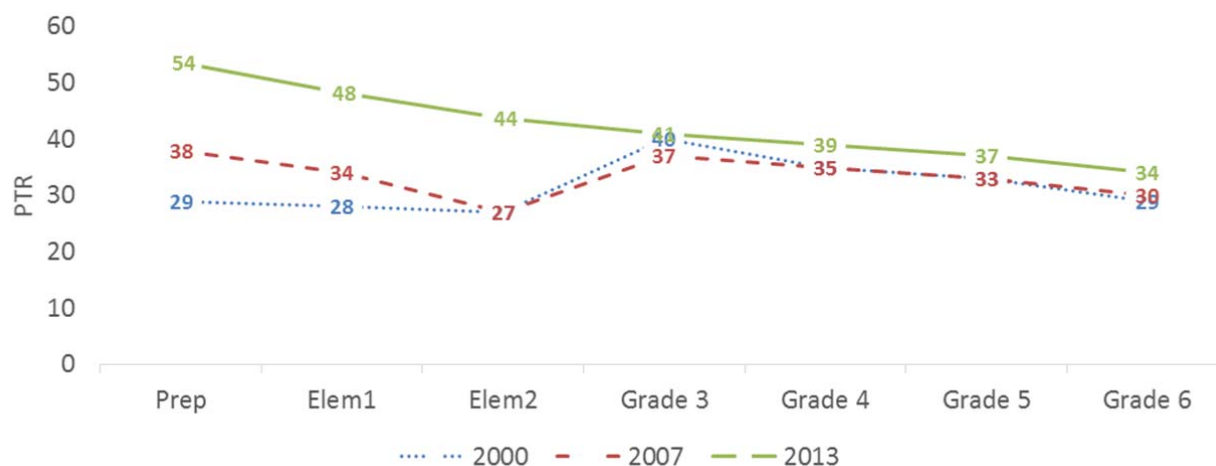


Figure 16: Pupil to teacher ratio primary by province, 2013



Source: Figure 13 to Figure 16 came from Education Info

Figure 17: Pupil to teacher ratio by grade, 2000, 2007 and 2013



Source: Education Info and Statistical Bulletin 2013

Note: Grade 1 and Grade 2 in primary and community schools are not included in the above graph

### 2.3.2 Summary and conclusion

It is evident that the education structural reforms that commenced in the early 1990s have improved education coverage and absorptive capacity. Although the numbers of teachers and schools have increased considerably, **additional space and other resources will be required to accommodate the increase in enrolment numbers that is expected** as access and participation barriers are removed through initiatives such as the TFF and the proposed compulsory education policy. Although these initiatives are expected to have a great impact, this report encourages the DoE to conduct research to fully understand why children lack an interest in obtaining an education and why some parents do not allow their children to attend school because it should be possible to design further interventions that can improve attendance.

The low transition rates between elementary schools and primary schools are particularly worrying. Losing these pupils so early in the education cycle has a big impact on primary education indicators. For example, **if the pupils who do not progress after the elementary Grade 2 could be persuaded to progress up to Grade 8, it is estimated that this would increase the number of enrolments in primary schools by 40 per cent.**

The UBE Plan 2010–19 enrolment projections in basic education set for 2014 were surpassed. However, the growth seems to be coming from over and underage children entering or dropping back into the system. **Primary schools will need to be able to absorb the surge in enrolments caused by TFF**, which are coming through the system. If the government's compulsory education policy is implemented, this will put further pressure on the system; therefore, careful planning and extra funding will be required to prevent the PTR from becoming very high in a number of provinces. Unless action is taken, there will be a shortage of teachers and space to absorb the new intakes.

Growth in the GER and GAR show that both participation and access have significantly increased for children of all ages since 2000. Although it is encouraging to note that the NAR has increased significantly since 2007, the recent dip is a downward trend that will continue if action is not taken. Further research is required to understand the reason for the dip; however, it is thought that this dip has been caused by the TIC at elementary schools allowing underage children into Prep.

To conclude, the DoE needs to improve activities like teacher training, curriculum development, procurement and the printing and distribution of textbooks and basic curriculum materials, to meet the global targets and outcomes.

## 2.4 EFA Goal 3: Learning opportunities for youth and adults and life skills

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EFA Goal 3: Ensuring that the learning needs of all young people and adults are met through equitable access to appropriate learning and life-skills programmes.

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The NDoE formulated the approach to achieve the goal of creating learning opportunities for youth and adults and life-skills programs in the NEP (Department of Education, 2004). This was because previous government gave priority to the basic education sector and less focus and attention to post-basic education.

The NEP 2005–14 documented that transition rates between Grades 8 and 9, and Grades 10 and 11 were to be maintained at 50 per cent and 25 per cent respectively. It was planned that only minor increases in the number of Grade 11 places would become available through the addition of extra classes in the current institutions, rather than establishing new secondary schools. Extra spaces in Grades 9 and 10 would become available as Grade 7 and 8 classes were relocated to the primary schools. Enhanced opportunities for flexible, open, and distance education were to be put in place to provide an alternative route for students to complete their education. Emphasis was to be placed on quality, with the development of a new curriculum and the provision of teacher training.

In TVET, the goal was set to meet the learning needs of all young people and adults through equitable access to appropriate learning and life skills programs. The target was to ensure that by 2050 at least 20 per cent of all Grade 12 leavers would be able to complete a TVET program. There was to be a policy shift so that the maximum length of a full-time course was set at one year, and a greater emphasis was placed on short courses designed for the community. This would be achieved through the subsidy for post-primary students.

In 2011, the DoE produced the TVET Strategic Management Plan (National Department of Education, 2011) that detailed more aspiration aims than the NEP 2005–14. Goals were set: to expand teaching skills in the areas of technology, business, forestry, fisheries, maritime, tourism and hospitality, and in community colleges; and to establish a multi-disciplinary technical college in each province, a vocational technical high/secondary school in each district, an Industrial Technology and Development institute, and a TVET Flexible and Open Learning Institute. In 2010, the government expanded TFF to include secondary and vocational schools, and this has had a considerable impact on growth.

### 2.4.1 Analysis

#### 2.4.1.1 Have access and participation improved in the post-basic education sector?

Yes. Although the participation rates are still very low, access and participation have improved considerably across the sector. However, the sector will have to be expanded dramatically over the next few years if it is to cope with the expected growth of enrolments.

As mentioned previously, progress in access and participation in this section will be analysed using the number and percentage increases in schools: i.e., number of enrolments, number of teachers, and enrolment rates. These indicators measure both the coverage and the absorptive capacity of the post-basic education sector.

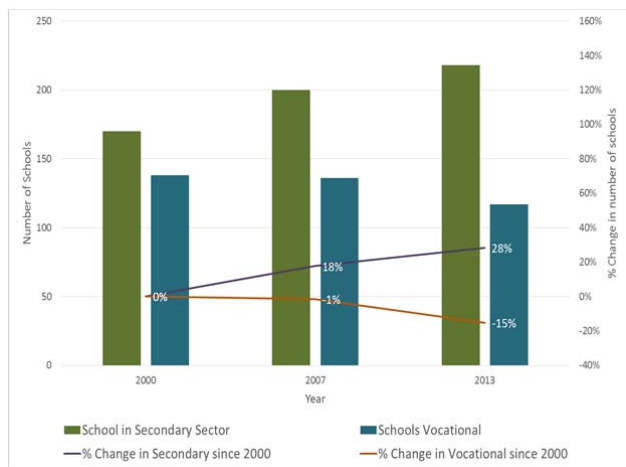
The education structural reforms of the early 1990s improved education coverage and the absorptive capacity in the secondary sector. Figure 18 illustrates that the number of secondary schools increased between 2000 and 2013 by 28 per cent to 218 schools, and Figure 19 shows that enrolments soared 157 per cent to 142,309 students. When



examining Figure 18 and Figure 19, it can be seen that the number of vocational centres decreased by 15 per cent to 117 centres since 2000, but conversely, the number of enrolments in this sector increased by 130 per cent.

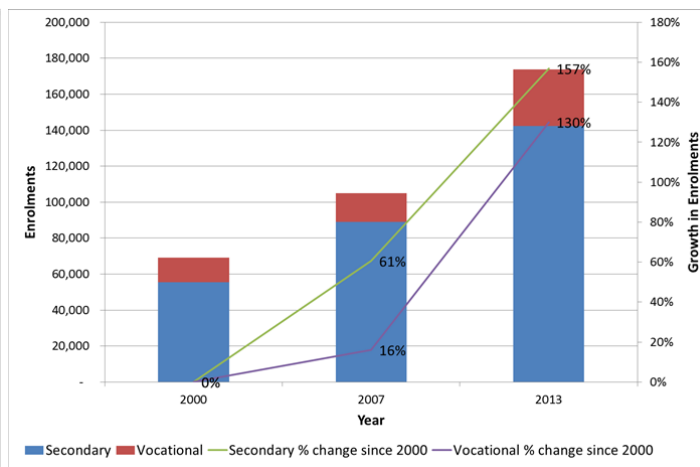
The NEP 2005–14 did not plan any major improvements in the enrolments in the secondary sector, but the number of students has increased dramatically, surpassing the 2014 planned target of 103,370 students by 38 per cent. The number of schools increased by 28 per cent from 170 in 2000 to 218 in 2013. Much of this growth has taken place in the early part of the last 10 years as it has been the government’s principal strategy to expand existing secondary schools rather than to establish new schools. The data used in Figure 19 can be examined by gender and year.

**Figure 18: Number of schools and percentage increase in the post-basic sectors, 2000–13**



Source: PNG Education Info

**Figure 19: Number of students and percentage increase in the post-basic sectors, 2000–13**



Source: PNG Education Info

Table 3 details the growth in enrolments by sector and province, and indicates that participation has improved at both the secondary and vocational levels since 2000. As with the basic education sector, most of the growth can be found in the East Sepik, Sandaun, Enga, Madang, Simbu and Western Highlands provinces in the Momase, and Highlands Regions.

This growth in enrolments in the secondary sector is reflected in increasing access and participation rates. Figure 20 illustrates that access improved considerably from 2000, and Figure 21 shows that participation across the sectors has also increased.

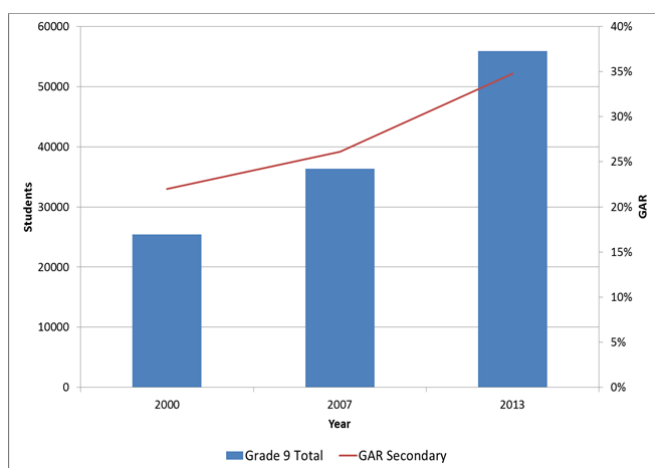
Based on the success of the TFF and the likely impact of proposed compulsory education, it can be concluded that growth will continue to be very high. As the secondary GER is only 23 per cent, provision will need to be made for this growth, and the sector will need to be expanded through a further increase in the current school capacity and the establishment of new schools. The NER is 7 per cent so this showing that the majority of secondary pupils are overage. The vocational sector will also have to grow as planned in the TVET Strategic Management plan to prepare for the full impact of TFF.

Table 3: Growth in enrolments in the post-basic education sectors, 2000–13

Province	Secondary Education					Vocational Education				
	Year			Change since 2000		Year			Change since 2000	
	2000	2007	2013	2007	2013	2000	2007	2013	2007	2013
Western	1,706	2,655	4,364	56%	156%	467	424	1,622	-9%	247%
Gulf	713	1,610	1,382	126%	94%	228	88	207	-61%	-9%
Central	3,161	5,471	5,801	73%	84%	1,287	1,633	956	27%	-26%
National Capital District	5,663	9,804	9,998	73%	77%	156	236	2,552	51%	1536%
Milne Bay	2,351	2,858	4,424	22%	88%	428	1,123	1,387	162%	224%
Northern	1,256	1,124	2,383	-11%	90%	490	920	954	88%	95%
Southern Highlands	4,122	5,641	10,682	37%	159%	891	1,211	1,823	36%	105%
Enga	2,855	4,782	7,840	67%	175%	797	570	915	-28%	15%
Western Highlands	3,721	8,497	16,450	128%	342%	708	820	1,994	16%	182%
Simbu	2,619	3,001	8,408	15%	221%	613	748	1,583	22%	158%
Eastern Highlands	4,694	6,846	12,607	46%	169%	488	263	3,117	-46%	539%
Morobe	4,653	9,922	16,033	113%	245%	1,485	1,358	2,667	-9%	80%
Madang	2,576	4,230	6,614	64%	157%	671	595	1,438	-11%	114%
East Sepik	3,203	4,665	9,186	46%	187%	581	495	1,887	-15%	225%
Sandaun	1,389	1,815	3,421	31%	146%	872	1,000	1,064	15%	22%
Manus	1,118	1,699	2,060	52%	84%	188	82	178	-56%	-5%
New Ireland	1,689	1,748	3,706	3%	119%	615	179	911	-71%	48%
East New Britain	3,729	6,668	7,815	79%	110%	1,433	1,855	3,688	29%	157%
West New Britain	1,991	3,367	3,760	69%	89%	1,028	1,883	1,090	83%	6%
Autonomous Region of Bougainville	2,206	2,560	5,375	16%	144%	288	434	1,513	51%	425%
<b>Total</b>	<b>55,415</b>	<b>88,963</b>	<b>142,309</b>	<b>61%</b>	<b>157%</b>	<b>13,714</b>	<b>15,917</b>	<b>31,546</b>	<b>16%</b>	<b>130%</b>

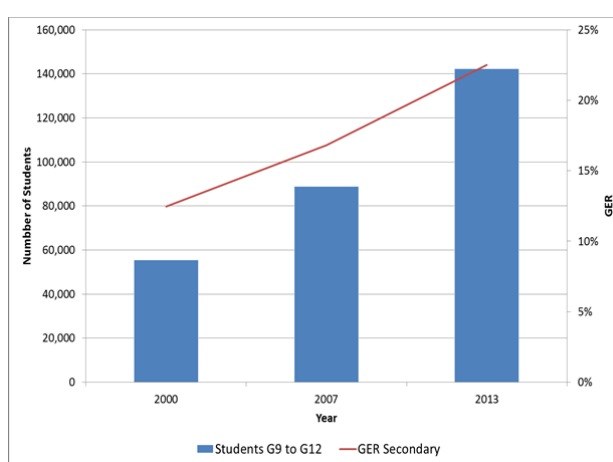
Source: PNG Education Info

Figure 20: Gross admission ratio (Grade 9) and Grade 9 enrolments, 2000–13



Source: PNG Education Info

Figure 21: Gross enrolment ratio and enrolments (Grades 9–12) in the secondary sector, 2000–13

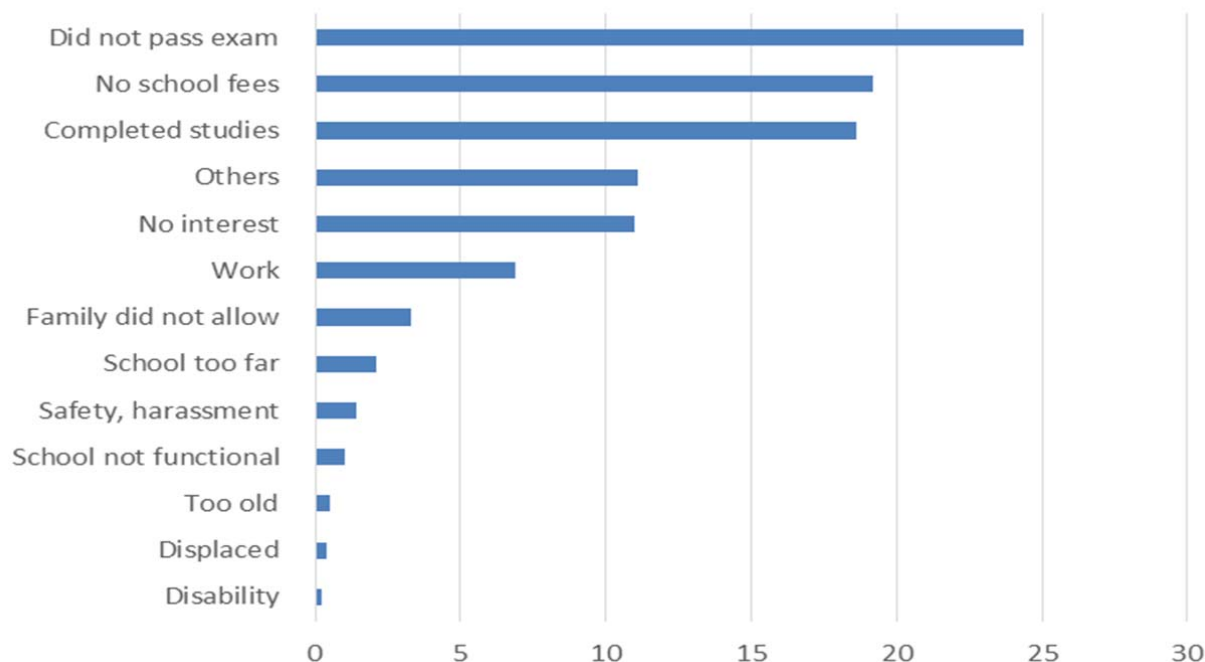


Source: PNG Education Info

### 2.4.1.2 Why did children who were 15 years old and above drop out?

Figure 22 reveals that the main reasons why pupils dropped out of school between 2009 and 2010 were that they had not passed the Grade 8 examination or that they could not afford to pay school fees. However, TFF has made it possible for students who met the required grade but had school fee problems to transit to Grade 9 smoothly.

Figure 22: Reasons for children age 15 and over dropping out



Source: HIES Survey 2009–10

### 2.4.1.3 Has there been improvement in quality and efficiency?

There has been some improvement in the quality and efficiency indicators in the secondary sector. Although a smaller proportion of fewer children are transitioning from Grade 8 to 9, the figures are still in line with the national target; conversely, a higher proportion of children are transitioning than expected from Grade 10 to 11. Considerable variance in both the transition rates exists among the provinces. The pupil teacher ratio in the secondary sector is at a manageable 31 students to one teacher, but this will increase as the full impact of TFF is felt in five years' time.

There are a number of measures that can be used to assess efficiency, but due to a lack of data, the measures that will be used in this section are the transition rate (TR), the Grades 9 to 12 cohort retention rate (RR); and the PTR. Other aspects of quality are examined in more depth under Goal 6.

Figure 23 shows that the Grade 8 to 9 TR declined from 2000 to 2007. Since then, it has remained around the target of 50 per cent set in the NEP 2005–14. Conversely, the Grade 10 to 11 TR reveals an upward trend since 2000, and the planned target of 25 per cent has been exceeded because the TR was 43 per cent in 2013.

Figure 23: Transition rate for Grade 8 to Grade 9 and from Grade 10 to Grade 11, 2000–13

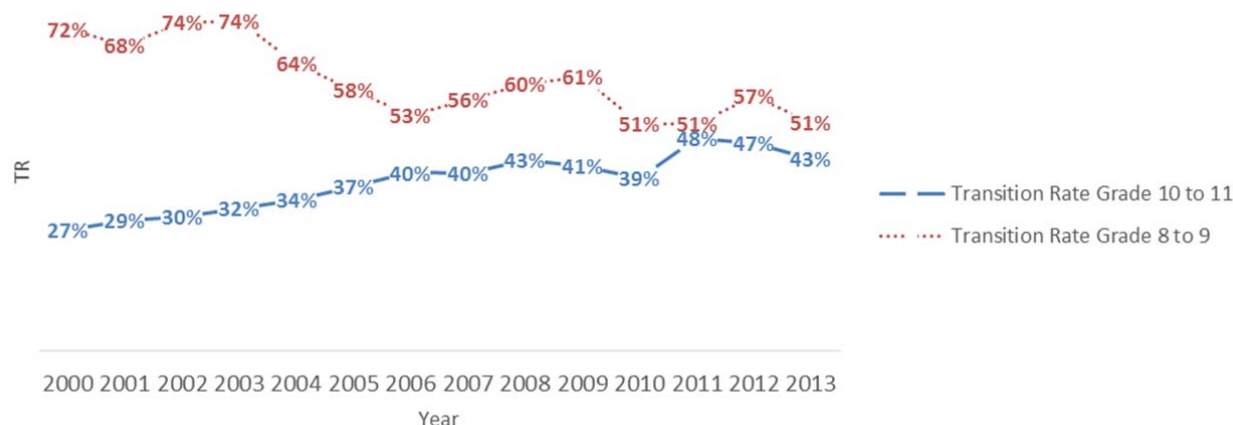
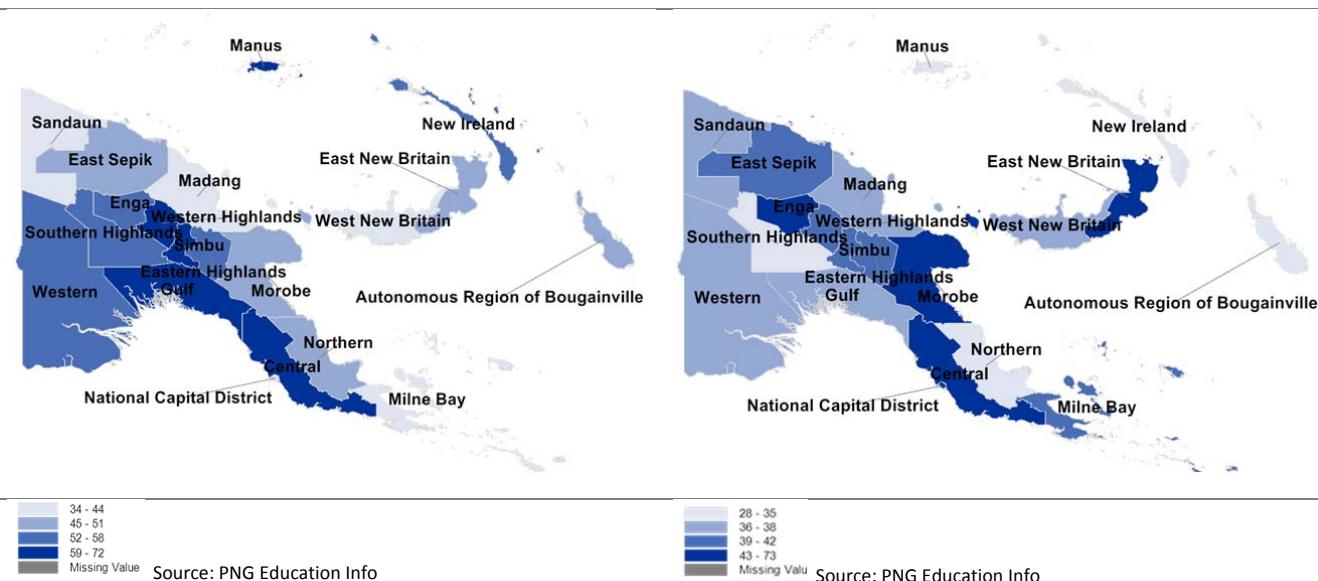


Figure 24 illustrates the variance in the Grade 8 to 9 TRs across the provinces. It highlights that five provinces, Madang, Milne Bay, National Capital District (NCD), Sandaun, and West New Britain have a Grade 8 to 9 TR lower than 45 per cent. Figure 25 shows that the Autonomous Region of Bougainville, Manus, New Ireland, and Northern and Southern Highlands have a TR of less than 35 per cent, but this is above the national target of 25 per cent.

Figure 24: Transition rate Grade 8 to Grade 9 by province, 2013

Figure 25: Transition rate Grade 10 to Grade 11 by province, 2013



The cohort retention rate (RR) for Grade 9 to Grade 12 shows that the PNG RR is 39 per cent

Figure 26). This means that on average, six out of every 10 students who enter secondary school leave before starting Grade 12. With the exception of NCD, Enga has the highest RR, where half the students are retained in Grade 12, and Gulf has the lowest RR, with only 13 per cent of the students being retained. It is thought that the high RR in the NCD and the low RR in the Gulf are interlinked because NCD schools are believed to be better than those in the neighbouring Gulf province the more conscientious pupils move to NCD to study.

