



PACIFIC BENCHMARKING FOR EDUCATION RESULTS (PaBER)

# PAPUA NEW GUINEA REPORT



NATIONAL DEPARTMENT  
OF EDUCATION



Pacific  
Community  
Communauté  
du Pacifique

# **PAPUA NEW GUINEA REPORT**

PACIFIC BENCHMARKING FOR EDUCATION RESULTS (PaBER)

Compiled by EQAP

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## ABBREVIATIONS

BoM	Board of Management
CSMT	Curriculum Standards Monitoring Test
EMIS	Education Management and Information System
GDP	Gross Domestic Product
GoPNG	Government of Papua New Guinea
ICT	Information and Communication Technology
MDG	Millennium Development Goals
MSB	Measurement Service Branch
NDoE	National Department of Education
NEP	National Education Plan
P&C	Parents and Citizens committee
PaBER	Pacific Benchmarking for Education Results
PILNA	Pacific Islands Literacy and Numeracy Assessment
PNG	Papua New Guinea
SABER	Systems Approach for Better Education Results
SLIP	School Learning Improvement Plan

## ACKNOWLEDGEMENT

PaBER pilot project is a journey of three countries in their quest to bring to every education system in Papua New Guinea, Samoa and the Solomon Islands and the Pacific at large a process, an approach that brings value and clarity to what we may have already been doing or that we should do in our own ministries of education. It was all made possible by the Government of Australia.

We extend our most sincere gratitude to the Government of Australia for funding the pilot project and its commitment to supporting Pacific Forum Education Ministers decision 2010 on the concept of 'benchmarking the quality of education for results' to improve the quality of education in the region. Special thanks goes to the DFAT regional office in Suva, Fiji and DFAT office in Papua New Guinea.

We extend our sincere gratitude to the National Department of Education of Papua New Guinea for their support throughout the project. Special thanks goes to the PaBER National Coordinator for her support, commitment and passion towards the project, which enabled seamless implementation of the project at country level.

Members of the Steering Committee and Technical Working Group, those who left and those joined the journey at different stages, we are indebted to you, for your patience and endurance throughout the long hours of so many meetings and the way in which you always value the changes the project is beginning to make in your own systems.

We also express our appreciation to World Bank in providing assistance with SABER tools in terms of training as well as data analysis and report writing. We are also grateful to all other organisations who have supported and contributed to the success of the PaBER project in one way or another.

The pilot project may have ended at the regional level, however there is still work to do at the country level before the benefits of PaBER are fully evident.



# EXECUTIVE SUMMARY

## BACKGROUND

The Pacific Benchmarking for Education Results (PaBER) programme was introduced in 2012 to improve the quality of education and student performance across the Pacific, and in particular to respond to low levels of literacy and numeracy. PaBER provides education ministries with systematic and reliable evidence and analysis of their own systems, benchmarked against high performing systems globally. This gives policy-makers and other stakeholders the opportunity to judge the strengths and weaknesses of current policy and systems, and how these may influence learning, and to formulate appropriate reforms and action. PaBER was set up to test this approach in three pilot countries (Solomon Islands, Samoa and Papua New Guinea (PNG)).

To achieve these ambitions, PaBER was designed around three components: (i) Learning Assessment of Year 6 students' performance in literacy and numeracy, based on the use of the Pacific Islands Literacy and Numeracy Assessment (PILNA) in 2012 and 2015; (ii) Policy and System Assessment, with benchmarking of national education systems in each of the five policy domains Teacher Quality, Assessment Systems, School Governance and Management, Curriculum and Materials, and Education Management Information System (EMIS); and (iii) Policy in Practice, consisting of research on policy implementation at school level. Along with institutional capacity assessments, this body of work is enabling a dynamic view of education systems, with a particular focus on student learning.

This report pulls together the evidence from the three components, and sets out strategic recommendations that will impact on learning outcomes. The report draws on over 40 reports covering country and cross-country analysis. It is not possible in this report to do justice to

the breadth and depth of this broader evidence base. The report highlights some key emerging findings where there is strongest evidence, and the ways these intersect across policy domains. Recommendations are based on this, set out as both policy reforms and actions