Figure 26: Provincial secondary cohort retention rate, 2013

National Capital District	71
Enga	52
Morobe	48
Simbu	46
East New Britain	42
Western Highlands	41
Madang	41
Eastern Highlands	41
Papua New Guinea	39
East Sepik	36
Central	35
Milne Bay	33
West New Britain	33
Manus	30
Autonomous Region of Bougainville	28
Southern Highlands	25
Sandaun	25
New Ireland	23
Northern	21
Western	16
Gulf	13

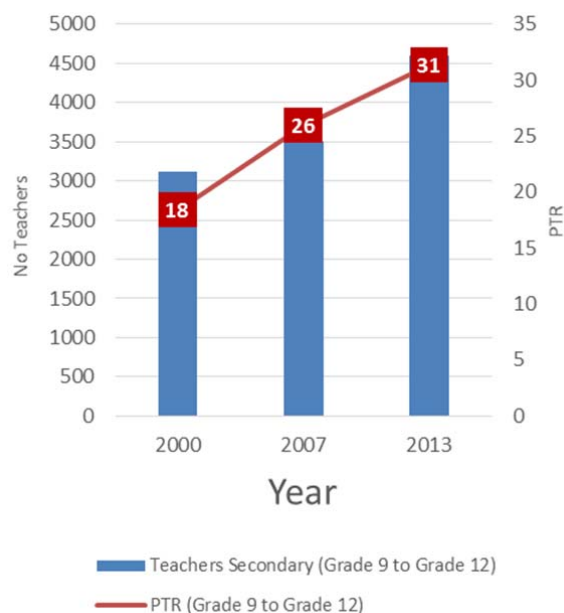
Source: PNG Education Info

Figure 27: Transition rate Grade 8 to Grade 9 by province, 2013

Simbu	72
Western Highlands	66
Manus	64
Central	61
Gulf	61
New Ireland	58
Eastern Highlands	57
Enga	55
Western	53
Southern Highlands	52
East New Britain	51
Morobe	51
<b>Papua New Guinea</b>	<b>51</b>
Autonomous Region of Bougainville	50
Northern	46
East Sepik	45
Milne Bay	44
National Capital District	44
Sandaun	41
Madang	34
West New Britain	34

Source: PNG Education Info

Figure 28: Pupil to teacher ratio, secondary, 2000–13



Source: PNG Education Info

This explains why the TR is so low between Grades 8 and 9 in NCD, as students from the Gulf migrate there and take up places in NCD schools. A survey needs to be conducted to verify what other variables cause the low TR.

Figure 28 shows that the PTR was 31 students per teacher in 2013 and the projected PTR of 26 in the NEP 2005–14 has been surpassed from a cost effective point of view. This can be expected to increase further as the full impact of TFF reaches secondary schools in around five years' time.

#### 2.4.2 Conclusions and way forward

Although access and participation have considerably improved across the secondary and vocational sectors, participation rates are still very low. It is evident that a large minority of children do not attend school because they have no interest and feel an education will serve no purpose in their life, or that their parents do not allow them to attend school. The NDoE should address these issues, but further research would be required before doing so.

The transition rate between Grades 8 and 9 has decreased because there are many more Grade 8 graduates and a lack of capacity in the secondary schools to accommodate students, but the transition rate is in line with the national target. On the other hand, as secondary school capacity has increased, more Grade 10 pupils can transit to Grade 11, and this would indicate that the transition rates should be well above the national targets. Considerable variance in both these transition rates exists among the provinces and this should be addressed. The pupil teacher ratio in the secondary sector is now at a manageable 31 students to one teacher.

Therefore, it can be concluded that the DoE will have to focus on increasing the capacity in secondary and TVET sectors if these sectors are to absorb the full impact of TFF that is going to be felt in five years' time, and the proposed compulsory education policy. The number of places in the secondary and TVET sectors will need to be considerably increased through the construction of new secondary schools and vocational centres, as well as the expansion of current institutions. New teachers will need to be trained to deal with the increase in enrolment numbers. Schools and vocational colleges will have to examine ways to use TFF money to purchase resources in order to accommodate new teachers and pupils.

## 2.5 EFA Goal 4: Adult Literacy

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EFA Goal 4: Achieving a 50 per cent improvement in the levels of adult literacy by 2015, especially for women, and equitable access to basic and continuing education for all adults.

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GoPNG's commitment to achieving Goal 4 is indicated in PNG Vision 2050 (2009) and other policies and reports such as the Medium-Term Development Plan 2011–15, the NEP 2005–14, the Gender Equality in Education Policy (2003), the UBE Plan 2010–19, and the National Literacy Policy (2000). It is envisaged that the adult population will be educated and be literate through effective and efficient implementation of these government sector plans; however, in reality progress towards maximising the adult literacy rate is slow.

Currently, the PNG adult literacy rate stands at 62 per cent according to a UNESCO Institute for Statistics report. This means that a more rigorous effort needs to be made by government and all its development partners to address the remaining 38 per cent of the adult population who are not literate.

Although the UBE Plan confirms that basic education is the right of all citizens, its primary focus is on children and formal education. However, people who struggle with reading and writing are excluded from many opportunities and benefits of national development. Without basic literacy skills, they are not appropriately equipped with the fundamental capacity to contribute to developing the country. The multiplier benefits of adult literacy are well documented. For example, educating women reduces child and maternal mortality rates, reduces the incidence of



HIV/AIDS, and contributes to economic growth. It is therefore essential that progress is made with the achievement of this goal.

According to the UNESCO Institute for Statistics (UIS), the literacy rate for Papua New Guinea is 62.9 per cent. But, unfortunately, with the exception of UNESCO's Programme on Accelerating National Efforts in Papua New Guinea to Achieve EFA through LIFE (2009–12), no notable interventions to improve the adult literacy rate have been supported. This section details the little progress that has been made by presenting the current level of adult literacy in the four regions of the country, and reporting on the proposed curriculum framework for a national Alternate Basic Education Programme (ABEP), which the National Literacy and Awareness Secretariat (NLAS) believes will make a significant impact in improving literacy across the country.

### 2.5.1 Analysis

To monitor progress, the analysis of these goals uses literacy data from the UIS (UNESCO Institute for Statistics, 2014). The data are supplemented with findings from the HIES Report (National Statistics Office, 2012), and the Household Literacy Survey 2011 in Eastern Highlands Province (EHP) and in the Autonomous Region of Bougainville (ARoB) (National Literacy and Awareness Secretariat (NLAS), National Statistical Office (NSO) and UNESCO, 2011).

Although the purpose and methodology used in the above mentioned studies are different, they all provide valuable information about adult literacy. The UIS analysed 2010 data from 41 countries, and Papua New Guinea reported that the adult literacy rate increased to 62 per cent from 56 per cent in 2000. This means the literacy rate in Papua New Guinea had increased but was below the 50 per cent improvement required to be achieved by 2015. The same UIS study also reported that in Papua New Guinea, fewer than two out of three adults were literate, of whom most were male and fewer female. The challenges for government are to increase the female literacy rate, and at the same time, significantly increase the overall adult literacy rate.

#### 2.5.1.1 What progress has been made in improving youth and adult literacy?

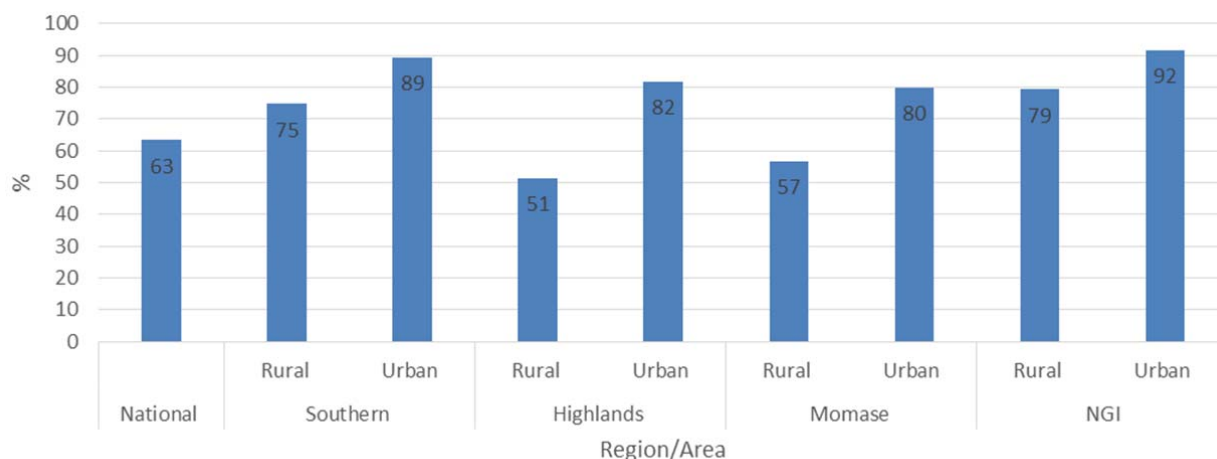
Very little. Overall, adult literacy improved by around six percentage points between 2000 and 2012. Also, huge disparities exist in adult literacy rates between the rural areas of the north western regions of Papua New Guinea and the rest of the country.

The adult (15 years and older) literacy rate estimated by UIS for 2012 was 62.9 per cent (UNESCO Institute for Statistics, 2014). This is an improvement in the overall literacy rate from 56.2 per cent in the 2000 National Population and Household Census. That being said, it is highly likely that the country will not achieve the EFA Goal 4, which aims at achieving a 50 per cent improvement in literacy in all member countries by the year 2015. This would mean the adult literacy rate would need to rise to 78 per cent (National Literacy and Awareness Secretariat (NLAS), National Statistical Office (NSO) and UNESCO, 2011).

The UIS estimated that the youth literacy rate for 15–24 year olds in 2012 was 71.2 per cent. Although, evidence from the HIES (2009–10) indicates that both the adult and youth literacy rates may have been slightly higher at 63.3 per cent and 78.8 per cent respectively (National Statistics Office, 2012).

This HIES indicated that 63 per cent adult literacy rate in PNG was accompanied by a marked disparity between male (68.9 per cent) and female (57.3 per cent) literacy rates. There was also a huge disparity between urban and rural literacy rates. Urban literacy was a little more than 86 per cent (83 per cent for females), while it was less than 52 per cent (46 per cent for females) in rural areas.

Figure 29 show that the Highlands and Momase regions in the north- west of the country have the largest gap between rural and urban areas of 31 and 23 percentage points respectively.

**Figure 29: Proportion of population aged eight and over that have the ability to read and write by region and by rural urban area, 2010**

Source: 2009–10 Household Income and Expenditure and Survey Summary tables

### 2.5.2 Expansion and progress of adult literacy and continuing education programmes to improve the literacy of youth and adults

The accelerating national efforts in Papua New Guinea to Achieve EFA through the LIFE (2009–12) programme undertook a number of activities to strengthen the national capacities in leading, coordinating, planning, and managing evidence- and results-based sustainable literacy development. This programme was funded by UNESCO's Capacity Development for Education for All (CapEFA) programme and coordinated by UNESCO's Apia Office.

National leadership for implementing this programme was exercised by the NLAS with the support of a task force representing key partners in adult literacy. Several of these activities—including a policy review, a literacy survey, and a study of existing literacy curricula and materials—focused on developing an ABEP that is equivalent to formal basic education.

Under the technical guidance of the UNESCO Institute for Lifelong Learning (UIL), the NLAS organised two workshops: one in November 2011 to analyse existing curricular materials and teaching and learning modalities in literacy and non-formal education; and another one in June 2012 to initiate discussion on the development of such an ABEP programme. The resulting draft curriculum framework for a national ABEP has been further developed, and is waiting to be endorsed by the DoE.

This curricular proposal would provide an alternative pathway for young and adult Papua New Guineans who never went to school or did not complete basic education and want to obtain a recognised certificate. The ABEP proposal details guidelines for all involved: learners, educators, trainers, material developers, and providers of ABEP. It is believed that the implementation of ABEP will form part of the government's work towards the achievement of the EFA goals, in particular the Goal 4 of adult literacy. Therefore, it is expected that the proposed ABEP programme will be key in the post-2015 development agenda to fulfil the right to quality education for all those who are still excluded from this (National Literacy and Awareness Secretariat, 2013).

Other work is being done on improving the literacy rate by groups like Summer Institute of Linguistics, PEAN, and church groups such as the Salvation Army. This is an area where the government must put in equivalent support too, if it is serious about making Papua New Guinea one of the 50 middle-income countries in the world.

### 2.5.3 Remaining gaps, issues, and challenges

The NLAS believes that, for any planned interventions to make an impact, it is critical that the 2011 Household Literacy Survey is repeated in the remaining provinces of the country. The literacy survey is theoretically robust and provides more in-depth information about literacy. Although the HIES (2009–10) reveals major discrepancies between regions of the country, the methodology and sample size were not robust enough to provide insight into what is happening in each province. As the country is culturally and economically so diverse, it is essential that clear insight is gained before developing an implementation plan. Moreover, a longitudinal study covering a period of time should also be considered to measure improvement in area of literacy, to take account of the country's diversity.

### 2.5.4 Conclusions and way forward

The 2012 adult literacy rate of 62.9 per cent means that the country falls far short of its international commitment of achieving a 50 per cent improvement in literacy by 2015. Urgent action is therefore required by the government, the DoE, and stakeholders. Initially, this work should commence with a government-led literacy survey such as the one undertaken in 2011. Once that has been completed, the findings need to be disseminated to each province so that the action plans can be devised to take account of the provincial environmental and cultural contexts.

This report proposes that each of the three tiers of government in the country need to consider a more radical approach. For instance, each level of government could rethink, reintroduce, and support the work of the non-formal education system in the country. This requires a collaborative approach by the DoCD, provincial and local level government departments, and the DoE.

The government also needs to fund the main churches in the country so that they too will assist the government to teach adults in the local communities how to read and write through their evangelism programmes. Main line churches used to be effective non-formal education facilitators, but over the years their efforts have become less effective because of a lack of support from the mother churches in countries like Australia, Germany, England, and America, and the lack of funding from the government.

The 2013 school census data show an improvement in the number of 15–24-year-old adults who are receiving an education. This is a positive trend towards meeting the PNG Vision 2050 mission to have 100 per cent of the adult population literate within the next 15 years. However, there are pockets of the country, highlighted elsewhere in this report, that are still missing out on basic education services.

Schools and school buildings are not used to their fullest potential. For instance, during the weekends and after hours during the week, buildings could be used for extra classes for people who want to learn to read and write, or for those who want to advance further in their education. It is obvious from the number of children out of school that such an opportunity would be highly accepted and appreciated. Such initiatives would also benefit teachers who want to make extra money to provide for their family needs. The DoE should consider such ideas and develop appropriate policies and strategies to help improve the adult literacy rate.

## 2.6. EFA Goal 5: Gender and Equity in Education

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EFA Goal 5: Eliminating gender disparities in primary and secondary education by 2015, and achieving gender equality in education by 2015, with a focus on ensuring girls' full and equal access to and achievement in basic education of good quality.

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This section explains how EFA Goal 5 in Papua New Guinea is understood and implemented. It then analyses the progress that has been made in achieving the two goals of gender parity in access to education and gender equity in education.

Gender equality has always been a concern for Papua New Guinea because decisions always favoured males. This is culturally dictated. For instance, where a parent has to make a decision between their son and daughter, the parents have a very strong tendency to favour their son. This is why historically society has educated more males than females. Recognising this disparity, consecutive governments have sought different ways of promoting female interests. One way was through the introduction of a subsidised education. This policy was introduced in 1987 to relieve parents of their financial burden with the intention to give every girl and boy an equal opportunity to attend school. Since the introduction of this policy, there has been an increase in the number, and proportion of girls entering schools.

With the EFA Goal 5 in mind, the DoE has made an attempt to achieve the goals of gender parity and gender equity in the NEP 2005–14 and UBE Plan 2010–19, and, notably, in the Gender Equity in Education Policy and the Gender Equity Strategic Plan (2009–14). In these documents, the DoE acknowledges its commitment to the EFA and MDG goals of gender equity. The education reforms of the 1990s “aim to develop the full potential of all students. The reforms promote self-reliance, optimism, and self-worth. Education must prepare young Papua New Guineans to be active and informed citizens; flexible and adaptable to meet the changing social and economic needs of the country. Schools must promote respect for others, for learning and for the diverse cultural heritage of this country” (Department of Education, 2009).

Furthermore, the Gender Equity Strategic Plan aimed to eliminate gender disparities in education by 2015 through:

- building the capacity of the DoE to collect, analyse and interpret sex-disaggregated data that can then be used to develop a gender equity action plan for all its divisions;
- mainstreaming gender equity activities and targets into divisional planning;
- developing the professional capacity of DoE staff by implementing improved personnel management systems, policies, and training programmes;
- providing gender sensitisation training and awareness, with the specific incorporation of training for and sensitisation towards the issue of violence against women;
- building and/or strengthening alliances and linkages with stakeholders to support gender initiatives on a range of gender issues;
- developing appropriate gender-based indicators from corporate and strategic planning (such as the UBE and NEP).

The analysis in the next section details the progress that has been made with these aims. However, it is worth bearing in mind that UNICEF reported that ‘Papua New Guinea has one of the highest rates of violence and abuse anywhere in the world. About 67 per cent of women in the country report experiencing violence and in some remote highlands communities, this figure rises to a staggering 90 per cent. Almost 80 per cent of children experience some form of physical, verbal and sexual abuse. The problem is widespread and UNICEF is supporting government departments and various non-government organisation partners to create awareness around gender- based violence

in an attempt to reverse the trend' (UNICEF PNG, 2014). Furthermore, according to the United Nations Children's Fund, violence towards women and children is endemic in Papua New Guinea and the country has one of the highest rates of family violence in the Asia- Pacific region. 'Three quarters of children and two thirds of women reported experiencing violence in their homes. The country also has one of the highest rates of sexual violence and this is under-reported. Of those who reported rape, nearly half were under age 15 and 13 per cent under age seven. A study reported that one or two cases of child rape have been presented at the Port Moresby General Hospital every day' (World Health Organisation—Western Pacific Region).

To date, no research has assessed the amount of school-related gender-based violence (SRGBV) that exists in the country's schools, nor what impact it has. However, based on international research (UNESCO , 2014), and the above findings, it can be assumed that SRGBV may have an impact on girls participation and academic performance in Papua New Guinea.

### 2.6.1. Analysis

Throughout this section, the Gender Parity Index (GPI) is used to assess gender differences in the education indicators. This measure is defined as the value of a given indicator for girls divided by that for boys. For example, if the given indicator was GER, and the girls' GER was 50 per cent and the boys' GER was 100 per cent, the GPI indicator would be (50 per cent /100 per cent =) 0.5. Therefore, a GPI value of 1 signifies that there is no difference in the indicators for girls and boys. The UNESCO UIS defined a GPI of between 0.97 and 1.03 (after rounding) as the achievement of gender parity, which allows for some measurement error (UNESCO Institute for Statistics, 2010). In the following sections, we use the GPI and UIS's guidance, to assess gender gaps in access, participation, quality, efficiency, and adult literacy.

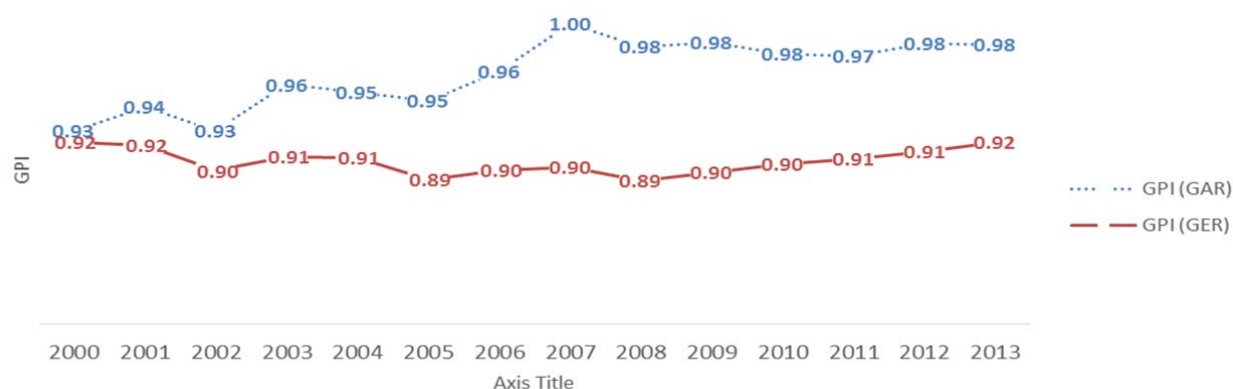
#### 2.6.2.1 Has improvement been made in the access and participation rates for boys and girls in schools?

Yes. Nearly all the gender parity indicators show that girls have improved both in regard to access to and participation in education. However, a high proportion of girls are lost in the transition between elementary and primary schools, and this will prevent gender parity being achieved if it is not addressed.

To show gender disparities and provide an understanding of gender parity gaps and the contributing factors in education with regards to access and participation, the GPI is used in conjunction with the GAR and GER indicators.

Figure 30 shows that, overall, gender parity for access (GPI GAR) to basic education has improved steadily since 2000, and that gender parity has been achieved in the first year of basic education since 2007. Furthermore, access rates (GPI GAR) in Table 4 show that a higher proportion of girls accessed schools in 17 of the 20 provinces, when 2013 data is compared to 2000 data, and that parity had been achieved in 13 provinces (GPI based on GAR).

Figure 30: Gender parity index for gross enrolment ratio and gross admission ratio in basic education



Source: PNG Education Info

Of more concern, however, is the fact that gender parity for attendance (GPI GER) in basic education shows little change since 2000. In fact, Table 4 reveals little improvement in the gender parity for enrolment in basic education in most provinces. This GPI shows that, in 2013, gender parity had only been achieved in seven provinces.

Table 4: Change between 2000 and 2013 in gender parity index for gross admission ratio and gross enrolment ratio by province

Province	GPI based on GER (Basic)			GPI based on GAR		
	2000	2013	Change	2000	2013	Change
Western	0.92	0.97	0.05	0.92	1.05	0.13
Gulf	0.89	0.9	0.01	0.89	0.98	0.09
Central	0.97	0.97	0	0.97	1.03	0.06
National Capital District	1.03	1.05	0.03	1.03	1.07	0.05
Milne Bay	1.07	1.01	-0.05	1.07	0.98	-0.09
Northern	0.96	0.91	-0.05	0.96	0.98	0.01
Southern Highlands	0.81	0.88	0.07	0.81	0.98	0.17
Enga	0.8	0.83	0.02	0.8	0.89	0.09
Western Highlands	0.92	0.94	0.02	0.92	1.02	0.1
Simbu	0.78	0.88	0.1	0.78	0.96	0.18
Eastern Highlands	0.92	0.86	-0.06	0.92	1	0.07
Morobe	0.9	0.9	0	0.9	0.95	0.05
Madang	0.89	0.88	-0.02	0.89	0.97	0.08
East Sepik	0.93	0.92	-0.01	0.93	0.97	0.03
Sandaun	0.9	0.83	-0.07	0.9	0.92	0.02
Manus	1.01	1.02	0.01	1.01	1.03	0.02
New Ireland	1.03	1.02	-0.02	1.03	1.01	-0.02
East New Britain	0.99	0.99	0	0.99	1	0.01
West New Britain	0.93	0.95	0.02	0.93	1.01	0.08
Autonomous Region of Bougainville	1.01	0.99	-0.02	1.01	0.96	-0.06
PNG	0.92	0.92	0	0.92	0.98	0.06
No provinces achieved Gender Parity		7			13	

Source: PNG Education Info



### 2.6.2.2 Has gender parity improved regarding examination results and the progress of pupils through the education system?

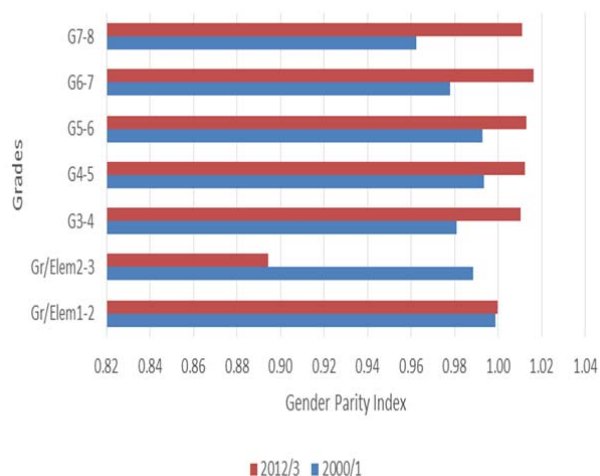
Yes, there is strong evidence that girls’ performance has improved and is now better than boys in many areas. Action needs to be taken however to assist girls’ progress at two critical points in the system - when they progress from elementary schools to primary schools and transit from Grade 10 to Grade 11. The NDoE also has to ensure that boys’ performance does not fall behind girls’.

Gender parity in education is a prerequisite for gender equality in education. This, however, moves beyond issues of access and participation. Gender parity is concerned with the equal opportunity for boys and girls to access and participate in education. Gender equality covers a much broader range of issues such as the learning environments, learning and teaching processes, learning outcomes, and the link between the individual development of the student and broader social development (UNESCO, 2012).

Ideally, the quality of education is measured using the pass mark (PM) derived from students’ national examination performance. However, improvement cannot be measured using the PM since 2000 because the examination data are not available. To examine the change in gender disparities since 2000, the GPI is used in conjunction with the PR the TR, the CR, the Grade 8 PM, and the youth literacy rate.

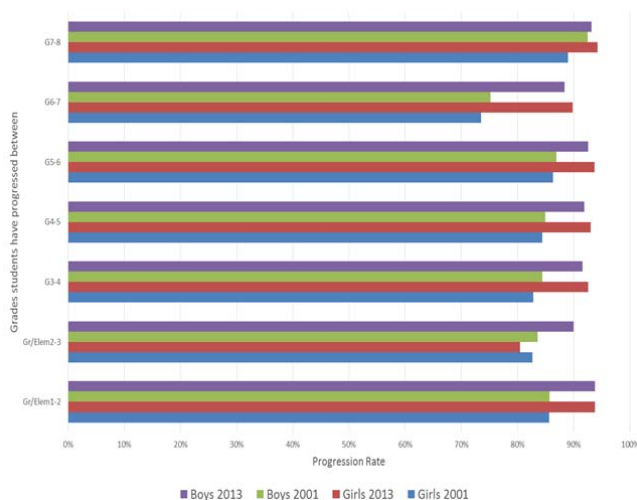
The PR measures progression between grades and school years. For example, the PR Grade 7 to Grade 8 measures the percentage of students who move between these grades. Therefore, the GPI for this indicator can be used to compare 2000/1 and 2012/13 to see if girls are progressing at the same rate as boys in the basic education sector.

Figure 31: Gender parity index progression rate, 2000/1 and 2012/13



Source: PNG Education Info

Figure 32: Progression rate for boys and girls, 2000/1 and 2012/13



Source: PNG Education Info

With the exception of the low PR between Elementary 2 and Grade 3, Figure 31 indicates that there is a significant improvement in the proportion of girls who are progressing between grades. These data can be examined further by looking at Figure 32, which shows that girls’ and boys’ PR improved significantly in the last 12 years to 2013. Indeed, girls now seem to be progressing at a slightly faster rate than boys. However, the low GPI PR between Elementary 2 and 3 indicates that **many girls drop out of the system at a very early stage, and an intervention is urgently required here to encourage parents to get their daughters to progress beyond elementary school.**

As mentioned previously, one of the reasons why girls drop out at this point is because of the distance they need to travel to the nearest primary school. Another reason was the perception that girls were 'not allowed by family' to attend school. Further research is required here to understand the reasons behind this perception.

The TR in Figure 33, which is similar to the PR, measures the progress between the basic education sector and the secondary sector (GPI TR Grade 8 to Grade 9), and the lower to upper secondary level (GPI TR Grade 10 to Grade 11). The GPI for the Grade 8 to Grade 9 TR reveals that gender parity has improved consistently since 2000, and evidence is now emerging that there is a bias in favour of girls with regard to girls transitioning between primary and secondary schools. Conversely, the gender parity in transition (GPI TR Grade 10 to Grade 11) from lower to upper secondary shows a decline in the proportion of girls who are progressing at this stage in the system.

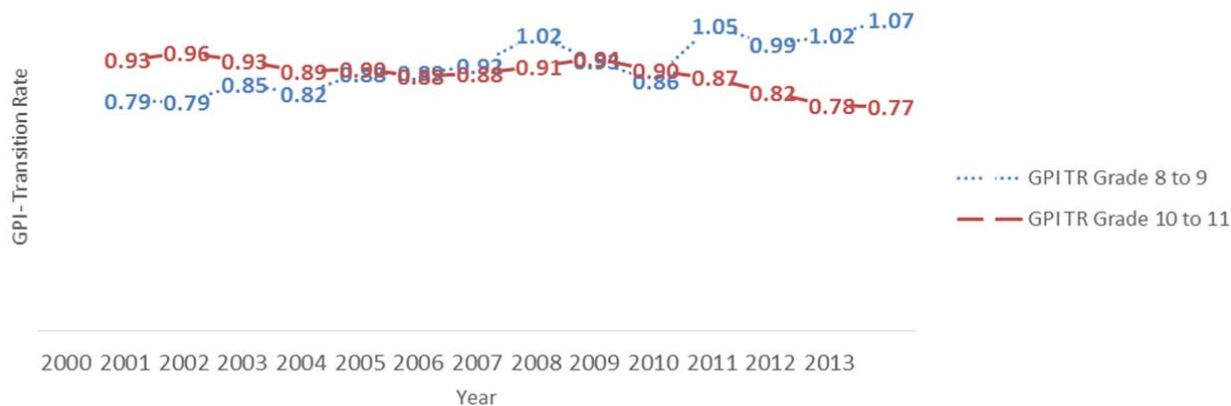
To examine the trend in pupils completing their education since 2000, the GPI for the CR<sup>3</sup> is used to measure improvement in examination marks as pass mark data are not available. Although

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<sup>3</sup> CR is the total students in the last grade of education sector divided by the number of children in the country who are of the correct age for that grade, as opposed to the PM which is the actual percentage of pupils who passed the final examination. Section 2.7.4 highlights issues using the CR.

Figure 34 shows that the GPI for the CR indicator has improved considerably in Grade 12, it has remained constant in Grade 8. This implies that considerable intervention is required to achieve parity for girls and boys completing both sections of education, but basic education at Grade 8 in particular.

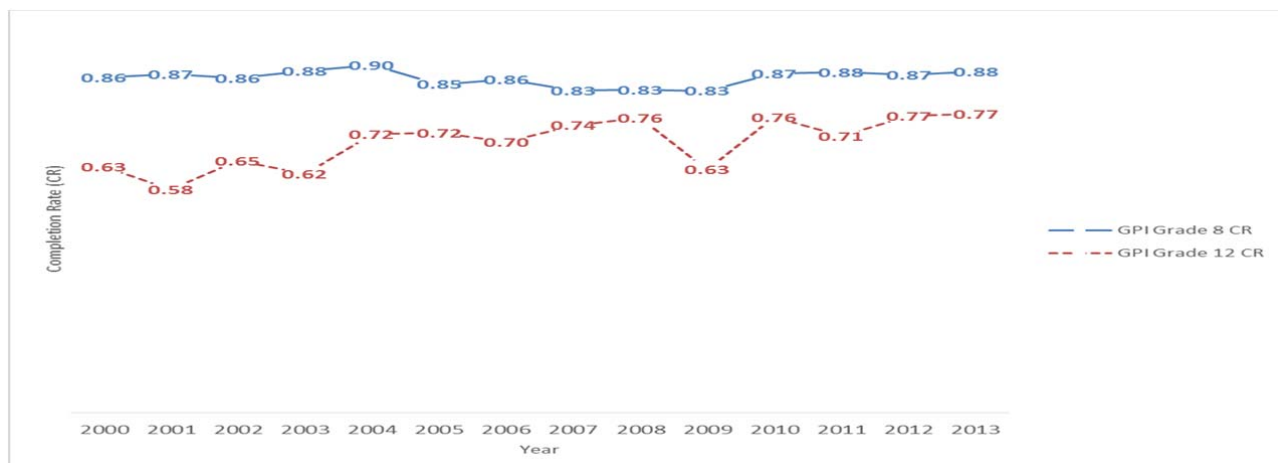
Figure 33: Gender parity transition rate Grade 8 to Grade 9 and Grade 10 to Grade 11, 2000–13



Source: PNG Education Info

By examining the PR, it could be argued that the key area to address here is the poor PR between Grade 2 and Grade 3 because this is when most girls appear to drop out of basic education. Hence, if more girls can be encouraged to progress at this point, this will have a significant impact on the Grade 8 CR.

Figure 34: Gender parity index Grade 8 and Grade 12 completion rate, 2000–13



Source: PNG Education Info

Table 5 examines the gender disparities across the provinces. This shows that, although at the national level, a considerable improvement is required in the girls' completion rate to achieve gender parity across the country; five provinces achieved parity in 2013. Lessons from these provinces should be shared with the ones that have not achieved gender parity.

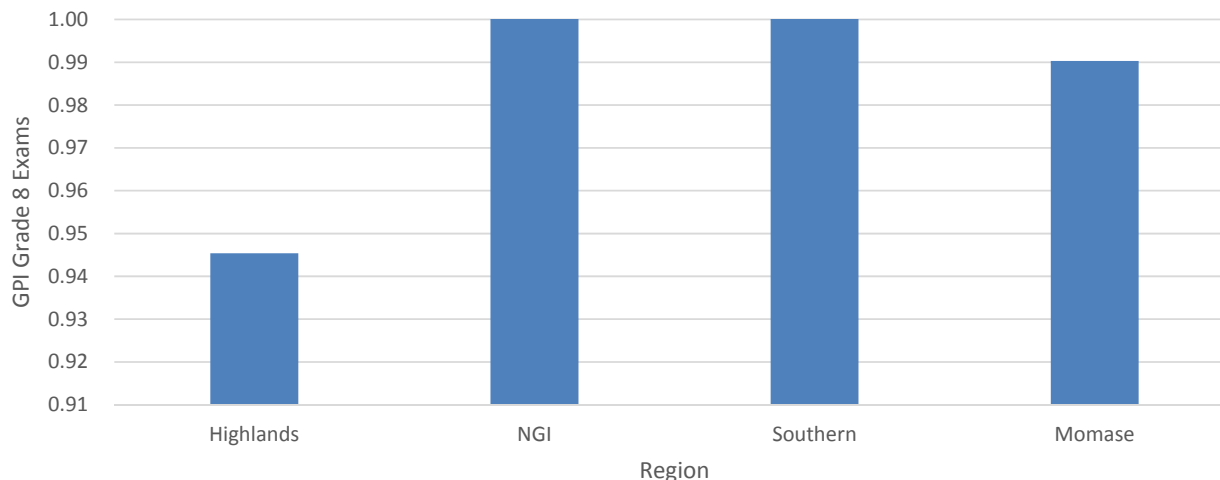
Table 5: Gender parity index Grade 8 completion rate by province, 2000, 2007 and 2013

Province	Year		
	2000	2007	2013
Western	0.83	0.84	0.89
Gulf	0.96	0.78	0.81
Central	0.90	0.85	0.96
National Capital District	1.02	0.95	1.03
Milne Bay	1.14	1.18	1.10
Northern	0.90	0.82	0.91
Southern Highlands	0.63	0.70	0.77
Enga	0.64	0.56	0.76
Western Highlands	0.79	0.84	0.86
Simbu	0.75	0.69	0.84
Eastern Highlands	0.77	0.67	0.75
Morobe	0.81	0.72	0.88
Madang	0.81	0.82	0.83
East Sepik	0.81	0.73	0.89
Sandaun	0.82	0.74	0.82
Manus	1.03	0.96	0.98
New Ireland	1.16	1.13	0.99
East New Britain	1.03	0.99	1.02
West New Britain	0.87	0.83	0.92
Autonomous Region of Bougainville	1.05	1.04	1.02
<b>PNG</b>	<b>0.86</b>	<b>0.83</b>	<b>0.88</b>
Number Provinces achieved gender parity	2	1	5

Source: PNG Education Info

Conversely, when is used to examine the examination results for 2012, the gender gap only seems to exist in the Highlands region. Indeed, it reveals that girls are out-performing boys in the New Guinea Islands (NGI) and Southern regions of the country, and that gender parity has been achieved in the Momase, NGI and Southern regions.

Figure 35: Gender parity index Grade 8 examination results, 2012



Source: Grade 8 Comparative Analysis, MSB

Furthermore, for almost all Grade 12 subjects, the average for females is higher than for males (2011 – 2012 Grade 12 Summary Examination Report, 2013). It has been suggested that this may be a result of the NDoE's Curriculum Development and Assessment Division (CDAD) having strict rules on gender stereotypes and the fact that their curriculum statements are very gender aware: all boys and girls must be treated in a similar fashion. Also, the gender-related sections in the personal development syllabi are rated highly, particularly those from Grade 9 to Grade 12, by a Voluntary Service Overseas (VSO) curriculum expert (Jones, 2014). There are also a number of other factors that could have led to this change, such as in- and pre-service teacher training, and the training and work of the DoE's Standards and Guidance Division (SGD) (Kona, 2014). To allow the DoE to learn how this improvement in gender disparity has come about, it would be highly beneficial if a retrospective evaluation exercise were conducted.

There is also evidence that a change in gender parity has occurred when the key impact indicator—the youth literacy rate for 15–24-year-olds—is examined. The UIS data centre details that the GPI for this indicator changed from 0.9 in 2000 to 1.1 in 2012 (UNESCO Institute for Statistics, 2014). Although the UIS data are an estimate, they may suggest that the DoE has to be careful to consider both girls and boys when planning interventions to ensure gender equality is achieved.

In summary, an examination of the CR has shown a considerable improvement since 2000. Evidence is emerging that gender parity may have been achieved at the national level when the PM and youth literacy estimates are examined. Data are not available to examine the PM at the provincial levels, and this could be one area where further analysis is required. Furthermore, the youth literacy rate is a UIS estimate, and a further in-depth literacy study is required to clarify the situation.

### 2.6.2. Conclusions and way forward

From the analysis, it is evident that gender parity has been achieved since 2007 with regard to access to education. This shows clearly that one of them aims of TFF has been achieved. Once the students are in the education system,

the GPI for retention and transition to Grade 9 suggests that the rate at which girls are progressing is higher than the rate for boys. However, there are two critical grades where female progression between grades needs to be addressed: between elementary school and primary school and transitioning from Grade 10 to 11.

It can be argued that the high proportion of girls dropping out after completing elementary education has a severe impact on the GPI indicators later in the education sector. As the trend shown in the gender parity index for pupils transitioning between lower and upper secondary schools is downwards, further research should be conducted to understand the underlying causes this decline. Individual provinces where the GPI is low also need support. However, as environmental and cultural factors are very different in each province, it is unlikely that one approach will be sufficient to achieve the gender parity goal.

The Grade 8 and Grade 12 examination results detailed in Goal 6 of the quality section indicate that much progress has been made in closing the gender gap. This may be due to the fact that the Curriculum Reform Implementation Project (CRIP) has already had some impact. Furthermore, the youth literacy rate is estimated to have changed from 0.9 to 1.1 in 2012. While this is a positive trend, the statistic also bears a cautionary note that the NDoE needs to be aware of the danger of introducing gender bias against boys when planning its interventions.

As a result of this EFA review, the gender unit has been inspired to rethink the plan of action that it had for mainstreaming gender in education, which initially implemented existing gender equity strategies. The unit has already started looking into a more effective approach that better matches reality as described in the report. One proposal is to conduct a baseline Knowledge, Attitude and Practice (KAP) survey on gender to provide useful data that can link interventions to effects. It would also be advantageous if any research also assessed how school performance indicators, student attendance, teachers' qualifications and experience, along with local cultural gender issues impact examination results.

It is highly advisable that the gender unit also review the gender policy to take into consideration the latest research done with regards to school-related and gender-based violence. 'The experience or even the threat of SRGBV often results in irregular attendance, dropout, truancy, poor school performance, and low self-esteem, which may follow into their adult lives. Importantly, SRGBV is often aggravated in conflict-affected countries and during emergencies. Witnessing or experiencing violence in schools may have irreversible consequences for students in perpetrating or further experiencing violence in adult lives.

Teachers, schools and education systems are fundamental in transforming practices, attitudes and values, including instilling in learners the understanding and practice of gender equality, non-violent behaviour and acceptance of difference. To do so, though, and to fulfil children's right to education, learners need safe and supportive environments' (UNESCO, 2014). It is therefore very important that this area be researched and addressed by the DoE gender unit.

Whilst the NDoE is considering new interventions, it needs to recognise that the gender unit is understaffed for the important role it has to perform. Furthermore, it is apparent that there is little awareness of the gender strategic plan which was due to expire in 2014. When planning new interventions, it will be necessary to consider how these issues can be addressed.

## 2.7. EFA Goal 6: Quality of Education

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EFA Goal 6: Improving all aspects of the quality of education and ensuring excellence for all so that recognised and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills

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The approach the DoE intended to take to achieve Goal 6 is detailed in the NEP 2005–14. In summary, the intended outcomes were to provide a well-resourced quality education were:

- Developing and delivering a relevant curriculum and curriculum materials
- Locally-based curriculum support materials to all schools and the development of 150 new orthographies
- Involve head teachers and all Boards of Management in teacher appraisal
- Increasing enrolment in in-service and pre-service teacher courses each year
- Providing fully-qualified teachers for all schools
- Providing a trained teacher counsellor for all primary and secondary schools
- A flexible system of in-service teacher training, with a revival of intra-and inter-school training
- Inspecting all schools annually
- Improving school infrastructure
- Supplying graded readers and enriched class libraries to all schools
- Reviving the head teachers' training programs
- Reactivate intra school and interschool in-service
- Reintroducing subject head training programs

This section examines progress made in achieving these outcomes which are in line with the EFA Goal 6 aims.

### 2.7.1. Analysis

This section analyses quality by examining the percentage of teacher qualifications (TQ), CR and PM for the Grade 8 Certificate of Basic Education Examination and the Grade 12 examination results. To examine improvement in school resources, teacher development and textbook provisions, this section references the final impact evaluation report of the National School Learning Improvement Plan (SLIP) program Strengthening SLIP Implementation in Schools (Anglo Pacific Research Ltd, 2014) the preliminary findings of the Promoting Effective Public Expenditure Project's 'PNG's Lost Decade?' study, and the 2013 Whole Schools Quality Assessment (Standards and Guidance Division & Policy, Planning, Research and Communication Division, NDoE, 2014).

The PEPE paper compares survey findings to a survey conducted by Papua New Guinea's National Research Institute and the World Bank in 2002 in the same 214 primary schools and evaluates progress or regress in key aspects of education service delivery over the previous decade.

On the other hand, the SLIP final impact evaluation report covered 167 elementary, primary and secondary schools in fifteen districts across nine provinces. Unfortunately, neither the 2013 Whole School Quality Assessment nor the SLIP Impact Evaluation reported data by sector, so it is not possible to use these reports to quantify improvement or the current situation in the elementary or post-basic sectors.

When reviewing this section, it is worth considering the availability of teachers and the PTR, which is a relevant measure of quality. A description of the changes in the teaching force over time is provided under Goals 2 and 3.

#### 2.7.1.1 Has there been an improvement in resources, facilities and teaching aids?

Yes, minor improvements in resources, facilities and teaching aids are apparent, although considerable improvements are still required.

This section briefly examines conditions in the school learning environment and attempts to identify improvement across the country. Although Table 6 shows that with the exception of textbooks, there does appear to be an improvement in how well primary schools are resourced, it does not provide good reading.

There appear to be more houses for teachers and an increase in permanent classrooms. However, there is still a serious need to build more classrooms. One further survey (Standards and Guidance Division & Policy, Planning, Research and Communication Division, NDoE, 2014) highlighted that 44 female students shared one toilet and 24 male students shared one toilet in one of the schools visited; 35 per cent of schools do not have year-round access to clean water. It is imperative that schools construct more toilets for girls. The survey report said that a ratio of 44 girls to one toilet is unacceptable for quality education to be achieved. There is well documented evidence from around the world that a lack of access to toilets contributes to girls dropping out or being absent from school. However, only 33 per cent of schools appeared to be using TFF funds to improve toilets (Anglo Pacific Research Ltd, 2014).

It is also likely that students' health and hygiene are affected in schools that do not have access to clean water. These ***schools must purchase tanks and water systems to provide year-round access to clean water***. Pupils cannot be expected to study to the best of their ability if they do not have access to clean water.

In the PEPE study (Howes, 2013), it was found that there was a shortage of chairs and desks for pupils in 48 per cent of the schools, and this had not changed since 2002. That said there were considerably more pupils in each school, which would indicate that primary schools have invested funds in this way.

Although library facilities in schools have improved, 72 per cent of schools visited did not have adequate library buildings. Research has found that libraries have a positive impact on the quality of teaching and student learning in schools. One Global Partnership for Education intervention called the Read PNG Project is currently supplying classroom library books for Grades 3–8 and also providing resource kits to all elementary schools (teaching aids, charts, etc.).

That said, much more needs to be done to improve library facilities, and it is a concern that only 20 per cent of schools appear to be investing TFF funds in improving their libraries (Anglo Pacific Research Ltd, 2014). The NDoE therefore needs to encourage primary schools to establish school libraries, and to stock them with textbooks, reading books and learning resources. Once established, the libraries should be staffed and open after school hours so that students can access learning and reading materials to complete homework, practice leisure reading, and, in a general sense, improve their learning potential (Standards and Guidance Division & Policy, Planning, Research and Communication Division, NDoE, 2014). This clearly indicates that school facilities are not fully utilised during and after school hours.

Further evidence is provided in Figure 36 that staff and parents believe that partial improvements have been felt across all the sectors since the introduction of SLIP. Respondents mentioned that having TFF as a reliable source of funds made it possible to carry out urgent improvements that had not been possible previously.

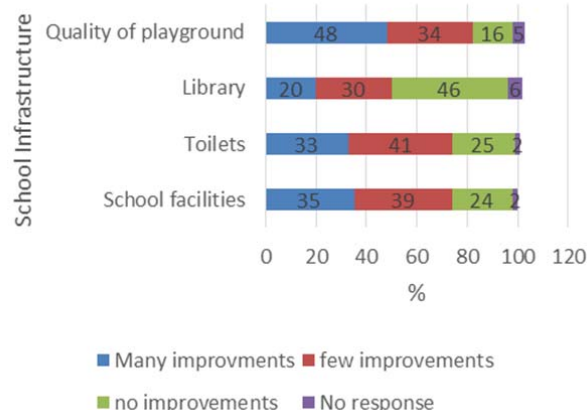


**Table 6: Change in perceptions and supply of primary school resources, 2002 and 2012**

Area	Measure	2002	2012	Change
Textbooks	Math Books per pupil	1.9	1.3	↓
	Language Books per pupil	2.1	1.1	↓
Primary school conditions	Permanent Teachers Houses	54	80	↑
	Teachers Houses need built	35	39	↑
	Permanent Classrooms	64	79	↑
	Classrooms need rebuilt	33	27	↓
	Teacher has chair and table	42	83	↑
	Drinkable water on day of survey	89	87	↓
	Water all year round	58	70	↑
	Electricity supply	13	27	↑
Teaching staff perceptions	Sufficient textbook Grade 5	23	38	↑
	Adequate or good library	13	28	↑
	Adequate or good staffroom	16	34	↑
	Able to produce teaching aids	78	84	↑
	Enough desks for all students	52	52	↔

Source: PEPE Report 2012

**Figure 36: Perceptions about school infrastructure, 2013**



Source: SLIP Impact Evaluation Report

### 2.7.2. Has there been an improvement in the teaching learning process?

No. Although with the exception of the elementary sector, there has been a large increase in the number of teachers, major quality issues exist. It could be argued that falling standards at the elementary level mean that pupils’ comprehension levels are not adequate when they reach primary school. This severely impedes pupils’ ability to learn as they progress through the system. In fact, it is now evident, that the sector is having difficulties training and recruiting teachers with the required English language skills, and this is having a further negative impact on the learning process. A very high level of teacher absenteeism has a further negative impact on the learning process and, ultimately, on exam results.

This section examines whether teacher quality has improved in each sector by considering TQ indicators, the growth in the number and percentage of trainee teachers, and other results from the SLIP Impact Evaluation Report and the findings of the Report of the Task Force for the Review of Outcomes Based Education. When reviewing this section, it has to be emphasised that the growth in actual teacher numbers detailed in Goal 2 and Goal 3 should be taken into consideration.

#### Standards of teaching

Little research has been undertaken on the standards of teaching. The report of the Task Force for the Review of Outcomes Based Education mentioned that the DoE was not able to provide information on the standards of classroom teaching or whether standards had substantially improved or declined in recent years, which made it difficult to assess the impact of pre-service and in-service training dedicated to OBE (Fr Jan Czuba, 2013).

However, this review does detail some new data and information related to teaching quality which has recently been made available. That said the DoE should consider complementing this data by conducting research to assess the quantity and type of preparation teachers do for their lessons as this has a significant bearing on the quality of teaching.

#### Qualified teachers

Figure 37 through Figure 40 show the change in the percentage of qualified teachers from the elementary to vocational sectors according to the type of qualification highlights that the critical issue in elementary schools is that

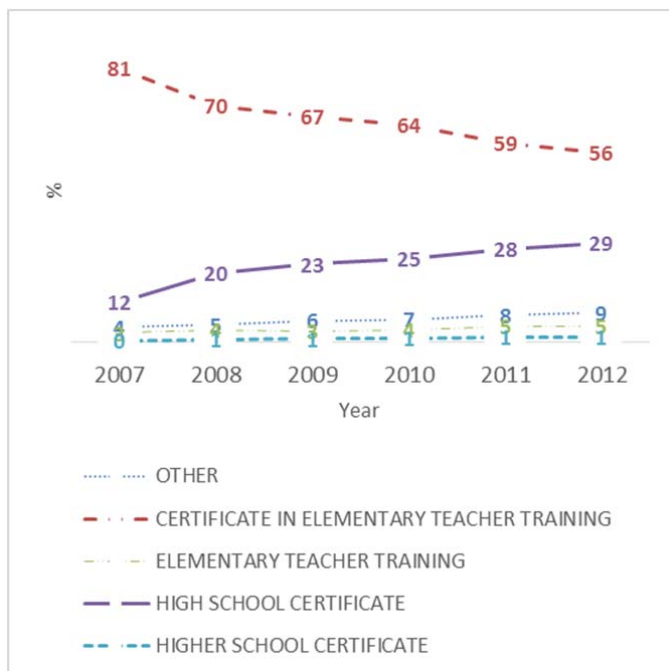
the proportion of teachers with the official required teaching qualification for this level—the certificate in elementary teaching—has gone down due to new recruits being hired who have only a high school certificate.

Many of these new recruits may have started the course but have been unable to complete the course for various funding or administrative reasons. One factor that may have contributed to this decline is that a number of students have actually completed the course, but they have not formally graduated due to an administration problem at the Papua New Guinea Education Institute (PNGEI) (Kona, 2014).

At the primary level, Figure 38 shows that the percentage of teachers who have the required teaching qualification for this level, or the diploma in primary teaching, has steadily risen. However, the sector is a long way from reaching the set target of 100 per cent of teachers with the officially required qualification. Also it indicates that the NEP 2005–14 target of secondary schools having fully-qualified teachers by 2014 as far from being achieved. In total, 79 per cent of teachers at this level only have a bachelor’s degree in education, a postgraduate diploma in education, or a diploma in high school teaching.

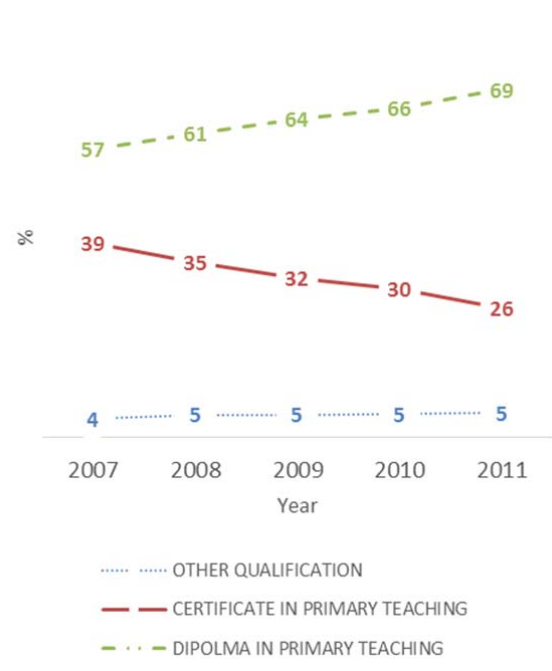
The vocational sector is a somewhat more complex area to assess due to the range of skills required to deliver the courses that are offered. A needs analysis of TVET colleges found that approximately 20 per cent of the teachers colleges did not have any teacher training, and those that did have some initial training had very limited opportunities to upgrade their skills, knowledge and qualifications through industry attachments, on-the-job training or scholarships for further study. Furthermore, over 80 per cent of teachers were in acting positions, and therefore could not become eligible for promotion unless they had been teacher trained. What was particularly worrying was the fact that there was no staff development plan to address the backlog in the number of teachers requiring teacher training. Turnover was on the increase as there were strong ‘pull’ factors in the labour market. There is a clear need for ‘push’ factors associated with conditions of teacher employment and for an improvement in the availability and quality of teacher housing (Ian Hind, 2011).

Figure 37: Percentage elementary teachers by type of qualification



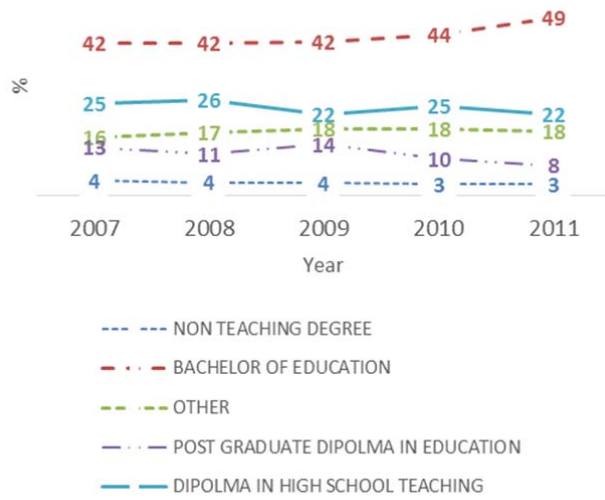
Source: PNG Education Info

Figure 38: Percentage primary teachers by type of qualification



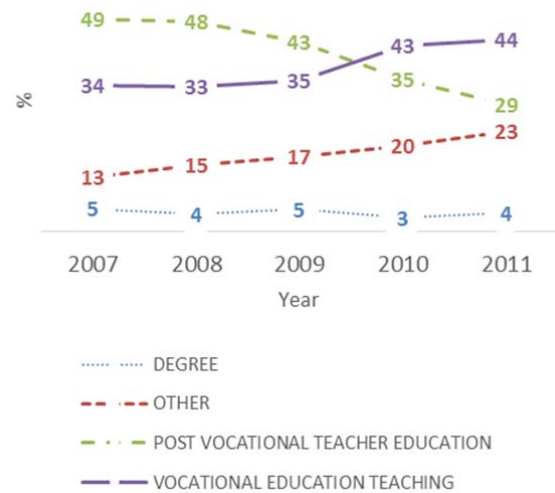
Source: PNG Education Info

Figure 39: Percentage of secondary teachers by type of qualification



Source: PNG Education Info

Figure 40: Percentage of vocational teachers by type of qualification



Source: PNG Education Info

### English language

As English is the language of tuition/medium of instruction in Papua New Guinea, pupils need to become proficient in the language in order to progress successfully through the education system. However, small-scale tracer studies of new primary graduate teachers highlighted self-assessed weaknesses with early reading and writing skills and knowledge. In 2011, the Language Support Program Rapid Assessment identified two problems in pre-service training: in the first place, there were lecturers with secondary training but who had received no recent training in primary level English language teaching; secondly, pre-service teacher training courses were deemed to be out-dated and to not address the real needs of primary teachers. Furthermore, entry tests for primary student teachers found low reading and writing skills, particularly amongst male student teachers (Fr Jan Czuba, 2013).

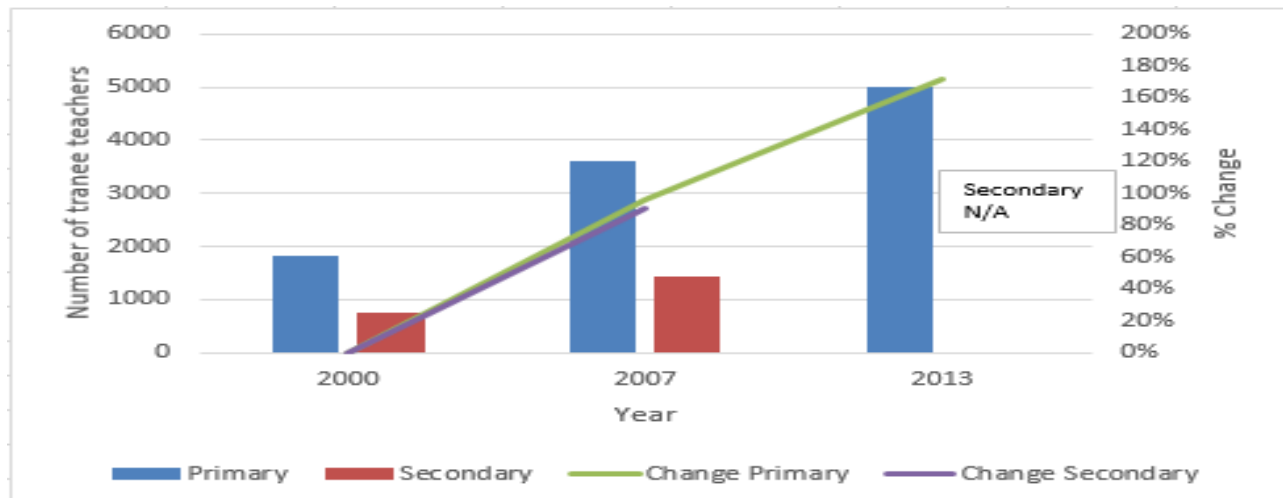
A recent assessment was conducted with 750 elementary teachers in four provinces using the International English Language Testing System (IELTS). The results revealed these elementary teachers were ‘limited users’ of English who would struggle to use English and therefore were not ideally suited to using the language as a teaching medium (Voluntary Service Overseas in Partnership with the British Council, 2014). **As it is now government policy that English should be the language used at elementary levels, an urgent intervention is required to address and improve the English language teaching skills of elementary teachers so that pupils can be prepared for the primary level.** This is enforced by education secretary Circular No. 4/2013 Language Policy in All Schools, (Taita, 2013), which talks about two policy directives, Use English as a Language of Instructions and Teach English as Subjects in Elementary Schools. English as a subject will be enforced by a development of an English syllabus to be used in 2015 as part of SBC.

### Pre-service teacher training

In 2007, the PNGEI designed two pre-service elementary teacher training courses. One was a residential course designed to train 180 teacher graduates each year but only delivered 73 graduates on average; the second one was a mixed mode course designed to prepare 1,200 graduates each year but has only been able to produce 573 (Manikuali, 2014). In total, this means that the annual number of elementary graduates is 646 on average, well

below the required annual number of new teachers projected in the UBE Plan. For example, in 2010 it was projected that up to 2,000 new elementary teachers would be required. It is worth noting that the projected UBE new teacher requirement was based on the assumption that the NER would be 100 per cent and the PTR at this level 32.4. Therefore, this failure to train the required number of elementary teachers partly explains why the PTR has increased so dramatically in recent years.

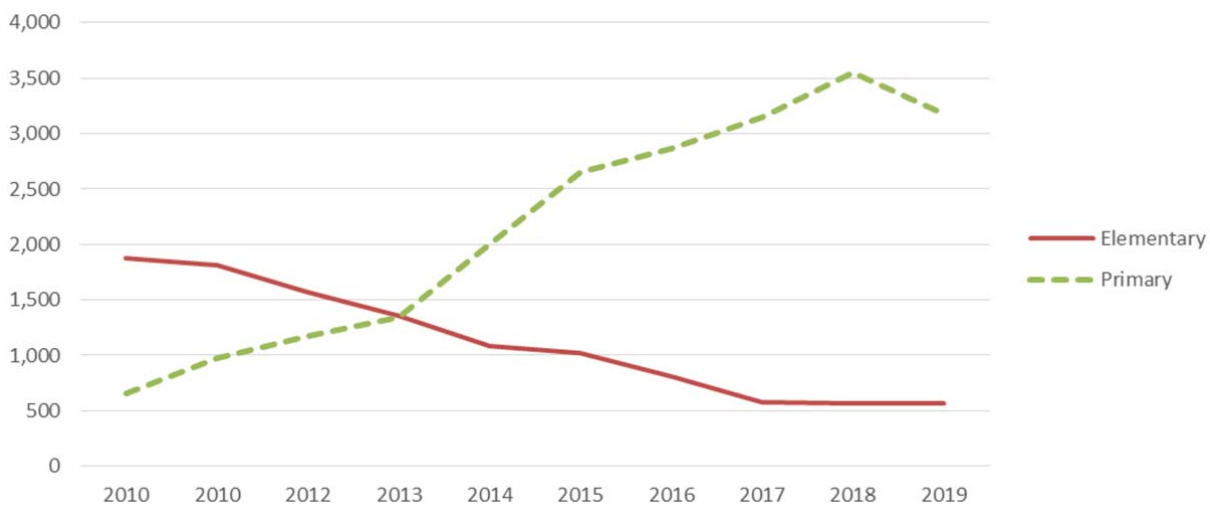
Figure 41: Growth in number and percentage of trainee primary and secondary teachers



Source: 2000, 2007 and 2013 Annual Statistical Bulletin

The DoE has been training new teachers in primary and secondary teacher training colleges and the total number of trainees at primary colleges increased by 172 per cent to 4,997 students in 2013 from 1,839 students in 2000. The number of trainee teachers at Goroka College, the only secondary teaching college currently in the country, rose by 91 per cent from 757 trainee teachers in 2000 to 1,444 trainees in 2007 (this college has not provided updated enrolment numbers for a number of years).

Figure 42: Projected new basic education teachers required to enter service according to NEP (including attrition), 2010–19



Source: UBE Plan 2010–2019

It is worth noting that a primary teachers' course runs for two years, although to improve quality of graduates, some colleges are planning on introducing a three-year diploma in primary education; the secondary teachers' training course runs for four years.

Based on the number of students in primary school colleges, it can be assumed that 2,000 students will graduate each year out of the current 5,000 who are studying in the two-year course. It therefore is possible that the primary teachers colleges may be able to deliver the projected number of new teachers in the UBE Plan 2010–19 in 2014. That said, primary colleges will need to expand considerably over the next few years to produce the number of teachers required in 2018.

### **Teacher absenteeism**

Although a minor improvement in teacher absence rates between 2002 and 2012 was reported, it is evident that absenteeism still is a major issue that needs to be addressed. Head teachers surveyed said that 70 per cent of teachers had been absent for two days or more in the previous two weeks. In-depth interviews identified two factors that contributed to the high-level of absenteeism. In the first place, teachers who live outside the school premises are more likely to be absent than those teachers who reside in staff accommodation; secondly, teachers' concern over pay translated into absenteeism. Absent teachers were not made accountable (Howes, 2013).

### **2.7.3. Has the curriculum and supply of textbooks improved?**

No. After widespread criticism of the OBE curriculum, the curriculum is presently being aligned, realigned and repositioned to a standards-based curriculum (SBC). The SBC is more a blended curriculum from the best of OBC, OBE and others such as mastery learning. It is also evident that there is a severe shortage of textbooks, and this shortage appears to have deteriorated since 2010. This is one of the many reasons why OBE was not implemented effectively.

### **Curriculum**

After widespread criticism of the OBE curriculum, in 2012, the GoPNG decided there was a need to replace it with a new curriculum in basic education. On January 22, 2013 the National Executive Council established a task force to review the OBE and develop an exit strategy (Fr Jan Czuba, 2013). The issues that impeded the implementation and eventual failure of OBE to deliver are discussed in detail in section 3.4.1.

### **Textbooks**

Australia's Department of Foreign Affairs and Trade (DFAT, formerly AusAID), the European Union and the World Bank (Read PNG project) are the only bodies that have made any noteworthy funding of textbook distribution since 2000. GoPNG's counterpart funding has not been fully used for many reasons. One possible reason why so few books have been distributed is that the curriculum was being reformed in the early part of the last decade. Another is that the DoE's Curriculum Development and Assessment Division does not have adequate manpower to procure and distribute curriculum materials to schools on time.

Another reason may be the fact that the government has invested considerably in TFF and expects the schools to use some of the funds to buy textbooks. In fact, it was found that 22.4 per cent of TFF funds in 2012 were spent on textbooks (7.4 per cent) and learning materials (15 per cent) in a cross-section of schools across the country (Standards and Guidance Division & Policy, Planning, Research and Communication Division, NDoE, 2014). When one considers that in 2012 the TFF money distributed was approximately K580 million, this would mean that around K44 million was spent on textbooks. This would mean that 7 per cent of the K1,810 million of the education budget was spent on textbooks and learning materials. This is a considerable amount of money.

Schools are allowed to prioritise TFF spending, and 42 per cent of teachers reported that they had not noted an improvement in textbooks in classes (Anglo Pacific Research Ltd, 2014). It shows clearly that there is an acute need for textbooks in schools. This is thought to be especially true at the elementary level, where curriculum is localised and resource development was one of the biggest challenges when implementing OBE.

#### 2.7.4. Has the quality of student learning improved?

No. By reviewing the Grade 8, Grade 10 and Grade 12 examination results, it is evident that pupils are not meeting the required standards. However, since 2000, many more pupils are progressing through the system, but it is highly debatable whether they are achieving the same results.

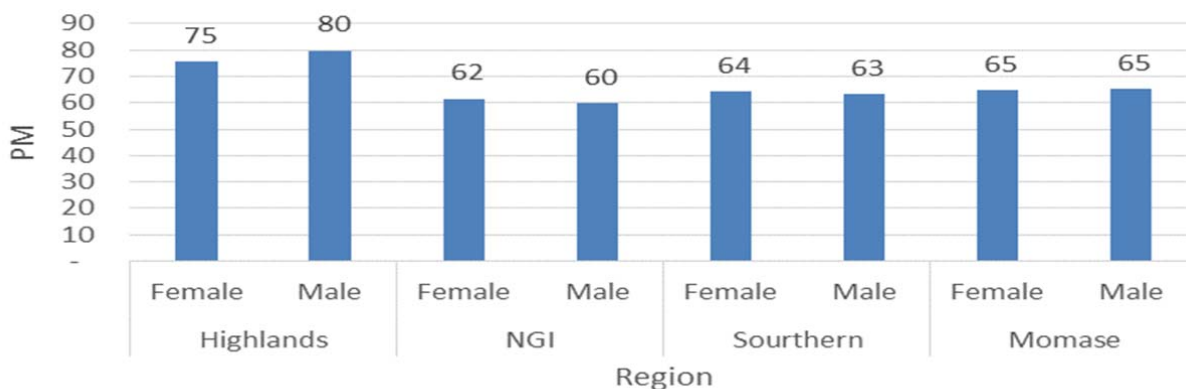
This section uses the PM to measure the quality of student learning, which is assessed by students' performance in the national Grade 8 Certificate of Basic Education Examination, and the Grade 10 and Grade 12 Higher School Certificate Examinations. The Grade 8 examination was initially conducted in 2008, so it is not possible to use the PM indicator to review performance at Grade 8 since EFA goals were established in 2000. The CR is therefore used as a proxy indicator to look at progress since 2000, although there are some issues highlighted when using this indicator.

##### The Grade 8 pass mark (PM)

The examination data indicate that apart from the general subjects, on average the PM was below the nationally prescribed PM of 80. This PM is also referred to as the cut-off mark for entrance to Grade 9. Therefore, in nearly all the provinces, the PM had to be lowered to select eligible Grade 8 students to fill up the quota for Grade 9 places. It is argued that this practice not only weakens the quality of education in PNG but it also legitimises poor teaching, bad education leadership and lack of accountability by teachers and education administrators for the outcomes of student learning (Department of Education, 2014).

One report highlights a slight improvement in results (Nathaniel, 2013). However, it predicts that at the current rate of improvement, it would be 2023 before pupils on average achieved the national cut-off mark. The report also indicates that lowering the PM is the expected cause of a very high incompleteness rate at the secondary level. It gives an indication that the Highland region, which falls behind in most education measures in this report, conversely has much higher average Grade 8 scores than the rest of the country. Performance across the other three regions is consistent, and no major regional differences seem to exist, although boys do appear to be outperforming girls in the Highland region.

Figure 43: Grade 8 pass mark by gender and region, 2012

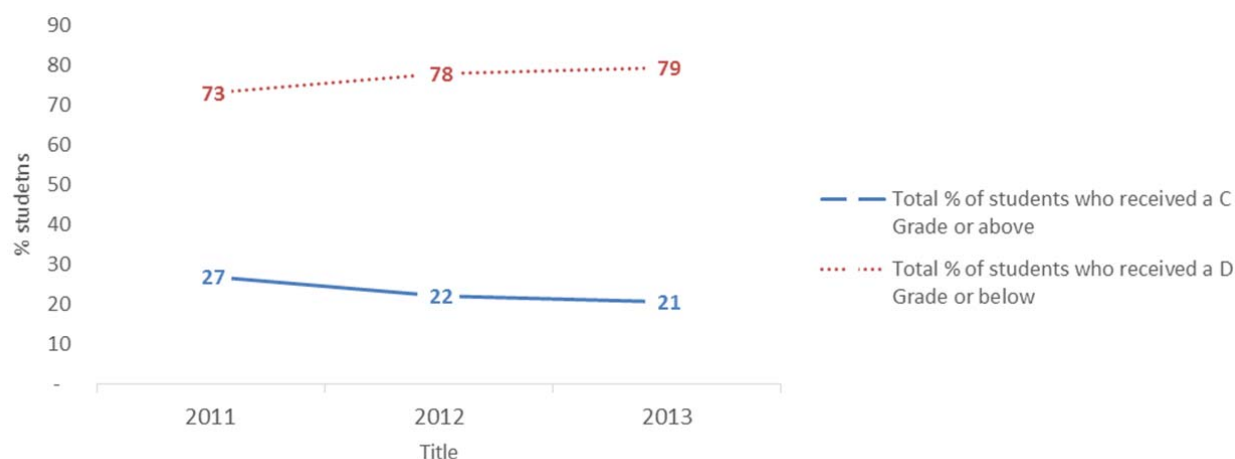


Source: Examination Report 2014

## The Grade 12 pass marks

The practice of lowering the PM at Grade 8 explains why, in the first semester in Grade 9, teachers need to do remedial work and revise much of the basic education curriculum with students. This in turn means that the full secondary curriculum cannot be covered, and that the ultimate impact is for pupils to achieve poor Grade 10 and 12 examination results.

Figure 44: Grade 12 students getting C or above, 2011-13



Source: Examination Report 2014

As the number of subjects a pupil was required to take changed from four to 12 in 2010, it is not possible to see any comparable trend emerging since 2000. The data is from a recent NDoE Measurement Services Branch (MSB) report (Philips, 2014) which indicates that the proportion of students receiving a grade of C or above is on the decline. In another study in 2012, it was reported that the average PM in 11 of the 16 subjects offered went down. Overall, the subject average for only one subject was above 50 per cent (2011 – 2012 Grade 12 Summary Examination Report, 2013).

The OBE exit report drew attention to the fact that many of those who leave school during Grade 12 are poorly prepared for tertiary study, particularly at the university level. To address this, tertiary institutions are now starting to focus on bridging or remedial programs. However, it is thought that a more effective strategy would be to improve the 'product' of school education (David Kavanamur, 2014). Furthermore, it has been widely reported in the national press that employers have noted that new Grade 10 and 12 leavers do not have the same capacity as previous graduates (The National, 2014). Such factors have caused the GoPNG to put pressure on the NDoE to review the current curriculum and structure.

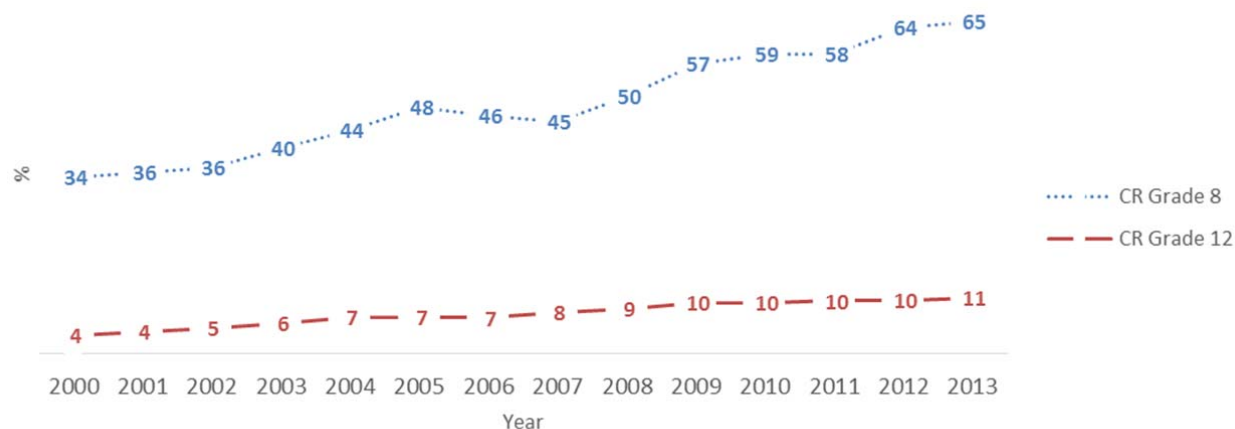
## Grade 8 and Grade 12 completion rates (CR)

Where examination results are not available, in theory the CR can be used to measure quality. However, some caution has to be used when assessing this indicator: there are a large proportion of overage enrollees in the system. It could be argued that this proportion has increased over the last 12 years as there has been a big expansion in the sector, and this has been accompanied by overage children entering the education system late as it is the first time they have had an opportunity to go to school.



The CR divides the total number of enrolled pupils in the final grade of a sector of education by the number of children who are of the correct age for that grade in the country. Using this indicator, the Grade 8 CR has almost doubled from 34 per cent in 2000 to 65 per cent in 2013. The Grade 12 CR has more than doubled, going up from 4 per cent to 11 per cent in 2013.

Figure 45: Completion rate Grade 8 and Grade 12, 2000–13



Significant progress towards this goal has been made since 2000, but there is still a long way to go if the country is to achieve EFA Goal 2 of universal primary education. As the impact of TFF has not fully taken effect in Grade 8, it is difficult to predict when the Grade 8 CR may reach 100 per cent.

Although the Grade 12 CR has nearly tripled since 2000, it is still very low. The lack of absorptive capacity in secondary schools is holding back progress at this stage, and significant investment in infrastructure, learning materials and teacher training is required to improve quality and participation.

### 2.7.5. Possible strategies to improve quality in the vocational sector

The current general education system gives less attention to technical vocational education and training. This section therefore highlights some issues that are believed to improve quality in this sector. Vocational centres are usually small and very cost intensive. They are often not fully staffed and do not all offer the required trade courses. There are not enough graduates from these institutions to meet the demand for a technical workforce, and most TVET centres do not offer affordable short courses to those in the community who want to further their knowledge and skills in a particular trade.

The technical high schools and technical secondary schools are not adequately staffed with qualified instructors or equipped with appropriate tools and machines. This results in most of these schools operating as normal secondary schools. To address these issues, firstly, a diploma in vocational education and training could be reintroduced to address the shortage of staff in the vocational centres while increasing the opportunities for those who seek employment in this sector. Secondly, these institutions could be strictly directed to use a certain proportion of their TFF funds on tools and equipment for both students' and teachers' use.

Standards and accreditation remains a concern and needs to be addressed by the DoE. These institutions need to be strengthened and fully utilised so that their maximum potential can be realised. The DoE should consider the introduction of the community college concept, and this could be fast tracked so that opportunities are opened up to out-of-school youths and adults.



### 2.7.6. Summary and conclusion

Although TFF has enabled schools to make small advances in resources, facilities and teaching aids, it is evident that considerable improvements are still required. It is also evident that there is a severe shortage of textbooks, and this shortage appears to have increased since 2000. Furthermore, the considerable increase in enrolment numbers has exacerbated the situation.

There has been a large increase in the number of teachers at all levels, with the exception of the elementary sector. But even in that sector, many of the new elementary teachers are not adequately qualified. There is further evidence that qualified teachers throughout the system have recently not had the required level of English proficiency to perform their role. It could be argued that there is a knock-on effect: that falling standards at the elementary level has meant that pupils' comprehension levels are not adequate when they reach the primary stage. This severely impedes pupils' ability to learn as they progress through the system, and this has a negative impact on the whole learning process. A very high level of teacher absenteeism may well be having a further negative impact on the learning process.

This state of affairs has led to pupils not being able to perform to the required standard in national examinations. By reviewing the Grade 8 and Grade 12 completion rates, it is evident that many more pupils are progressing through the system. But it is highly debatable whether the standard of education has improved. The consensus of opinion from the government, industry and higher education institutions was that the education system is not producing the required number of pupil achievers at the Grade 8 and Grade 12 exit points.

As a result, there was widespread criticism of the OBE curriculum, and CDAD is leading the development of an SBC. Developing and implementing this new curriculum over the next four years is going to take a considerable amount of resources, and it is imperative that lessons are learnt from the failed implementation of the OBE curriculum to improve the SBC.

## 2.8. Financial factors that affect the government's educational development goals/EFA goals

How has public expenditure on education changed over time, and how does this compare to the changes in other areas of government expenditure, such as general total and economic growth?

The basic education budget, including donor commitments, has steadily increased since 2005. The percentage of full government funding for basic education shows (apart from a slight dip in 2010) a progressive increase from around 5 per cent in 2005 to 9 per cent in 2012. However, when the basic education expenditure sector is seen as a percentage of the nominal gross domestic product (GDP), it showed an increase of approximately one percentage point from 2005 to 2012.

Figure 46: Basic education budget, 2004–12

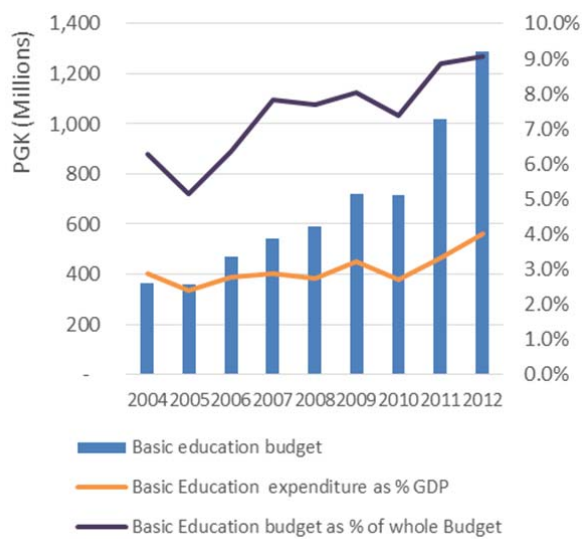
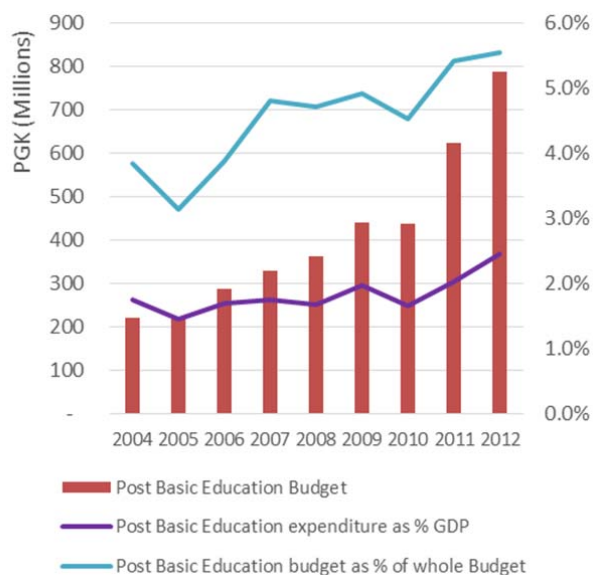


Figure 47: Post basic education budget, 2004–12



Note:

- A) The allocation of funds to basic and post-basic education includes estimates for the purposes of this review only and not official DoE figures.
- B) The measure of total government budget used includes debt amortisation.
- C) The basic and post-basic sector funds were allocated based on the assumptions that: 1) the proportion of the education budget allocated to basic and post-basic education activities has remained constant since 2004 and was proportionally aligned with funding for teachers’ salaries (Q4 2013) and the TFF budget (2013).

Source: Estimates based on actual expenditures taken from the National Government Budget Books

Figure 47 illustrates that the post-basic education budget expenditure as a percentage of GDP grew from 1.5 per cent in 2005 to 2.5 per cent in 2012. The post-basic education budget as a percentage of the whole government budget has risen from 3.1 per cent in 2005 to 5.6 per cent in 2012.

### How has finance been distributed across regions and levels and types of education over time?

In 2008, the Intergovernmental Financing Arrangements Act introduced a new methodology for calculating the value of grants paid by the national government to sub-national governments. These education function grants, calculated upon the fiscal needs of each province, provide funding for the non-salary recurrent costs of education. The services which sub-national governments are responsible for delivering were determined in the *Government Gazette*: ‘The Determination assigning Service Delivery Functions and Responsibilities’ (December 2009).

In 2012, the majority of the PNG education budget was allocated to the payment of TFF (23 per cent) and teachers’ salaries (47 per cent). As TFF funding funds on a per capita basis, this helps ensure that the education budget is distributed equally across the country. However, the current model does not consider cost drivers such as remoteness or other indicators of disadvantage of the school; these are all factors that could be built into the model if the education system is to be of the same standard across the country.

As mentioned previously, there are big disparities in the PTR across the country, which means that the allocation of teachers’ salaries will not be in proportion to the number of pupils in each area. This is a reflection of a multitude of factors across the government sector and different education agencies rather than how the teachers’ budget is allocated to the provinces. Further work would be required here to unravel the exact causes of this situation so the appropriate action can be taken.

## 2.9 Summary of progress made towards the six EFA goals

The following summarises the key points of this chapter:

EFA Goal	Summary of progress made since 2000
1: Early childhood care and education	<ul style="list-style-type: none"> <li>Unfortunately, there probably has been no significant progress made towards this goal—there are no data or individual able to assist in this review from either the Department of Community Development or the key donor partner, UNICEF. The government is aware of this situation and will be reviewing the situation in the near future.</li> </ul>
2: Universal primary education	<ul style="list-style-type: none"> <li>Educational structural reforms have improved education coverage and absorptive capacity. The number of teachers and schools has increased, but additional resources will be required to accommodate the expected increase in enrolment.</li> <li>UBE Plan 2010–19 enrolment projections in basic education set for 2014 have been surpassed. However, the growth seems to be coming from over- and underage children entering or dropping back into the system.</li> <li>Primary schools will need to be able to absorb the surge in enrolment caused by TFF. Careful planning and extra funding will be required to prevent the PTR becoming very high in a number of provinces.</li> <li>Access and participation have significantly increased.</li> </ul>
3: Learning opportunities for youth and adults and life skills	<ul style="list-style-type: none"> <li>Access and participation have considerably improved, and participation rates are still very low.</li> <li>The transition rate between Grades 8 and 9 has decreased as there has been a lack of absorptive capacity in the secondary schools to accommodate the increased number of Grade 8 graduates.</li> <li>Secondary school capacity has increased, and more Grade 10 pupils can transit to Grade 11.</li> <li>Considerable variance in both these transition rates exists across the provinces.</li> <li>Focus will have to be on increasing the capacity in secondary and TVET sectors in order to absorb the full impact of TFF and the proposed compulsory education policy.</li> <li>New teachers and instructors in TVET will need to be trained and employed.</li> <li>Schools and vocational colleges will have to use TFF money to purchase resources in order to accommodate new teachers and pupils.</li> <li>Provinces will have to budget for developments in vocational and community colleges at district levels.</li> </ul>
4: Adult literacy	<ul style="list-style-type: none"> <li>The adult literacy rate for Papua New Guinea falls far short of its international commitment of achieving a 50 per cent improvement in literacy.</li> <li>To guide future interventions, a government-led literacy survey is required to determine the specific issues relating to each province.</li> <li>The findings then need to be disseminated to each province, in order that action plans can be devised to take account of the provincial, environmental and cultural contexts.</li> <li>Government at all levels needs to set up operations to facilitate and monitor the implementation of literacy and awareness activities throughout the country.</li> <li>Government needs to acknowledge and support the work of civil society organisations to promote and improve adult literacy rate in the country.</li> </ul>
5: Gender equity in education	<ul style="list-style-type: none"> <li>Gender parity has been achieved since 2007 with regard to access to basic education.</li> <li>The rates at which girls are progressing through the system are higher than the rate for boys.</li> <li>However, a high proportion of girls drop out after completing elementary education, and this has a severe impact on gender parity further on in the education sector.</li> <li>Gender gaps vary across the country; therefore, further research is required to understand how environmental and cultural factors operate before an intervention is</li> </ul>

## EFA Goal

## Summary of progress made since 2000

## 6: Quality of education

designed. The NDoE should consider researching the nature and impact that school-related gender-based violence has across the country.

- One-sex schools should be considered for where gender equality is a serious concern.
- Considerable progress has been made in closing the gender gap in the Grade 8 and 12 examination results.
- Evidence suggests that the youth literacy rate had changed in favour of girls by 2012. While this is a positive trend, the statistic also bears a cautionary note that the NDoE needs to be aware of the danger of introducing gender bias against boys when planning its interventions.
- Although minor improvements in resources, facilities and teaching aids have been made, it is evident that further development is seriously required in these areas.
- There is a severe shortage of textbooks caused by an increase in enrolment, and this has deteriorated progressively since 2000.
- There has been a large increase in the number of teachers at all levels, with the exception of the elementary sector.
- Recently, qualified teachers throughout the system have not had the required level of proficiency in the English language to perform their role, especially in elementary schools. The knock-on effect of falling standards at the elementary level severely impedes pupils' ability to learn as they progress through the system, and this is having a negative impact on the overall learning process.
- A very high level of teacher absenteeism may well be having a further negative impact on the learning process.
- There is evidence that most pupils are unable to perform to the required standard in national examinations.
- Many more pupils are progressing through the system, but it is highly debatable whether the standard of education has improved.
- Stakeholders believe that the education system is failing to produce the required number of pupil achievers at the Grade 8 and Grade 12 exit points.
- As a result, the OBE curriculum will be replaced.
- Developing and implementing the new curriculum over the next four year period is going to take a considerable amount of resources, and it is imperative that lessons are learnt from the failed implementation of the OBE curriculum.

## 3. Review of EFA strategies and sector management

### 3.1. Introduction

This chapter analyses the success in achieving the education development goals/EFA goals by appraising the efficiency and effectiveness of the education sector, through assessing critical success factors relating to the domains of:

- education policy and legal framework;
- sector management;
- the school/classroom;
- coordination and partnerships

The chapter reviews the critical success factors in these domains. The final section of this chapter then assesses which factors have helped the country to achieve the EFA goals and overall educational development.

In Chapter 4, conclusions will be drawn on how these factors impact the delivery of education in PNG

### 3.2. Education policy and legal framework

This section assesses how the educational sector is affected by factors such as national political commitments; legislation; administrative framework; financing; and the governance and accountability mechanisms. These factors provide a framework within which decisions are made; resources are allocated; and citizens' rights are ensured.

#### 3.2.1. National political commitment

The goals of EFA are intertwined with the government's educational development priorities and national plans. Universal Basic Education for all citizens is a stated goal of the government: 'A basic Education for All (EFA) is critical if all citizens are to participate in a modern society.' The implementation of the NEP 2005–14 and the UBE Plan 2010–19 has formed part of the government's response to its international commitments to work towards the achievement of the goals of EFA (2000–15) and the Millennium Development Goals (MDGs).

In recent years, the government has enthusiastically demonstrated its commitment to achieving these EFA goals through the introduction of subsidised education and later the introduction of TFF that supports pupils in basic and post-basic sectors, as well as its proposal to introduce compulsory education. Its level of commitment can be gauged by monitoring the increase in funding to these sectors in section. The increased education budget is distributed through: -

- Paying for higher teacher salaries and more teachers to meet the increase in enrolments;
- Subsidised and TFF education
- District Sector Improvement Plans and
- Functional grants to the provinces

Politicians, churches, agencies and other stakeholders are generally widely consulted during the development of education policies in order to get a consensus before the education policy is implemented. The government has been heavily involved in reforming the current system, and has set ambitious targets at times. For example, in 2013, elementary teachers were given a matter of weeks to introduce English as the medium of learning rather than using the vernacular, even though the spoken and writing proficiency of some elementary teachers is not at the expected level.

### 3.2.2. Legislation

The UBE Plan 2010–19 confirms that basic education is a right of all citizens—as enshrined in the Papua New Guinea constitution. As the country is made up of 850 different language groupings, it has not been possible for one group to dominate the political scene, and as a result, no one ethnic group is marginalised.

The DoE has mitigated the discrimination of teachers and pupils through the development of the Gender Equity in Education Policy (Department of Education, 2009), the HIV/AIDS Policy (National Department of Education, 2007) and the Equal Employment Opportunity, Anti-Discrimination and Harassment Policy (National Department of Education).

Although the policies promote equal access and participation gender balance and equal distribution of service and wealth, none has fully achieved its expected outcomes. For example, implementation of the activities in the Gender Equity Plan has not taken place. That said, the analysis of goal five in Section 2.6.1 reveals that there has been some improvement in reducing the gender gap in a number of regions. Nevertheless, it is evident that, in general, girls are still faring worse than boys. Conversely, evidence is emerging that in some provinces and sectors, efforts must be made to improve boys' opportunities in education, as girls' participation rates and examination marks have now surpassed those of boys.

Thus, the main remaining obstacles to the complete accomplishment of the right to education are access to education in the remote areas of the country, and the poor implementation of policy.

### 3.2.3. Policy and planning framework

Developing a national education plan in Papua New Guinea is a highly consultative and long process. For example, the NEP 2015–19 is currently being formulated; and this has involved setting up a steering committee, chaired and represented by key stakeholders across the education sector. A steering committee has also been set up to guide the working team to write what the community thinks should be done during the life of the plan. The development process is coordinated and is facilitated by a technical working team comprising an array of planners in the NDoE.

Although there is no specific country-wide EFA plan, the EFA goals are built into the NEP 2005–14 and the UBE Plan 2010–19. Through analysing these plans, it can be seen that EFA key indicators covering access, participation gender parity and quality have been added, and strategies drafted that are intended to achieve these goals.

### 3.2.4. Administrative framework

Section 1.3 describes the national and provincial laws and structure of the education system. It highlights the fact that the institutions are split into two groups:

- a. Flexible Open and Distance Education (FODE) comprising FODE centres in the provinces, national high schools, primary teachers' colleges, technical and business colleges, all administered at the national level by authorities such as the Minister, the National Education Board (NEB), the Secretary for Education, and the Teacher Services Commission;
- b. Elementary, community, primary and secondary schools, administered by authorities such as the Provincial Executive Council, Chairman of Education Services, provincial governments, Provincial Education Advisers, Provincial Education Boards (PEBs), Local Level Governments, District Education Administrators, Education Agencies, and school governing bodies. Provinces with their own Provincial Education Acts can also decide on matters affecting teachers and students. Where there are disputes, PEBs can refer the matter to the NEB for a decision.

This means that the administrative framework has three levels of governance at the national, provincial, and school levels. The NDoE is responsible for developing the overall framework of educational plans and policies, in consultation with education authorities and other stakeholders at all levels in the country. However, once the

policies are written, the PEBs and schools' BoMs have the autonomy, vested in them by law (Education Act, TSC Act, OLA Act, and Public Financial Management Act), to interpret how national policies can best be implemented to reflect provincial and local needs. This means that a great deal of the planning and management to satisfy basic educational needs, including the establishment and operations of schools, is the responsibility of the authorities at the provincial and school levels (The World Bank, 2013).

This framework does not allow the NDoE to access the provincial and district sectors freely, and projects such as the building and reconstruction of schools. (Moni, 2014) and the recruitment of teachers and civil servants are administered at the provincial levels according to the organic law. It is therefore, often argued that the DoE has little direct control over the basic education sector.

Conversely, at the sub-national level, a somewhat different perspective can be found on how effective the administration framework is. One provincial administrator wrote: 'Authorities such as the National Department of Education, Provincial Divisions of Education and local schools ... have been designated "implementing" agencies with already clearly defined functions.' He went on to point out that in this hierarchical structure, the tasks of the chairmen of the boards at a school level and of the administrators such as the Secretary and the Assistant Secretaries for Education at a national level, (as well as those of middle-level management both at the national and provincial levels), are already predetermined by rigid arrangements of functional responsibilities. However, he also notes that 'actions outside the framework of these responsibilities are often prevented by higher-ranking officials', and concluded that the 'system is constructed to discourage initiatives from the officers in the lower ranks, who are often in the most direct contact with the people'. (Kulwaum, 2014)

It, therefore, can be concluded that the current decentralised administration framework is more an education partnership, rather than an education system. Such an arrangement requires a high degree of dialogue, accountability, transparency and effective monitoring in order to execute policy. All the actors within the administrative framework need to: agree and understand each body's roles and objectives; and to have a monitoring system in place to oversee each body's progress on implementing policy. Although the DoE formulates policy through a highly participatory process, **further improvements should be considered in the approach taken to execute and monitor the implementation of policy.**

### 3.2.5. Financing

As mentioned in Chapter 1, Papua New Guinea is rich in gold, oil, gas, copper, silver, timber and is home to abundant fisheries. This has allowed the economy to expand strongly over recent years and in 2012 the economy grew by around 8 per cent, compared with near 9 per cent growth in 2011. Ensuring the integrity of the public financial management for service provision, improving efficiency of sectoral spending, raising the performance of the civil service, and improving transparency and accountability in budget management will be crucial in converting the forthcoming windfall revenue from the gas sector into tangible improvement in service delivery (The Worldbank, 2014). Section 2.8 shows that the country's new wealth has been invested in both basic and post-basic education in recent years, which has allowed these sectors to expand. As a result, in 2012 just under two-thirds of the K2,658 million education budget was invested in the basic education sector, with the remaining invested into the post basic education sector.

As detailed earlier, due to the cultural diversity of the country, no one group dominates the political landscape. This means, at least in theory, that the education budget is distributed equitably and there is no area or group that has been left underfunded. As the following paragraph will explain, this is because the education budget mechanisms used to distribute funds to schools is governed through the TFF policy, the teaching needs of each province, and the Intergovernmental Financing Arrangements Act (2008).



The biggest expense in the budget is teachers' salaries and their leave fares, and the recruitment of the teacher force, which are all controlled by the provinces. The TFF was formulated in 2011 to cover the elementary and primary, secondary and vocational sectors. It has been highly effective, and a popular initiative across the country, as it has significantly increased access to education and reduced the cost to parents. TFF has also been consistently applied across the country, so, in theory, each school does receive its allocated share of the education budget. However, the present TFF formula does not account for the cost of education in remote areas or the cost-effectiveness of running larger schools, so the formula is not designed to provide a consistent level of service delivery across schools. It has been proposed that the TFF formula be revised to increase funding for remote schools, but the full cost of this formula requires further scrutiny.

Much of the remainder of the education budget for schools is paid by the national government to sub-national governments through the disbursement of education functional grants. The Intergovernmental Financing Arrangements Act methodology for calculating the value of education function grants is based on the fiscal needs of each province. These grants provide funding for the non-salary recurrent costs of education service delivery. The services for which sub-national governments are responsible for delivering were explained in the Government Gazette. Therefore, it can be concluded that any funding gaps are probably the result of weaknesses in the administrative framework, rather than the way policies or laws have been formulated.

### 3.2.6. Governance and accountability mechanisms

The service provided by the education sector is affected by the wider governance conditions in the country. This section therefore uses the Global Monitoring Reports for EFA's definition of good governance in education to examine the most notable interventions in context of the issues raised in the administrative framework section, to review the sector's governance and accountability mechanisms.

The first part of the Global Monitoring Report definition states: 'When democracy, transparency and respect for the rule of law are weak, accountability and participation suffer. Within the education sector, governance structures link many actors and define the terms of their interaction. The ability of parents to participate in school discussions, hold schools and teachers to account and secure access to information is conditioned by the allocations of rights and responsibilities under governance systems.' (UNESCO, 2009)

Regarding this part of the definition, this section reviews the most notable DoE policies, guidance and initiatives intended to improve governance, accountability and transparency.

As part of TFF, funds are sent by electronic fund transfers directly to school bank accounts; TFF handbooks for schools have been published; the TFF funds that have been distributed to each school are published in the press; and a hotline has been set up to allow the public to inform the DoE of fraudulent activities. However, access to newspapers is limited outside urban areas, and effort needs to be made to improve the way action is implemented after issues are reported via the hotline.

A number of laws and initiatives have been adopted to improve school governance. The recent World Bank SABER country report (The World Bank, 2013) for Papua New Guinea rated the participation of the school councils in school governance as 'Established', which means it 'reflected good practice with some limitations'. The report detailed how to improve participation in school governance, two entities had been set up fit within the scope of each school council:

- the School Learning and Improvement Plan (SLIP) Committee, which is tasked with developing the school vision and strategic objectives;
- the Board of Management (BoM), which aims to achieve quality assurance.



There is some overlap in personnel between the two bodies, as the head teacher and chairperson will sit on both committees. Many head teachers have found it effective to involve Parent and Teacher Associations in the discussion of school funds, which is believed to further enhance the governance and transparency arrangements in the process.

The World Bank report went on to explain that the layered approach of having the school council, made up of the SLIP committee and BoM strengthens school governance and has the potential to achieve high-level engagement and ownership from the community. By sharing responsibilities between the BoM and SLIP Committee, the approach aims to achieve balanced and effective school management. However, it was highlighted that the policy articulating the role of the BoM has not been updated since the implementation of the SLIP initiative. As a result, there has been duplication in a number of tasks between both entities; confusion over the allocation of committee roles and personnel may have a negative impact on each body and render the approach less effective.

Furthermore, neither the BoM nor the SLIP committee has an open election to determine membership, nor is there a clear mechanism in place to remove committee members in instances of poor performance. A review of the BoM Handbook (Lakain, 2005) noted that the Secretary of Education can only recommend that appointments to the BoM be made through elections. (Appointment of any members of any school board is the prerogative of the Minister for Education or the provincial Chairmen of Education but members can be nominated by any member of the parents and citizens (P&C) organisation or by the board when appointing a chairman. The authority of the Secretary for Education does not cut into the functions of PEB or any of the school boards.)

The BoM Handbook also highlights the fact that a variety of practices exist throughout the country in the appointment of BoM members, and recommends that the BoM should be re-appointed within three years. Any member legitimately nominated and appointed to a board can be renominated and reappointed for terms according to the wishes of the community. However, it was discovered that 15 per cent of schools visited had BoMs in place for more than three years without having been re-appointed (Standards and Guidance Division & Policy, Planning, Research and Communication Division, NDoE, 2014).

In theory, the P&C is tasked with holding BoMs and SLIP Committees accountable. One example of how this process can be actioned is that the P&C can alert the DoE and provincial authorities to grievances. This, in turn, could lead to the suspension or termination of BoM/SLIP members in instances of fraudulent activity. Furthermore, according to policy, there are repercussions for poor performance; however, it is not clear how the P&C can utilise this accountability measure (The World Bank, 2013).

Policy and regulations also exist to govern school operations and financial management. For example, the three-year SLIP programme gives guidance on how the TFF subsidy should be spent. However, insufficient information is provided to parents and stakeholders on school performance, which limits the demand for accountability (The World Bank, 2013).

These mechanisms all reflect good practice and indicate that there are excellent proactive measures at the school level. It was mentioned (Kona, 2014), however, that ***all these accountability mechanisms would all work more effectively if funding were available to support awareness raising, training, implementation monitoring of the systems and effective follow-up action.***

The second part of the Global Monitoring Report went on to state: 'Governance rules also define the terms in which governments recruit, allocate and train teachers. They have an important bearing on the skills and motivation that teachers bring to the classroom. Beyond, the classroom, governance systems shape the relationship between school bodies, local government and central government. They define who set priorities and makes decisions in key areas ranging from curriculum to teacher management, and the monitoring and supervision of schools. In the areas of

finance, education governance is about how priorities are set and how resources are mobilised, allocated and managed.' (UNESCO, 2009) When reviewing section 3.2.4, it can be seen that there is some concerns over how the governance systems operate within the administrative framework, between school bodies, local government and central government. This therefore indicates that the lines of accountability within the administrative framework may need reviewed to improve governance and accountability of the sector as a whole.

### **3.3. Sector management**

This section reviews the capability to manage the education sector in order to achieve intended education development goals/EFA goals. To evaluate performance, this section analyses how efficiently and equitably the human and financial resources are deployed and the overall national capacity to coordinate, lead and manage the education sector.

#### **3.3.1. Human resource management (teacher management)**

As discussed previously, the number of teachers has risen throughout the country. However, there is an urgent need, currently, for more: there is a dire need for teachers in the elementary sector; there will be a need for teachers in the primary sector in the short-term, particularly in the lower grades; and a need for teachers in the post basic education sector in the medium term to cope with the anticipated increase in the number of pupils who will be enrolled as TFF takes effect.

It is apparent that teacher performance has not reached its full potential. Small-scale tracer studies of new graduate primary teachers highlighted self-assessed weaknesses with early reading and writing skills and knowledge. In 2011, the Language Support Program acknowledged that two problems existed with in pre-service training. In the first place, there were lecturers who were secondary trained but who had received no recent training in primary level English language teaching. Secondly, pre-service teacher training courses were deemed to be out dated and to not address the real needs of primary teachers.

Furthermore, entry tests for student primary teachers found poor reading and writing skills, particularly among male student teachers, a fact that has also been noted by the universities (Outcomes-Based Education Review, 2013). At the secondary level, students are being accepted onto the secondary teacher-training programme at Goroka University with lower than desired Grade Point Averages (GPAs) (Sori, 2014). To develop the capacity of teachers, and address recruitment shortages, new teaching colleges are planned, and current institutions such as the Divine Word University, are developing a Bachelor of Education degree.

One main issue of concern was that the OBE allowed elementary pupils to learn in the vernacular. Once children reached the primary level, their English was not at the required level to participate in class activities and examinations. To address this issue, it was announced (Taita, 2013) in January 2013 that the government had made it policy that English should be the official language of instruction at the elementary level, and this policy was to be implemented from the start of term in February 2013.

However, ensuring that teachers can provide an adequate level of instruction in English will be a challenge. A recent assessment of 750 elementary teachers, using the International English Language Testing System (IELTS), revealed that on average the participants were 'limited users' of English (Voluntary Service Overseas in Partnership with the British Council, 2014). In other words, the assessed teachers were not equipped to teach in English. It is expected, therefore, that as a priority, the department will be attempting to improve elementary teachers' capacity to teach in English.

With regard to salaries, teachers are believed to be well paid and have a number of benefits such as free accommodation in some instances and a travel allowance to return to their original home once every two years. The government has rewarded teachers with a 7 per cent pay increase recently, and some of them are better paid than

school inspectors. However, problems persist with the payment of teachers due to administrative issues in provincial offices, and one reason for this is the complex procedures wage clerks in provinces have to use to calculate adjustments in teachers' salaries.

Therefore, despite teachers being nominally well paid, there a need for the department to address these issues, to ensure teachers are fully qualified and are capable of teaching the required curriculum.

### **3.3.2. Assessment monitoring and evaluation, and information management**

The National Assessment and Reporting Policy (Department of Education, 2003), is to be revised as part of the reforms that are happening in the education sector. The current policy explains the principles and practices that must be applied to the assessment and reporting of student achievement from Elementary to Grade 12. The policy highlights the need for pupils, parents, guardians, members of the community, and stakeholders to take responsibility for ensuring that assessment and reporting are valid, reliable and fair in order to meet the needs of students, schools, communities, and the nation.

Teachers and where appropriate, the Measurement Services Branch (MSB) of the NDoE should base their assessment and reporting on the learning outcomes described in the syllabus. The use of criterion-referenced assessment methods were thought most compatible with OBE, and assessors who make internal and external assessments were directed to use this approach and make explicit the criteria used to judge the performance of pupils. At the school level, a broad range of assessment methods should be used by teachers to assess their students. However, it has been identified that the measurement of student progress in OBE was not rigorous enough and that teachers need more support with assessment and planning. Regrettably, no longitudinal studies on the impact of OBE were ever carried out, so it is not possible to examine these claims in more depth (Fr Jan Czuba, 2013).

Examinations are administered at the provincial level for Grade 8 pupils and nationally for Grade 10 and Grade 12 pupils and the examinations are based on the information specified in the curriculum. The Grade 8 examination does not incorporate internal assessment marks<sup>4</sup> but the Grade 10 and Grade 12 results are based equally on internal assessment and the external national examinations. These internal assessments, however, involve a heavy workload for teachers, and some school data are said to be unreliable (Fr Jan Czuba, 2013) .

Where MSB find the internal marks that a school submits unreliable, the internal marks per student per school for each subject is standardised and moderated to the same weighting as their examination marks. The process of standardising and moderating and the awarding of grades using grade allocation and cut-off scores use both criterion and norm referencing. If MSB were to apply only criterion referencing, less than 1 per cent of the top five per cent awarded an 'A' grade would qualify, and that is because of a drop in academic standards. Unless there is an improvement in academic standards, it is believed criterion referencing cannot be applied on its own. At this point, it is worth noting that it has been proposed that criterion referencing is used in the SBC in terms of setting and achieving measurable standards using set criteria.

As exam data are not released to schools, pupils and parents presently have no way of knowing how their school is performing. However, the MSB is now ready to disseminate examination data, which will make it possible for stakeholders at the national and subnational levels to take action to improve school learning outcomes.

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<sup>4</sup> The Grade 8 grading process only uses the examination marks because schools in some provinces have found it problematic to submit their internal marks to the provincial education office on time before grade processing is completed. In fact, currently, MSB is experiencing problems with some schools not submitting Grade 10 and 12 internal marks on time.

OBE brought about major changes to the education system; however there was a lack of planning, interest, knowledge, technical expertise to sustain or monitor curriculum standards and implementation. Thus, there are no proper data/information to verify:

- if the curriculum reform has successfully raise achievement standards of students and schools;
- the success of the OBE at all levels.

The lack of regular monitoring of curriculum standards means that it is not possible to evaluate the success of the curriculum reform in improving teaching and learning and actual achievement standards locally and nationally.

The Curriculum Standards Monitoring Test (CSMT) was meant to be used to monitor education quality and progress towards the learning goals outlined in the national curriculum. This was initially done by comparing standards in Grades 5 and 7 in reading, writing and mathematics in a sample of schools nationwide. It was piloted in 2003–04 and conducted in 2008 and 2010 but, although, it is policy that this test should be conducted every two years, a lack of resources has so far prevented this. The 2010 results were compiled but the final editing of the 2010 report has still to be completed.

Papua New Guinea is currently using the Early Grade Reading Assessment (EGRA) to assess literacy, and consideration has also been made to using the Early Grade Maths Assessment (EGMA) to assess numeracy. The DoE has also piloted the Pacific Islands Literacy and Numeracy Assessment (PILNA), which is an initiative of the governments of the Pacific Islands to benchmark children after six years of basic education (to Grade 5 in Papua New Guinea). Both the EGRA and the PILNA are currently in the project phase, so it is too early to attempt to gauge any results. However, based on the Madang EGRA report, listening comprehension in English was found to be low, with very little grade progression. Not having the full results of the PILNA, or other internationally comparable assessments, essentially means that ***the DoE does not know how pupils' academic achievement compares with that in other countries.*** There has also been a call to join the Trends in International Mathematics and Science Study (TIMSS) and Progress in International Reading Literacy Study (PIRLS) international benchmarking system in order to offer a realistic global comparison of student achievement (Fr Jan Czuba, 2013).

The DoE's statistics and EMIS unit is now generating key performance indicators to monitor the departmental education plans. Training is being provided to give stakeholders access to data at the national and subnational levels, using the Devinfo 7 software (or PNG Education Info as it is called in the department). In 2014, indicators were generated just after the end of the previous school year, and these provided a very good approximation of the state of the education system at the national level.

Prior to 2014, little EMIS or examination data had been made available, and this limited any analysis that could be carried out on the progress towards achieving the education development goals of the government/EFA goals. Furthermore, this lack of data has restricted opportunities to build capacity of staff to undertake such tasks. However, ***now that data are being disseminated, staff throughout the sector need to be coached in how to use the data for monitoring and evaluation.*** This should improve the education system by building the capacity to undertake evidence-based planning and monitoring of the implementation of policy.

### 3.3.3. Institutional capacity

In 2012, a capacity needs analysis concluded 'that the DoE should revise and consolidate some areas of operation, to ensure that its internal foundations and structures are fit for purpose and strong enough to support the national education system through its next phase. Above all, DoE needs to give particular attention to leadership and management skills (including financial management) and the quality and supply of teachers and infrastructure facilities.'

The study explored capacity gaps between existing and desired states at system, organisational and individual levels. Key findings of gaps in divisional and provincial operations included: communication; coordination; upgrading of staff knowledge and skills in specialised areas of responsibility; provision of adequate funding released in a timely manner; creating an efficient electronic data management system and skills to manage it; improved productivity and time management; staff shortages; inadequate resources; housing and salary conditions of service; leadership and the need for restructuring in some cases. At the school level, concerns included: increased enrolments and inadequate facilities and resources to cater for their needs; elementary teacher training; finance; staffing; inadequacy of visits by agency advisers; retention of female students and inadequate supplies of curriculum materials for student numbers. 'Given the significant role of church agencies in delivering education services, a need exists for engagement at the highest level to improve cooperation and coordination (Prof.Pam Norman, 2012).'

#### 3.3.4. Policy implementation

Papua New Guinea has gone through a recent period of economic growth that has allowed the government to implement its flagship TFF policy. However, **a detailed examination of current education policies and plans reveals that some of them, such as the Gender Equity Strategic Plan (2009–14) (Department of Education, 2009), have not been implemented, or are just partially implemented.** This could be due to the turbulent political environment, a lack of funding or capacity, inadequate consultation, or the policy goals being too ambitious. It is also true that sometimes it can take several years for a policy, such as the TVET Strategic Plan, to begin to be implemented.

Furthermore, due to the cultural and geographic diversity of the country, Papua New Guinea presents a number of challenges not faced in smaller Pacific Islands, which means that one intervention does not always suit each area. Even in the case of highly successful policies such as TFF, it has been noted that funds have failed to reach all schools in the country. A recent survey indicated that the main reason these schools had not received their funds was down to poor school management (Standards and Guidance Division & Policy, Planning, Research and Communication Division, NDoE, 2014) i.e. the head teacher/TIC at 10 per cent of the schools admitted they had not completed their school census form in 2013—one of the main documents required for a school to receive TFF funding.

Payroll, funding and capacity issues are all factors that have impeded the implementation of policy. For example, staff are sometimes not paid due to a lack of capacity in payroll administration and this demotivates teachers and education officers.

Due to the size and decentralised nature of the education sector, workshops and various forms of media are used to implement policy and design interventions across the country. This is thought to be essential for the education sector. As mentioned in section 3.2.4, once a policy is drafted, the provinces and BoMs have a high degree of autonomy to decide how or whether it is to be implemented. Therefore, ensuring authorities concerned agree with the policy is essential if they are to be committed to implementing the policy as directed by the DoE.

Furthermore, it has recently been argued that the main reasons why OBE failed were:

- teachers colleges and church agencies were not fully consulted on OBE;
- there was a lack of awareness among parents and teachers—they simply did not understand what the objectives of the curriculum were;
- there was also a perception in some quarters that OBE was a foreign import (Fr Jan Czuba, 2013).

Although these are just three factors (and this review draws attention to other factors in section 3.4.1 that may have led to OBE failing), ***to ensure this does not happen again, it has to be recognised that funding is required for consultative workshops and awareness raising, and these activities should be a prerequisite of any national intervention.***

With regard to monitoring policy implementation, this section 3.3.2 details that there are now a number of potential sources of information the DoE can use. Previously, this lack of data has hindered the DoE from developing evidence-based policy. As provision of this data is now coming online, ***intense coaching is required to make the cultural change so that policy implementation is monitored, and relevant action is taken particularly at the subnational level.***

Indeed, the indicators in chapter 2 reveal that disparities in education vary widely across different areas. Therefore, there is a need for stakeholders at the national and sub-national levels to be able to use the department's data to understand the needs in specific provinces and sectors. At present, the DoE uses a planning model that projects educational requirements, such as the numbers of teachers and classrooms, as a national total. However, there is a need for a tool that can assist planners at both the national and provincial levels to understand what the future educational requirements will be in their areas. Although individual education plans have been created in the provinces, ***provincial planners also need support in implementing and monitoring their plans.*** As little education data have been previously available, there is a lack of capacity in the provinces to undertake evidence-based planning support is required to coach the provincial planners in this area.

### 3.4. School/classroom level factors

This section reviews the factors associated with conditions in schools and learning processes that make a difference in the learning achievement of pupils.

#### 3.4.1. Curriculum

The current revision of OBE curriculum has involved a highly participative approach. Representatives from schools, NGOs, teacher training institutions, church agencies, the DoE and other stakeholders have been holding workshops around the country to develop the new National Curriculum Framework and the SBC (syllabus, teacher guides, teacher and student resources) for the basic education level (Elementary and Primary) (Tandale, 2014).

This reform came about as a result of criticism of the OBE curriculum that was actioned through the CRIP. One review of the OBE curriculum consistently argued that the subject content was irrelevant because it was based on foreign ideas, and therefore, it was the content that needed changing, not the model (Agigo, 2010). Conversely, during this review Steven Tandale, the Director of the Curriculum and Assessment Branch, argued that 'the content was relevant but the context, and the pedagogy were not there'. Another review by the DoE (Department of Education, 2012) found that the scope and sequencing of the curriculum needed improvements, with critical knowledge and skills gaps identified at certain levels of education. This had resulted in ineffective learning as children progressed through the grades. Additionally, the slow rate at which materials were developed at the DoE, and the expediency with which the materials were subsequently deployed in the classroom, impeded the learning further.

It also criticised the alignment of secondary school curriculum with that taught at tertiary education institutions, pointing out that this had resulted in tertiary institutions having to provide additional classes to bring students up to the academic level required at universities.

Moreover, whilst many teachers received in-service training on OBE or OBC, many remained unclear about the conceptual basis for OBE or OBC, and thus have experienced serious problems implementing it. Similarly, it was thought that teachers graduating from pre-service courses at teachers colleges had a very superficial knowledge of OBE and its curriculum. It was also reported that the OBE syllabus was seen to be too complicated to plan and assess (Fr Jan Czuba, 2013). ***The ongoing education of teachers at a professional level is critical if curriculum reforms are to be implemented and institutionalised effectively, and it was apparent that this did not happen.***



### 3.4.2. Pedagogy

The current teaching pedagogical practices that should have been applied in classrooms relate to the OBE. However, Agigo (Agigo, 2010) found that nation-wide training had been insufficient, and had led to a common misinterpretation of the principles, practices, and intended outcomes of the new curriculum. The result was that many teachers could not comprehend and implement the curriculum reform. Due to a lack of teachers' guides and syllabuses, text and resource books, access to the internet, and library resources, pupils' learning was ineffective. This impeded the required student-centred approach to learning that OBE was designed around.

That said, the OBE has allowed local curricula to develop in ways, which are thought to have been of benefit to communities. For example, the Coffee curriculum, the Know about Business curriculum and the Community Life curriculum assist students to develop essential life-skills, of value wherever they may choose to live and work. Furthermore, since the introduction of OBE, a teacher centred approach previously used by teachers has started to evolve, and student centred learning is now practised in many classrooms. At the same time, a few farsighted head teachers in several provinces have invested in ICT, allowing pupils and teachers to access and enjoy a different form of independent learning. Interventions by the European Union and Australian Aid have provided modern and relevant textbooks, some of which are locally authored. It is thought that these interventions may have inspired ambitious and professional teachers to develop their own materials and approaches to learning. These innovations incorporate features of OBE, for example, the involvement of students in setting their learning goals and enabling them, even in crowded classrooms, to enjoy and profit from collaborative learning (Fr Jan Czuba, 2013).

### 3.4.3. Learning environment, hygiene and sanitation

It is clear that schools are not adequately resourced with the required basic services, physical resources and instructional materials for teaching/learning to take place. This is despite the fact that improvements have been brought about through the distribution of TFF funds in recent years. It also gives an indication of how poor the current conditions are in schools. Electricity is only generally found in the urban schools; and the sanitation facilities are far from perfect, although most schools have separate toilet facilities for girls and boys.

The Behaviour Management Policy for the national education system (National Department of Education, 2009) and accompanying guidelines have been introduced to create an enabling learning environment in schools. As part of this policy, all primary and secondary schools must have a staff member assigned as a certified counsellor so that they can help students and parents with problems at school. UNICEF was also active in promoting a Child-Friendly School initiative, and this initiative has been subsequently incorporated into the SLIP. These initiatives have all been designed around the rights-based approach to education.

Although no rigorous evaluation has taken place to examine how effective these guidelines have been in ensuring that an enabling learning environment exists, there is some evidence of improvement. In the SLIP Evaluation report, it was found that 69 per cent of children had a 'good' perception of welfare at school. With regard to student counselling, which is a key part of the Behaviour Management Policy, the SLIP Evaluation found that children were appreciative of having access to a counsellor, particularly because they played an important role in solving fights among students. However, 45 per cent of primary schools do not have a school-based counsellor; and in 80 per cent of those schools that do, the counsellor lacked any form of basic training (Standards and Guidance Division & Policy, Planning, Research and Communication Division, NDoE, 2014). The SLIP evaluation also found that most counsellors were not qualified and provided a mixture of academic counselling with spiritual and emotional counselling. This provides evidence that the Behaviour Management Policy is not being implemented very well, and it is thought that this is because of a lack advocacy and poor monitoring. The DoE has also produced a Gender Policy (Department of Education, 2009) and an HIV/AIDS Policy (National Department of Education, 2007).

All these policies have been developed along the lines of international best practice, but in order to fully implement and monitor the policies and related activities, it is essential that funding is found. Furthermore, it needs to be highlighted that international research indicates that the above policies have gender implications, and to fully address EFA Goal 5, these policies will need to be implemented.

#### 3.4.4. School leadership

The school inspection process is the main mechanism for terminating, promoting and suspending teachers. BoMs, P&Cs and stakeholders can report teachers to the SGD if they have a grievance.

The PEB is responsible for recruiting teaching staff in basic education, and reporting to the provincial administrator. The PEBs are supposed to be guided by the Standards Officers (SOs) who are based in the districts but who, depending on the province, have varying degrees of influence. The Provincial Education Adviser (PEA) has a great deal of influence over the PEB, and it has been noted by the SGD that if the PEA is a former head, the quality of appointments made by the PEB are much higher. There have been a number of instances where the SO did not agree with the decision of the PEB, but they have no power at that stage to take any action (Kona, 2014). However, the primary performance evaluations for all head teachers are conducted by the SOs on behalf of the Secretary for Education.

The Papua New Guinea Education Institute (PNGEI) has not run a leadership programme since the 1980s, and some stakeholders thought that it would be highly beneficial if one were introduced. The SGD does run induction programmes for new school leaders lasting for one to two days, focusing on leadership, supervision, governance, financial management, and curriculum reform.

As established mechanisms require a great deal of community involvement in running schools through the BoM and the SLIP committees, head teachers have to work in consultation with these bodies. No formal assessment of the ability of school heads to exercise instructional leadership for quality education has taken place. The SLIP Impact Evaluation report (Anglo Pacific Research Ltd, 2014) found that stakeholders, such as the BoMs and the P&Cs, believed that school administration was adequate in terms of academic matters.

It has been found that this level of community involvement has been a double edged sword. On the one hand, there is anecdotal evidence that the work has become far more 'political' as these bodies have received access to the increased funding provided through the TFF. On the other, involving the community makes the whole process far more transparent, and is a positive step that ultimately will improve how funds are spent. Nevertheless, a great deal of discussion has to take place in order to reach a consensus.

The effectiveness of school heads in mobilising the support and cooperation of local stakeholders depends on building up a good relationship with the community. Sadly, since the introduction of TFF, there is anecdotal evidence that some communities feel that schools are now able to afford to pay for services such as repairing classrooms, where previously they would have volunteered to undertake such tasks.

#### 3.4.5. Technology in education

Due to the limited education budget, in the country rugged geography and remoteness, the lack of communication infrastructure, the poor electricity supply and the lack of technical knowhow, information and communications technology (ICT) is very much underutilised as a tool of learning and administration in education. Presently there is no national policy that promotes the use of ICT in education; however, one may be developed in the near future.

It is thought (Thomas Podarua, 2014) that policy managers and education managers have a developing awareness of how ICT could be used for learning in theory, but have to understand its full limitations in the Papua New Guinea context. Issues such as infrastructure, poor internet connectivity and a lack of capacity to maintain ICT infrastructure and services in schools have been found to impede the sustainability of a number of interventions, which initially



were deemed a success. Starting a 'one-size-fits-all' approach has not worked and will disadvantage a large number of children. Hence setting the correct priorities and achieving these priorities, in consultation with the ICT Division and technology experts will ensure better results.

Providing learning resources on the internet is a challenge because of the unavailability of communication infrastructure in most remote areas of the country and the unavailability of the internet in most schools, as well as the very high cost of the internet in areas that can have connectivity. Therefore, the DoE, through its ICT Division, has introduced an e-library system called 'Teaching and Learning in School' (TALIS), which is made locally available to selected schools. 'The TALIS digital library includes thousands of objects such as Adobe Acrobat documents, videos, images and audios. The content has been collected by the Department of Education specifically for schools in Papua New Guinea and includes a large variety of local content such as local newspapers. As it is difficult to maintain conventional school libraries in Papua New Guinea, TALIS is a mechanism of providing current, relevant, interesting and rich content to schools (ICT Unit, Department of Education, 2010).'

The ICT Division has installed and trained teachers to maintain the computers in a number of secondary schools, to allow pupils to use the TALIS software. Although no formal evaluation has been conducted, the feedback from pupils and teachers is that this e-library has improved grades and encouraged children to learn where pupils have had access to libraries or labs in order to utilise the computers. However, sustaining and up-scaling these interventions have been a challenge. Financial support with carefully drafted policies and are required for the setup of ICT infrastructure and software applications. It is evident that it will be even more difficult for schools to maintain and sustain their ICT infrastructure to enhance teaching and learning. If the trained ICT teacher leaves and a minor ICT issue arise, this could mean that pupils no longer have access to the e-library. Very little funding was made available through DoE to train teachers in ICT or provide ICT support for schools but major funding and support were made through donors. The DoE through the government and its partners has to provide adequate support and funding if technology is to be used to improve quality of education.

Unfortunately, training and professional development opportunities for teachers who wish to use ICT in their classes have been very limited. Although teaching colleges now provide very basic courses in using Microsoft applications such as Microsoft Word, Excel and PowerPoint, very little exposure is provided to student teachers on the use of the internet to source information for teaching and learning. Teachers do not yet have the capacity to use ICT to develop teaching and learning materials, and to integrate ICT with their pedagogies.

### **3.5. Coordination and partnerships**

Education functions are distributed within and outside the education sector, and coordination and partnerships are vital in ensuring that all parties can work in union to deliver a quality education. This section examines parental and community involvement, sectoral and inter-sectoral coordination, involvement of the non-state sector/partnerships and donor support.

#### **3.5.1. Parental and community involvement**

In Papua New Guinea, the schools are run by the government and church agencies. The recent World bank SABER country report (The World Bank, 2013) explained that to run these schools, a multi-layered approach to school governance had to have a high degree of parental and community involvement. The approach aims, by sharing responsibilities between two entities—the BoMs and the SLIP Committees—to achieve balanced and effective school management. The two entities fit within the school councils to take on the task of governance, and can be held to account by the P&Cs. The BoMs play a supportive role in key areas: advocating up-to-date curricula and materials for students; maintaining the autonomy to modify non-core courses to reflect local customs and language, and demonstrating good governance practices. SLIP Committees prepare schools three-year plans.

To address learning issues, schools are required to hold individual Teacher-Parent Meetings each term to discuss student performance, and teachers are instructed to provide individual Achievement Reports for the children they teach. However, there is an indication that the Teacher-Parent Meetings are only taking place 57 per cent of the time (Standards and Guidance Division & Policy, Planning, Research and Communication Division, NDoE, 2014).

### 3.5.2. Donor and sectoral/inter-sectoral coordination

As mentioned previously, the administrative framework is highly decentralised and the DoE has no direct control of policy implementation in basic education; this is the responsibilities of sub-national education authorities. The DoE is, however, directly responsible for basic and post-basic sectors with the DoCD responsible for ECCE. Church agencies also run almost half of the schools in the country, and this poses other challenges when it comes to implementing policy. Therefore, a high degree of consultation and coordination is required and this is conducted through mechanisms such as the annual Senior Education Officers Conference, the Governors' Investment Meeting, a quarterly meeting of provincial education officers, Regional Consultative Meetings, and the Education Sector Improvement Program (ESIP) Steering Committee.

ESIP came into being as a result of 'the country's commitment to the Paris Declaration on Aid Effectiveness', discussed with the main development partners in 2005. A sector-wide approach led to ESIP being formed in 2007, run through an ESIP Steering Committee, supported by Technical Working Groups. The steering committee was chaired by the Secretary for Education, with members from the DoE, the Department of National Planning and Monitoring, the Department of the Treasury, church agencies, donors, church-related stakeholders, education institutions and NGOs. A Capacity Development Committee (CDC) was set up to prioritise projects that donors could support. The ESIP committee has not met since 2013, and the CDC has been inactive over the past year. However, meetings are set to recommence later this year, and the CDC will be operating under a revised mechanism which, it is thought, will be more effective.

Donors have been very active in supporting the DoE to achieve the government's education priorities/EFA goals. Appendix A contains a table that details each of the donor's activities, and the duration, along with a table that shows the amount of financial aid provided by the main development partners for 2014. Appendix D shows that Australia's Department of Foreign Affairs and Trade (DFAT) (formerly AusAID) is by far the biggest contributing development partner, committing approximately 65 per cent of the total amount in terms of grant and technical aid.

In 2010, a new strategy was adopted by DFAT (AusAID, 2010). It was thought that the direct provision of services through the project support modality had a poor track record in managing sustainability of risks, as demonstrated, for example, by a lack of national funding for some key recurrent costs (e.g. teaching/learning materials). As this was in line with broader international experience, Australian support therefore was aimed at optimising the use of national systems, including using parallel funding mechanisms. Therefore, to optimise development effectiveness over the short and longer term, Australian support was set up to use a mixture of three modalities:

- Direct Financial Support (DFS), intended to deliver school grants and other initiatives, including support to provincial administrations, through a financing agreement between the two governments. Other development partners may join in the financing agreement.
- The Specialised Services Provision (SSP), intended to deliver school infrastructure and educational materials.
- The Capacity Development Facility (CDF), intended to provide targeted technical assistance administered by a contractor.

However, this arrangement is currently being reviewed as the DoE funding mechanism impeded the timely disbursement of DFS. One of the main problems was delay in the execution of DFAT-funded activities.

### 3.5.3. Enabling/constraining factors

This section reviews the above factors and identifies major issues that are found to have impacted the most on EFA progress and overall educational development.

Goal	Enabling factors	Constraining factors
EFA 1: ECCE		<ul style="list-style-type: none"> <li>• Department of Community Development being responsible for ECCE teacher training and curriculum.</li> </ul>
EFA 2: UPE/UBE	<ul style="list-style-type: none"> <li>• TFF allowing children to have access to education</li> <li>• Political commitment</li> <li>• High level of stakeholder engagement when policy is formulated</li> <li>• EFA Goals 2 and 3 built into national education plans</li> </ul>	<ul style="list-style-type: none"> <li>• A current shortage of teachers at elementary level, and insufficient capacity to train enough teachers at the primary and secondary levels</li> <li>• A previous lack of key performance indicator data impeding monitoring and evaluation</li> <li>• The current TFF formula does not account for the cost of education in remote areas or the cost effectiveness of running larger schools. This means that education cannot be delivered equitably in each area of the country</li> <li>• Lack of interest in obtaining an education or parents not allowing children to attend school</li> </ul>
EFA 3: Improving learning opportunities for youth and adults and life skills		
EFA 4: Improving adult literacy	<ul style="list-style-type: none"> <li>• LIFE (2009–12) programme</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of literacy data</li> <li>• Lack of progress in finalising the National Alternate Basic Education Programme</li> </ul>
EFA 5: Gender equity and equality in education	<ul style="list-style-type: none"> <li>• Awareness raising on gender issues in pre-service and in-service teacher training</li> <li>• SLIP</li> <li>• Strict rules on gender stereotypes used in curriculum development and curriculum statements</li> <li>• The ethos of the EFA Goal 5 built into national education plans</li> <li>• Mechanisms that ensure the equitable distribution of the education budget across the country</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of progress implementing the Gender Equity Strategic Plan (2009–14)</li> <li>• Local cultural issues resulting in large gender gaps in certain provinces</li> <li>• The gender implications of these aspects need to be highlighted</li> </ul>
EFA 6: Quality in education	<ul style="list-style-type: none"> <li>• SLIP</li> <li>• Established school governance systems</li> <li>• TFF funds</li> <li>• New approach taken to design standards-based curriculum</li> <li>• Political commitment</li> <li>• High level of stakeholder engagement when policy is formulated</li> <li>• EFA Goal 6 built into national education plans</li> </ul>	<ul style="list-style-type: none"> <li>• Poor implementation of OBE</li> <li>• Poor administration of elementary pre-service training</li> <li>• Lack of spaces in pre-service teacher training colleges</li> <li>• The acceptance of poorly qualified applicants into pre-service teacher training</li> <li>• Weakness in payroll systems resulting in teachers not being paid</li> <li>• Examination data not being disseminated at the national, provincial, district and school levels</li> <li>• Insufficient funding to fully support the</li> </ul>

Goal	Enabling factors	Constraining factors
		<p>established school accountability mechanisms for the Standards and Guidance Division and other stakeholders to raise awareness, fully implement SLIP, conduct training, monitor systems, and implement follow-up action</p> <ul style="list-style-type: none"> <li>• A poor learning environment with a lack of teaching materials, particularly textbooks</li> <li>• Lack of investment in ICT to furnish schools with software and hardware and build capacity of staff to maintain computers</li> </ul>

### 3.5.4. Other constraining factors affecting all EFA goals

Although the government has increased funding to a considerable extent in recent years, further investment will be required to increase the absorptive capacity in schools and to ensure the achievement of education development and EFA goals. There is a lack of capacity, particularly at the provincial level, to implement and monitor interventions, and understand the economic costs of services. It is suggested that the administrative framework impedes the DoE from having access to schools and taking effective follow-up action. There is also a belief at the subnational level that the administrative framework is hindering officials from carrying out their work.

### 3.6. Lessons learned and best practices

Policy is formulated using best practice, by reviewing international methods and strategies and engaging stakeholders at all levels in writing policy and designing planning which is appropriate to the Papua New Guinea. Furthermore, a World Bank report (The World Bank, 2013), details that the schools governance systems are based on international best practice. However, this review highlights problems:

- when attempts are made to implement policies;
- where the circumstances are unfavourable;
- when there is a lack of awareness among stakeholders;
- when there is a limited educational budget or funding is insufficient;
- when over-ambitious policy goals have been set, despite the isolation of much of the country making them unattainable in the medium term.

It follows that, the government and donors need to ensure that funds are available, the commitment is there to carry out the plans in the long term; and systems are in place to monitor implementation.

## 4. Emerging challenges and recommendations to achieve government development goals/EFA goals

### 4.1. Introduction

This section identifies the major emerging development challenges and proposes national policy directions that should be taken in order to deal with them. These challenges have been identified in Chapters 2 and 3 of this EFA review, and also incorporate the challenges and recommendations made in the Czuba report (Fr Jan Czuba, 2013). The latter provides a comprehensive vision of how to improve the quality of education towards and beyond 2015, and was written by experts from across the education spectrum in the country. Its recommendations were derived through reviewing the current OBE, governance, methods of instruction, teaching and learning resources, assessment strategies, and the way in which the curriculum had been implemented.

The following sections therefore present a summary of the challenges and recommendations made in various sources, for each of the six EFA goals. It then reviews the implications of undertaking these recommendations.

### 4.2. Emerging challenges and recommendations by EFA goal

#### 4.2.1. EFA Goal 1: ECCE

Challenges	Recommendations
<ul style="list-style-type: none"> <li>• Early childhood education is fragmented and poorly supervised</li> </ul>	<ul style="list-style-type: none"> <li>• Develop a national early childhood education framework</li> <li>• Transfer the responsibility for early childhood education from the Department of Community Development to the Department of Education and ensure the new division is adequately staffed and funded (Fr Jan Czuba, 2013).</li> </ul>

#### 4.2.2. EFA Goal 2: UBE

Challenges	Recommendations
<ul style="list-style-type: none"> <li>• An insufficient teaching force in the elementary sector and a projected lack of teachers in primary schools</li> </ul>	<ul style="list-style-type: none"> <li>• Train and recruit of more teachers.</li> <li>• To assist with planning, use EMIS and human resource data to identify the attrition rate of teachers</li> </ul>
<ul style="list-style-type: none"> <li>• Admission of children who are not the correct age (Section 2.3.1.2)</li> </ul>	<ul style="list-style-type: none"> <li>• Research why so many over and underage children are now entering the system</li> </ul>
<ul style="list-style-type: none"> <li>• Significantly lower participation and access rates in the Momase and Highlands regions (Section 2.3.1.2 )</li> </ul>	<ul style="list-style-type: none"> <li>• Research why children are dropping out and are not attached to schools.</li> <li>• Design and implement interventions to address the findings of the research</li> </ul>
<ul style="list-style-type: none"> <li>• Low progression of pupils , especially girls, between Elementary and Primary (Section 2.3.1.4.3)</li> </ul>	<ul style="list-style-type: none"> <li>• Research why a high percentage of pupils stop school after Elementary 2 grade.</li> <li>• Design and implement an awareness campaign and other possible interventions to address the findings of the research</li> </ul>
<ul style="list-style-type: none"> <li>• Disparities in capacity vary widely in and across the provinces; no tool is available to undertake complex analysis to assist provinces to project their requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Develop a planning model that can assist provincial planners to identify future educational requirements in elementary and primary schools in their areas</li> </ul>
<ul style="list-style-type: none"> <li>• Many children do not go to school who could go to school (Section 2.3.1.4 )</li> </ul>	<ul style="list-style-type: none"> <li>• Research why children lack interest in obtaining an education and why some parents do not allow their</li> </ul>

Challenges	Recommendations
<ul style="list-style-type: none"> <li>Lack of interest in obtaining an education and some parents do not allow their children to attend school</li> </ul>	<ul style="list-style-type: none"> <li>children to attend school</li> <li>Legislate for compulsory basic education from 6–15 years (Fr Jan Czuba, 2013)</li> <li>Complete the compulsory education policy to ensure that all eligible school age children go to school.</li> </ul>
<ul style="list-style-type: none"> <li>Lack of capacity in provinces to undertake evidence based planning</li> </ul>	<ul style="list-style-type: none"> <li>Support provinces in their implementation and monitoring of provincial education plans</li> </ul>

#### 4.2.3. EFA goal 3: learning opportunities for youth and adults and life skills

Challenges	Recommendations
<ul style="list-style-type: none"> <li>Lack of absorptive capacity in secondary and TVET institutions to meet the demand for expansion in education. TFF will lead to increased enrolments, meaning that extra teachers and spaces will be required. (Section 2.4.1.31.1)</li> </ul>	<ul style="list-style-type: none"> <li>Use departmental data to conduct a further analysis to identify where extra teachers and space are required to meet future demand</li> </ul>
<ul style="list-style-type: none"> <li>Disparities in capacity vary widely in and across the provinces. However, the current planning tool only identifies teaching and learning resource requirements in the country as a whole and not in individual provinces</li> </ul>	<ul style="list-style-type: none"> <li>Develop a planning model that can assist the DoE identify future educational requirements in the secondary and TVET sectors in the different areas of the country</li> </ul>
<ul style="list-style-type: none"> <li>Many children over the age of 15 drop out of education (Section 2.4.1.2)</li> </ul>	<ul style="list-style-type: none"> <li>Increase absorptive capacity in post-secondary education</li> </ul>

#### 4.2.4. EFA Goal 4: Adult literacy

Challenges	Recommendations
<ul style="list-style-type: none"> <li>The country falls far short of its international commitment of achieving a 50 per cent improvement in literacy. Urgent action is therefore required by the government, the DoE and others (Section 2.5)</li> </ul>	<ul style="list-style-type: none"> <li>Initiate a government-led literacy survey such as the one undertaken in 2011 and disseminate the findings to each province, in order that action plans can be devised to take account of the provincial environmental and cultural contexts</li> <li>Implement the Curriculum Framework for a National Alternate Basic Education Programme (ABEP) (Section 2.5.4)</li> <li>Consider alternative approaches to improve adult literacy through maximising the use of schools and teachers when schools are not in operation</li> </ul>

#### 4.2.5. EFA Goal 5: Gender equity and equality in education

Challenges	Recommendations
<ul style="list-style-type: none"> <li>Gender parity in education is impeded where females transit from elementary to primary schools and from Grade 10 to Grade</li> </ul>	<ul style="list-style-type: none"> <li>Research why this is occurring and identify the environmental and cultural factors</li> </ul>

Challenges	Recommendations
11 (Section 2.6)	<ul style="list-style-type: none"> <li>• Consider revising the Gender Equity Strategic Plan (2009–14) making use of recent research, and implement a targeted intervention that caters for cultural factors in each area of the country</li> <li>• Consider fully integrating the sectors gender strategy into the new National Education Plan 2015–19. By mainstreaming gender equity as a cross-cutting theme in any planned activity to address gender gaps, this more inclusive approach may gain greater traction in the sector than the Gender Equity Strategic Plan (2009–14), which is still to be implemented</li> <li>• Consider supporting provincial planners to develop gender activities in their provincial education plans in geographic areas where the gender gaps are widest</li> <li>• Increase awareness of school-related gender-based violence as a barrier to education</li> </ul>
<ul style="list-style-type: none"> <li>• The gender gap varies considerably in different regions of the country</li> </ul>	
<ul style="list-style-type: none"> <li>• Implementation of the Gender Equity Strategic Plan (2009–14) has not commenced</li> </ul>	

#### 4.2.6. EFA Goal 6: Quality in education

This section examines the challenges and suggested recommendations for improving quality in education and is mainly taken from the Czuba report (Fr Jan Czuba, 2013). Additional challenges that have arisen since that report was published detailed in the previous two chapters are also listed. An extensive list of recommendations is provided, some of which are already in the process of being implemented in the areas of: -

- policies, practices and laws;
- curriculum;
- teaching and learning resources to raise standards;
- monitoring and assessment;
- pre-service teacher education;
- in-service teacher education;
- teachers' pay and conditions;
- policy implementation and the new reform process.

##### 4.2.1.1 Policies, practices and laws

Challenges	Recommendations
<ul style="list-style-type: none"> <li>• Widespread confusion about language of instruction and the benefits of vernacular literacy</li> </ul>	<ul style="list-style-type: none"> <li>• Develop and implement a new language policy which acknowledges the importance of English, Tok Pisin and vernacular languages in the learning process (Fr Jan Czuba, 2013)</li> </ul>
<ul style="list-style-type: none"> <li>• Schools, students and parents do not know how their school is performing academically</li> <li>• Human resource capacity at the provincial and district level needs to be improved</li> <li>• DoE has little rigorous data on the quality of teaching and school management</li> </ul>	<ul style="list-style-type: none"> <li>• Strengthen the inspection and monitoring system to focus on standards of student achievement and quality of teaching (Fr Jan Czuba, 2013)</li> <li>• Training of administrators at subnational level needs to be funded and conducted regularly, consistent with new reform policies</li> <li>• Maintain a data-bank of the inspection and eligibility for promotion of teachers, including head teachers and principals</li> </ul>

**4.2.1.2 Curriculum**

Challenges	Recommendations
<ul style="list-style-type: none"> <li>• Low levels of student achievement in English and mathematics</li> </ul>	<ul style="list-style-type: none"> <li>• Immediately increase daily teaching time allocations for English and mathematics in Elementary and Primary</li> <li>• Write a new standards-based primary curriculum (Fr Jan Czuba, 2013)</li> <li>• Train all elementary and primary teachers on the new standards based curriculum</li> </ul>
<ul style="list-style-type: none"> <li>• Need to build on the lessons, challenges and successes of OBE</li> </ul>	<ul style="list-style-type: none"> <li>• Write a new Philosophy of Education and National Curriculum Statement (Fr Jan Czuba, 2013)</li> </ul>
<ul style="list-style-type: none"> <li>• Measurement of student progress in OBE is not rigorous enough</li> <li>• Teachers need more support with assessment and planning</li> </ul>	<ul style="list-style-type: none"> <li>• Write a new Curriculum Standards &amp; Assessment Framework which clearly defines measurable standards of achievement for each subject for each grade (Fr Jan Czuba, 2013)</li> </ul>
<ul style="list-style-type: none"> <li>• The elementary OBE curriculum is too complicated for teachers to plan and assess</li> </ul>	<ul style="list-style-type: none"> <li>• Urgently design and trial a concise and relevant standards-based elementary curriculum (Fr Jan Czuba, 2013)</li> </ul>
<ul style="list-style-type: none"> <li>• The secondary curriculum has only recently been reformed</li> </ul>	<ul style="list-style-type: none"> <li>• Retain existing secondary curriculum syllabuses and teacher guides (Fr Jan Czuba, 2013)</li> </ul>

**4.2.1.3 Teaching and learning resources**

Challenges	Recommendations
<ul style="list-style-type: none"> <li>• Low levels of student achievement in English and mathematics</li> </ul>	<ul style="list-style-type: none"> <li>• Develop or procure scripted lessons for elementary English and mathematics and introduce to all schools (Fr Jan Czuba, 2013)</li> </ul>
	<ul style="list-style-type: none"> <li>• Develop, procure and distribute sufficient graded and dual language (English and Tok Pisin) elementary student readers</li> </ul>
	<ul style="list-style-type: none"> <li>• Roll out English scripted lessons<sup>5</sup> for Grades 3 and 4 to all primary schools (Fr Jan Czuba, 2013)</li> </ul>
	<ul style="list-style-type: none"> <li>• Select, procure and distribute a standard set of core textbooks for all lower and upper primary students (Fr Jan Czuba, 2013)</li> </ul>
<ul style="list-style-type: none"> <li>• OBE planning is very time consuming for teachers</li> </ul>	<ul style="list-style-type: none"> <li>• Develop and distribute teacher-friendly units of work for subjects in Grades 5, 6, 7 and 8 (Fr Jan Czuba, 2013)</li> </ul>
<ul style="list-style-type: none"> <li>• Poorly resourced vocational sector</li> </ul>	<ul style="list-style-type: none"> <li>• Introduce a Diploma in Vocational Education and Training to address the shortage of staff in the vocational centres</li> <li>• Consider directing vocational centres to use a proportion of their TFF funds on tools and equipment to help develop the technical skills of students</li> </ul>

**4.2.1.4 Assessment, monitoring and evaluation**

Challenges	Recommendations
<ul style="list-style-type: none"> <li>• No performance data exists for Elementary</li> </ul>	<ul style="list-style-type: none"> <li>• Introduce annual national assessments in Grade 2 and</li> </ul>

<sup>5</sup> Developed by Read PNG project at DoE and currently under trial in Madang province



Challenges	Recommendations
and Lower Primary	Grade 5 (Fr Jan Czuba, 2013)
<ul style="list-style-type: none"> <li>Schools, students and parents do not know how their school is performing</li> </ul>	<ul style="list-style-type: none"> <li>Publish all examination results for all schools</li> <li>Reform the Grade 8 examination (Fr Jan Czuba, 2013)</li> </ul>
<ul style="list-style-type: none"> <li>Heavy workload for teachers</li> <li>Unreliable assessment data</li> </ul>	<ul style="list-style-type: none"> <li>Develop and distribute annual school based assessment tasks for core secondary subjects (Fr Jan Czuba, 2013)</li> </ul>
<ul style="list-style-type: none"> <li>DoE does not know how student achievement compares with that in other countries</li> </ul>	<ul style="list-style-type: none"> <li>Continue with international benchmarking (PILNA) and restart CSMT</li> <li>Join the TIMMS and the Programme for International Student Assessment (PISA) international benchmarking system to offer realistic global comparison of student achievement (Fr Jan Czuba, 2013)</li> </ul>
<ul style="list-style-type: none"> <li>No student performance data on numeracy exists for elementary and lower primary</li> </ul>	<ul style="list-style-type: none"> <li>Conduct an Early Grade Maths Assessment to establish a baseline for numeracy (Fr Jan Czuba, 2013)</li> </ul>
<ul style="list-style-type: none"> <li>Examinations and assessment are a frequent problem for DoE to the detriment of teachers and students</li> </ul>	<ul style="list-style-type: none"> <li>Establish a new independent body or outsource design, development and implementation of national assessment and examinations, to replace the DoE's Measurement Services Unit (Fr Jan Czuba, 2013)</li> </ul>
<ul style="list-style-type: none"> <li>Lack of capacity to use monitoring and evaluation data at the national and particularly the sub-national levels</li> </ul>	<ul style="list-style-type: none"> <li>Establish an intensive capacity building programme throughout the sector to coach staff on how to use the examination data and other departmental indicators soon to become available for monitoring and evaluation</li> </ul>

#### 4.2.1.5 Pre-service teacher education

Challenges	Recommendations
<ul style="list-style-type: none"> <li>Low levels of student-teacher achievement in English and mathematics</li> <li>Measuring the quality of elementary teacher training is difficult (Fr Jan Czuba, 2013)</li> </ul>	<ul style="list-style-type: none"> <li>Consolidate elementary pre-service teacher training into the teachers colleges and update elementary teacher training courses<sup>6</sup> (Fr Jan Czuba, 2013)</li> </ul>
<ul style="list-style-type: none"> <li>Low levels of student-teacher achievement in English and mathematics</li> </ul>	<ul style="list-style-type: none"> <li>Revise the pre-service primary teacher training curriculum to give more weight to English and mathematics teaching<sup>7</sup> and ensure it matches the new standards-based curriculum (Fr Jan Czuba, 2013)</li> </ul>
<ul style="list-style-type: none"> <li>New teachers need more time, better training and resources to learn how to teach effectively, especially in English and mathematics</li> </ul>	<ul style="list-style-type: none"> <li>Extend the pre-service diploma in primary education course to three years</li> <li>Ensure lecturers possess the necessary skills and receive adequate training, inspection and support</li> <li>Ensure all student teachers receive a set of relevant curriculum documents and textbooks when they begin their course (Fr Jan Czuba, 2013)</li> </ul>
<ul style="list-style-type: none"> <li>Lack of capacity to train required number of new teachers</li> </ul>	<ul style="list-style-type: none"> <li>Assess and upgrade infrastructure at colleges to accommodate targeted numbers of elementary, primary</li> </ul>

<sup>6</sup> This work has begun with the Elementary Teacher Training Reform Program

<sup>7</sup> The Language Support Program has begun reform of English teacher training courses

Challenges	Recommendations
<ul style="list-style-type: none"> <li>• Many colleges are at maximum capacity (Fr Jan Czuba, 2013)</li> </ul>	<ul style="list-style-type: none"> <li>and secondary teachers (Fr Jan Czuba, 2013)</li> </ul>
<ul style="list-style-type: none"> <li>• An increasing proportion of elementary teachers do not have required qualifications</li> </ul>	<ul style="list-style-type: none"> <li>• Investigate the administration and quality of current pre-service teacher training arrangements, steps to supply the elementary sector with a teaching force of the required standard</li> </ul>
<ul style="list-style-type: none"> <li>• Most elementary teachers do not have an adequate command of either the written or the spoken English language</li> </ul>	<ul style="list-style-type: none"> <li>• Introduce an English language competency test for all new teachers and enforce minimum standards in English, mathematics and personal character for entry into all levels of teacher education (Fr Jan Czuba, 2013)</li> </ul>

#### 4.2.1.6 In-service teacher education

Challenges	Recommendations
<ul style="list-style-type: none"> <li>• Low levels of student achievement in English and mathematics (Section 2.7.2)</li> </ul>	<ul style="list-style-type: none"> <li>• Trial and implement a cost-effective national in-service training program for English and mathematics teaching for all elementary and primary teachers (Fr Jan Czuba, 2013)</li> </ul>
<ul style="list-style-type: none"> <li>• Many teachers in elementary and primary schools possess only basic English skills</li> </ul>	<ul style="list-style-type: none"> <li>• Introduce an English language competency testing and training program for all elementary and primary teachers<sup>8</sup> (Fr Jan Czuba, 2013)</li> </ul>

#### 4.2.1.7 Teachers' pay and conditions

Challenges	Recommendations
<ul style="list-style-type: none"> <li>• Low levels of student achievement in English and mathematics</li> </ul>	<ul style="list-style-type: none"> <li>• Increase the length of the elementary school day and increase pay for elementary teachers (Fr Jan Czuba, 2013)</li> </ul>
<ul style="list-style-type: none"> <li>• Many children do not go to school who could go to school (Sections 2.3.1.3 and 2.4.1.2 )</li> </ul>	<ul style="list-style-type: none"> <li>• Increase funding for infrastructure and teacher housing to schools experiencing high student enrolment (Fr Jan Czuba, 2013)</li> </ul>
<ul style="list-style-type: none"> <li>• High teacher absenteeism</li> </ul>	<ul style="list-style-type: none"> <li>• Implement a concerted plan to reduce teacher absenteeism (Fr Jan Czuba, 2013)</li> </ul>
<ul style="list-style-type: none"> <li>• More and better teachers are needed</li> </ul>	<ul style="list-style-type: none"> <li>• Implement a national advertisement campaign to attract better quality teachers and raise the image of the profession (Fr Jan Czuba, 2013)</li> </ul>

#### 4.2.1.8 Implementation of policy and the reform process

Challenges	Recommendations
<ul style="list-style-type: none"> <li>• Teachers colleges and church agencies were not consulted adequately on OBE</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure meaningful participation of stakeholders and partners such as the church education agencies and teachers colleges (Fr Jan Czuba, 2013)</li> </ul>

<sup>8</sup> The Teaching Service Commission has agreed with the Minister to begin this work in 2013

<ul style="list-style-type: none"> <li>• Perception that OBE was a foreign import</li> </ul>	<ul style="list-style-type: none"> <li>• Utilise Papua New Guinea based experts wherever possible</li> <li>• Utilise international expertise only if they have adequate experience in Papua New Guinea schools (Fr Jan Czuba, 2013)</li> </ul>
<ul style="list-style-type: none"> <li>• OBE vilified by the public</li> </ul>	<ul style="list-style-type: none"> <li>• Implement a national awareness campaign to inform parents and teachers of the benefits of reform and the changes they will see in their schools</li> <li>• Ensure all documentation and evidence are publically available (Fr Jan Czuba, 2013)</li> </ul>
<ul style="list-style-type: none"> <li>• OBE syllabus was complicated to plan and assess</li> </ul>	<ul style="list-style-type: none"> <li>• Check that teachers can understand and use syllabuses, scripted lessons and units of work using rigorous trials (Fr Jan Czuba, 2013)</li> </ul>
<ul style="list-style-type: none"> <li>• No longitudinal studies on the impact of OBE</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct annual independent assessments on the impact of the standards based curriculum (Fr Jan Czuba, 2013)</li> </ul>
<ul style="list-style-type: none"> <li>• Slow development of materials at DoE</li> </ul>	<ul style="list-style-type: none"> <li>• Outsource development of materials with effective quality control and specifications from DoE</li> </ul>
<ul style="list-style-type: none"> <li>• Lack of funding to implement new curriculum reform process</li> </ul>	<ul style="list-style-type: none"> <li>• The government should consider committing an allocated budget to ensure smooth implementation</li> <li>• Approach donor partners to seek financial assistance with the implementation and monitoring of the new curriculum</li> </ul>

### 4.3. Summary and implications

Policy is formulated using best practice, taking account of the best methods and strategies internationally, and engaging stakeholders at all levels to write policy and carry out research and planning. However, problems can arise in the implementation of policies when, for example, funding is inadequate, or the policy goals are over-ambitious.

Many of the recommendations relate to the new SBC have already been adopted by the DoE and the CDAD, both of which are liaising with stakeholders to develop the new curriculum. The cost of implementing this has already been budgeted, and funding is being sought from the government and other sources. This should address some of the reasons for a lack of progress on EFA Goal 6 and thus improve quality of education in general and the quality of participants undertaking in-service and pre-service teacher training in particular.

The government will have to invest further to achieve education development goals and fulfil its international commitment to achieve the other five EFA goals. It is hoped that these recommendations will

- Improve ECCE provision as a result of the DoE applying leadership and a framework which will raise the standards where agencies and the private sector run ECCE schools and; ensure that holistic principles underpin the provision of ECCE.
- Improve capacity, access and gender parity in all sectors, and allow free quality teaching to be delivered in appropriate class sizes.
- Improve adult literacy through the implementation of the Curriculum Framework for a National Alternate Basic Education Programme.

These recommendations will need further consideration in the NEP 2015–19. A dialogue will have to take place to assess what activities will need to be designed to implement these recommendations, taking account of the

education budget and capacity constraints in the sector. During this process, it is highly possible that planners may decide that implementing all the proposed recommendation would not be possible. They may, in fact, want to consider analysing each proposed activity to consider the capacity, cost and what would have the greatest impact; and more importantly, what potential synergies these activities generate.

## 5. Conclusion and recommendations

The following sections recap the major findings of the report and then go on to provide a series of high level recommendations relating to the six EFA goals.

### 5.1. Recapitulation of major findings and conclusions

The following recaps the major findings related to each EFA goal.

#### 5.1.1. EFA Goal 1: ECCE findings

Currently, there is no national ECCE sector in the national unified education system; therefore, there are no data available to monitor the progress made in ECCE. The Department of Community Development (DoCD) found it a challenge to make progress with this goal despite the support of UNICEF. Presently, the Department of Health is responsible for child development from as early as antenatal to the age of six. The DoCD is responsible for providing for the care and welfare of all children up to the age of 15.

Despite the non-existence of ECCE in the formal education system, there are over 300 such schools around the country administered by corporate organisations. Because they are privately managed, they do not provide DoE with data as part of the annual school census, so the DoE does not have the key performance indicators of children attending these schools. The national government is currently considering making education available to all children starting from age three. To bring this into effect, a number of key issues will need to be considered by the DoE or the Ministry of Education as the proposed implementing agency. These issues would cover developing a national ECCE education framework, rolling out the establishment of ECCE schools, developing a national ECCE implementation policy and plan and introducing enabling legislation to empower local government to take responsibility for managing the administration and operation of ECCE schools.

#### 5.1.2. EFA Goal 2: Universal basic education findings

The UBE Plan 2010–19 enrolment projections in basic education that were established for 2014 have already been surpassed, and the number of teachers and schools has increased considerably since 2000. That said, additional resources will be required to accommodate the increase in enrolment numbers that are expected as access and participation barriers are being removed through initiatives such as the TFF and the proposed compulsory education policy. The review identifies that 15 per cent of pupils do not progress after Grade 2 and highlights that if these pupils could be persuaded to progress to Grade 8, estimated enrolment in primary schools would increase by 40 per cent. Worryingly, the report mentions that a high proportion of children lack an interest in obtaining an education, and some parents do not allow their children to attend school. The DoE needs to conduct research to identify why this is and then design an intervention to address the underlying issues.

Participation and access rates have significantly increased for children of all ages since 2000. However, growth seems to be coming from over- and underage children entering or dropping back into the system. Further research is required to understand the exact reasons why this is; one possible reason is that the TIC at elementary schools are allowing underage children into the preparatory grade.

Due to the previous lack of data, provincial education planners lack the capacity and tools to undertake the required analysis and planning needed to prevent various issues arising, such as a shortage of teachers and space to absorb new pupils. It is apparent that funding is limited and that there is a lack of capacity to monitor and review the implementation of plans.

### 5.1.3. EFA Goal 3: Learning opportunities for youth and adults and life skills

In the post-basic education sector, access and participation rates have also considerably improved across the secondary and vocational segments, although these rates are still very low as a result of the government's decision to prioritise basic education in the NEP 2005–14.

Considerable variance in educational key performance indicators (KPI) exists among the provinces, and this should be addressed. The pupil-teacher ratio in the secondary sector is now a manageable 31 students to one teacher, but it is highly likely that this will dramatically increase in the future. Furthermore, as enrolments increase, the current chronic lack of textbooks and teaching resources is likely to worsen significantly. A previous lack of KPI data has curtailed conducting monitoring and evaluation in the post-basic education sector. However, with some support, it should be possible for the DoE to use the data that are available to undertake evidence-based planning and monitoring, which should lead to significant improvements in the sectors at this level.

### 5.1.4. EFA Goal 4: Adult literacy findings

Although a national alternate basic education programme is soon to be presented for consideration by the DoE, little progress has been made since the completion of UNESCO's CapEFA programme (2009–12). Furthermore, it is apparent that the country is not going to achieve its EFA target for this goal. In light of research indicating that disparities exist across the country, literacy research is required to fully understand the different cultural issues that impede progress in each province.

### 5.1.5. EFA Goal 5: Gender parity and equality findings

The gender gap appears to be gradually closing despite a lack of progress in implementing the Gender Equity Strategic Plan (2009–14). This may be a result of three factors:

- Awareness is raised about gender in pre- and in-service teacher training, as well as in the way SLIP is implemented.
- The strict rules on gender stereotypes that are used in curriculum development and curriculum statements are very gender aware.
- The EFA goal 5 philosophy is woven into national education plans and activities.

But it is apparent that local cultural beliefs and other issues such as school-related or gender-based violence are creating large gender gaps in certain provinces. These issues need to be fully understood and addressed.

### 5.1.6. EFA Goal 6: Quality in education findings

For a number of reasons, the OBE curriculum was not designed and implemented effectively, and this led to the curriculum having to be reformed and replaced with SBC. This has been a disaster for the education sector. To address the situation, the government, the DoE and stakeholders will have to work together to ensure the mistakes of the past are not repeated while implementing the new curriculum. It is believed that the main cause of failure was that 'OBE was originated by outside experts; it was a difficult to lead and manage; at national level and sub-national level there was inadequate planning and resources to support implementation; the majority of teachers did not understand the conceptual framework; and finally, parents did not understand it either'. Although the SBC is being rapidly developed by CDAD using a highly participatory approach, government must appreciate that it will have to invest heavily over the coming years to ensure the curriculum is accompanied by the appropriate teaching materials and teacher training, and that a significant amount of awareness-raising is required for all stakeholders.

Schools have invested funds received through TFF in minor improvements in resources, facilities and teaching aids, but it is evident that further investment is seriously required in these areas. For example, there is a severe shortage of textbooks that has been caused by an increase in enrolment; this has deteriorated progressively since 2000. With regard to providing equality in educational service delivery in each school in the country, the current TFF formula

does not account for the cost of education in remote areas or the cost-effectiveness of running larger schools, and this needs to be addressed.

There has been a large increase in the number of teachers at all levels, with the exception of the elementary sector, which has suffered from poor administration in elementary pre-service training. That said, there is a lack of space in pre-service teacher training colleges, and it is unlikely that these colleges will be able to meet the demand for teachers that will be brought upon the system in coming years if action is not taken.

An even more perplexing issue is that recently qualified teachers throughout the system have been reported to lack the required level of proficiency in the English language to perform their role. The cumulative effect of declining standards at the elementary level severely impedes pupils' ability to learn as they progress through the system, which is having a negative impact on the overall learning process. A very high teacher absenteeism rate may also be further negatively impacting the learning process.

The combination of the above factors has led to many more pupils progressing through the system, but it is highly debatable whether the standard of education has improved as most pupils are unable to perform to the required standard in national examinations. Of late, it has not been possible to disseminate examination data; but due to new leadership in the MSB, this data will shortly be disseminated at the national, provincial, district and school levels. It is expected that this will provide stakeholders with valuable information on how well their school or area is performing in comparison to the rest of the country.

## 5.2. Key directions/recommendations for the government for education development

This section summarises the high-level recommendations that the government should consider based on the contents of this and the prior mentioned reports and evaluations in the six EFA goal areas.

### 5.2.1. EFA Goal 1: Early childhood care and education recommendations

- Recommendation 1)** Consider transferring the responsibility for ECCE from the Department of Community Development to a new division in the DoE and ensure that the new division is adequately staffed and funded.
- Recommendation 2)** Develop a national ECCE education framework and strategic plan.
- Recommendation 3)** Consider incrementally rolling out the establishment of the ECCE schools in the country.
- Recommendation 4)** Develop an appropriate national ECCE implementation policy and plan.
- Recommendation 5)** Introduce an enabling legislation to empower the local government to take responsibility for managing the administration and operation of ECCE schools.

### 5.2.2. EFA Goal 2: Universal basic/primary education recommendations

- Recommendation 6)** Increase the capacity of the elementary and primary sectors to absorb the full impact of TFF and the proposed compulsory education policy.
- Recommendation 7)** Add to the Education Act, a section extending the authority of Provincial Education Boards to legally establish District Education Boards in all districts.
- Recommendation 8)** Develop and implement a strategy to increase the proportion of pupils, particularly girls, who transition from elementary to primary school.
- Recommendation 9)** To improve classroom management, address why such a large number of under- and over-aged children are starting school.
- Recommendation 10)** Expand the number of classrooms and spaces in elementary and primary schools.

**Recommendation 11)** Develop tools and a capacity-building programme that will empower provincial planners, and their colleagues, with the knowledge of how to use data that are now available. This will allow them to undertake evidence-based planning exercises to identify educational requirements and formulate appropriate strategies.

**Recommendation 12)** Conduct research to understanding why children lack interest in obtaining an education and why some parents do not allow their children to attend school.

**Recommendation 13)** Undertake community awareness initiatives on the impact of a child not being educated on both the family livelihood and the overall growth of the country.

### 5.2.3. EFA Goal 3: Learning opportunities for youth and adults and life skills recommendations

**Recommendation 14)** Increase the capacity in the secondary and TVET sectors to absorb the full impact of TFF in five years' time and the proposed compulsory education policy. This will mean significantly increasing the number of places in the secondary and TVET sectors through the construction of new secondary schools and vocational centres as well as the expansion of current institutions. New teachers will need to be trained and employed to deal with the increase in enrolment, while schools and vocational colleges will have to examine ways to use TFF money to purchase resources in order to accommodate new teachers and pupils.

### 5.2.4. EFA Goal 4: Adult literacy recommendations

**Recommendation 15)** Adopt, implement, and monitor the National Alternate Basic Education Programme.

**Recommendation 16)** Strengthen and empower NLAS to set up adult literacy centres in the provinces and to effectively and efficiently supervise the delivery of the non-formal education throughout the country.

**Recommendation 17)** Adequately resource NLAS to conduct further research on adult literacy programmes and impediments causing slow improvement in the literacy rate of the country.

**Recommendation 18)** The government should consider alternative approaches to improve adult literacy through maximising the use of schools and teachers when schools are not in operation.

### 5.2.5. EFA Goal 5: Gender parity and equity in education recommendations

**Recommendation 19)** Revise and align the gender strategy plan with the new National Education Plan 2015–19, incorporate gender equity as a cross-cutting theme in any planned activity and address any apparent gender gaps. This more inclusive approach may gain greater traction in the sector than the Gender Equity Strategic Plan (2009–14), which is still awaiting implementation.

**Recommendation 20)** Increase awareness of school-related gender-based violence as a barrier to education.

**Recommendation 21)** Consider supporting provincial planners, and their colleagues, in developing focused gender activities in their provincial education plans in geographic areas where the gender gaps are widest.

**Recommendation 22)** Enforce legislation or regulations that recognise equal participation of both genders in all basic education institutions.

**Recommendation 23)** Undertake research to assess how knowledge, local attitudes, local practices, interventions, school performance, student attendance, and teachers' qualifications and experience impact on the success of males and females at schools.

### 5.2.6. EFA Goal 6: Quality in education recommendations

**Recommendation 24)** The government should consider committing money in the national and provincial budgets for the funding SBE to ensure its successful implementation.



- Recommendation 25)** Ensure an adequately trained teaching force is in place to deliver SBC through providing quality pre-service and in-service teacher training.
- Recommendation 26)** Although there are noted improvements in the school environment, much more investment is required. Textbooks and teaching resources are desperately required across each sector, and even more will be needed to meet the expected increase in enrolments.
- Recommendation 27)** Introduce a Diploma in Vocational Education and Training to address the shortage of staff in the vocational centres.
- Recommendation 28)** Consider directing vocational centres to use a proportion of their TFF funds on tools and equipment to help develop the technical skills of students.
- Recommendation 29)** The NDoE should fully consider the recommendations of this review when developing the NEP 2015–19. A dialogue will have to take place to assess what activities will need to be designed to implement these recommendations, taking into account the education budget and capacity constraints in the sector. During this process, it is highly possible that planners may determine that implementing all the proposed recommendations is not possible. Therefore, the planners may want to consider analysing each proposed activity to consider the capacity, cost, what would have the greatest impact; and, more importantly, what potential synergies the activities generate.

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## Annex A: Interventions by donor partners

Main activity	Organisation	Project/program title	Term
<b>1. Access</b>			
TFF	DFAT	PNG Education Program	2011–13
Distance learning	World Bank	FODE	2011–16
School environment development	DFAT	Basic Education Development Project	2004–10
	DFAT	PNG Education Program	2011–ongoing
Promotion of pre-school education	UNICEF	Early Childhood and Development	2004–14
Gender policy proposal	UNICEF	Gender Mainstreaming	Ongoing
Special support education	World Bank	Improvement of Quality of Life	2007–12
<b>2. Teachers and teacher education</b>			
In-service teacher training	DFAT	CRIP	2000–06
	DFAT	Education Capacity Building Project (ECBP)	2004–10
	EU	Human Resources Development Program (HRDP) 1	2011–15
Preparation of training materials for teacher education	DFAT	ECBP	2004–10
Development of teacher training courses	DFAT	Primary and Secondary Teacher Education Project (PASTEP)	1999–2010
	UNICEF	Child Friendly Schools	2004–11
	VSO	Voluntary Service Overseas (VSO)	Ongoing
Dormitories and scholarships for teacher training	EU	Education, Training and Human Resources Development Program (ETHRDP)	2007–11
	EU		2011–15
<b>3. Management and Planning</b>			
<b>Support for the establishment of education policy, improvement of administration capacity</b>			
Education plan and policy support	DFAT	PNG Education Program	2011–ongoing
Dissemination of the UBE and its awareness raising	UNICEF	UBE	2010–ongoing
Promotion of pre-school education	UNICEF	Early Childhood and Development	2004–scheduled to end on 2014
Emergency education	UNICEF	Education in Emergencies	Ongoing
Improvement of administration capacity	DFAT	ECBP	2004–10
	EU	ETHRDP	2007–11
	EU	HRDP 1	2012–15
Gender policy proposal	UNICEF	Gender Mainstreaming	Ongoing
Support for women's participation	DFAT	Basic Education Development Project	2004–10
Preparation of the framework for education standards	DFAT	PNG Education Program	2011–ongoing
EMIS Enhancement	DFAT	PNG Education Program	2011–ongoing
Support for the introduction of ICT to local areas	DFAT	PNG Education Program	2011–ongoing

<b>School management</b>			
School management and administration	DFAT	BEDP	2004–10
	DFAT	PNG Education Program	2011–ongoing
	EU	ETHRDP	2007–11
<b>Curriculum</b>			
Curriculum development preparation of standard monitoring tests	DFAT	CRIP	2000–06
Distributions of syllabuses	DFAT	CRIP	2000–06
Distribution of textbooks and teaching materials (limited to primary schools)	DFAT	BEDP	2004–10
	EU	ETHRDP	2007–11
Distribution of reading materials, establishment of classroom libraries	World Bank	READ PNG	2011–ongoing
National examination academic ability surveys	DFAT	PNG Education Program	2011–ongoing

Source: Kindly provided by JICA

## Annex B: Education indicator data 2000–13 where available

Year	Gross Admission Rate			Gross Enrolment Rate (Prep to Grade 8)			Net Admission Rate			Net Enrolment Rate (Prep to Grade 8)			Students Preparatory			Students Elementary (Prep to Elem2)		
	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total
2000													28,667	32,666	61,333			
2001													33,631	40,234	73,865			
2002													44,965	50,627	95,592			
2003													47,992	54,228	102,220			
2004													46,954	53,095	100,049			
2005													48,294	52,917	101,211			
2006													62,798	69,356	132,154			
2007	77	77	77	66	73	70	12		12	51	54	53	69,285	75,972	145,257	167,459	188,628	356,087
2008	98	100	99	73	82	78	18	17	18	58	62	60	84,484	93,176	177,660	198,643	224,506	423,149
2009	111	113	112	81	90	86	26	25	26	67	72	70	97,831	107,678	205,509	239,921	268,596	508,519
2010	114	117	115	84	93	89	27	28	28	66	72	69	112,041	124,153	236,194	275,789	304,952	580,741
2011	117	120	118	83	92	88	32	33	32	66	72	69	117,337	130,167	247,504	290,477	321,845	612,322
2012	137	139	138	92	101	97	41	42	42	75	82	79	140,257	154,483	294,740	346,035	381,081	727,116
2013	142	144	143	94	102	98	33	33	33	71	77	74	148,303	164,248	312,551	367,228	406,579	773,807
Year	Students Primary (Grade3 - Grade 8)			Students Secondary (Grade 9 to Grde 12)			Teachers Elementary (Prep to Elem2)			Teachers Primary (Grade 3 to Grade 8)			Teachers Secondary (Grade 9 to Grade 12)					
	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total			
2000																		
2001																		
2002																		
2003																		
2004																		
2005																		
2006																		
2007	237,732	301,332	539,064	36,260	52,703	88,963	4,379	6,171	10,551	7,833	9,404	17,239						
2008	272,662	347,270	619,932	39,161	57,216	96,377	5,243	6,896	12,139	8,733	10,495	19,231						
2009	313,760	401,959	715,720	43,613	67,982	111,597	5,635	7,311	12,949	9,377	10,964	20,341						
2010	332,651	417,407	750,058	43,945	65,927	109,872	5,469	7,242	12,711	10,256	11,990	22,246	1,619	2,722	4,341			
2011	342,248	427,698	769,946	46,604	70,535	117,139	5,490	7,289	12,779	10,422	12,369	22,791	1,633	2,761	4,394			
2012	382,113	479,485	861,598	50,826	78,252	129,078	6,350	8,436	14,786	10,933	13,042	23,975	1,661	2,779	4,440			
2013	398,627	496,251	894,878	56,247	86,065	142,312	7,018	8,855	15,873	11,866	13,151	25,019	1,688	2,916	4,604			

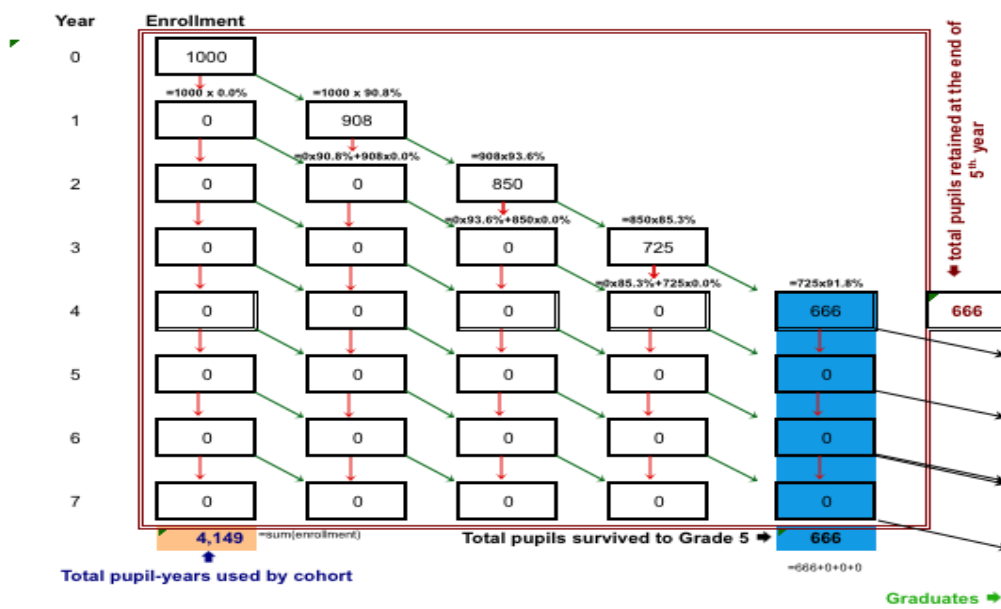
## Annex C: Measures of internal efficiency 2012–13: Elementary Prep–Grade 5

Based on the 2012 and 2013 data, this analysis shows that the Cohort Survival Rate is 66.6 per cent, i.e. for every 100 enrolments that enter Elementary Prep, 66.6 are retained in Grade 5. The analysis also shows that the co-efficient of internal efficiency is 74 per cent. This is the ideal (optimal) number of pupil-years required (i.e. in the absence of repetition and dropout) to produce a number of graduates from a given school-cohort for a cycle or level of education expressed as a percentage of the actual number of pupil-years spent to produce the same number of graduates. Input-output ratio, which is the reciprocal of the coefficient of efficiency, is often used as an alternative. N.B. One school year spent in a grade by a pupil is counted as one pupil-year (UNESCO Institute for Statistics (UIS), 2009).

The purpose of this indicator is to provide a synthetic measure of the internal efficiency of an educational system. It summarises the consequences of repetition and dropout on the efficiency of the educational process in producing graduates. Thus, the co-efficient of internal efficiency of 74 per cent indicates that there is a high dropout rate.

The model used to generate these figures was supplied by UIS.

Flow rates	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Promotion	90.8%	93.6%	85.3%	91.8%	92.2%
Repetition	0.0%	0.0%	0.0%	0.0%	0.0%
Dropout	9.2%	6.4%	14.7%	8.2%	7.8%



<b>(Cohort) Survival rate to Grade 5 =</b>	<b>66.6%</b>	=666 / 1000
<b>Retention rate (at the end of 5<sup>th</sup> year) =</b>	<b>66.6%</b>	=666 / 1000
<b>(Cohort) Graduation rate =</b>	<b>61.4%</b>	=614 / 1000
<b>Number of graduates =</b>	<b>614</b>	
<b>Total pupil-years studied by the cohort =</b>	<b>4,149</b>	
<b>Average no. of pupil-years invested per graduate =</b>	<b>6.8</b>	=4149 / 614
<b>Ideal number of pupil-years for a graduate =</b>	<b>5.0</b>	=years in the level (primary)
<b>Coefficient of internal efficiency =</b>	<b>74.0%</b>	=5 / 6.8

Assumptions:

1. No repeaters
2. No transfers in or out



## Annex D: Financial aid by the main development partners for 2014 and aid provided in the education sector

### Financial aid by the main development partners for 2014

Development partner	Grant		Loan		Total	
	Amount	%	Amount	%	Amount	%
Australia	1,206	78	0	0	1206	50
New Zealand	33	2	0	0	33	1
China	87	6	296	34	383	16
Japan	36	2	55.8	6	92	4
Asia Development Bank		0	441.9	51	442	18
European Union	62	4	0	0	62	3
World Bank	25	2	77.6	9	102	4
UN	103	7	0	0	103	4
US	4	0	0	0	4	0
<b>Total</b>	<b>1,555</b>	<b>100</b>	<b>871</b>	<b>100</b>	<b>2426</b>	<b>100%</b>

Source: kindly provided by JICA

### Amount of financial aid from the development partners in education

Development partner	Amount	%
Australia	211	65
China	63	19
Japan	1	0
European Union	23	7
World Bank	16	5
UN	10	3
<b>Total</b>	<b>324</b>	<b>100</b>

Source: kindly provided by JICA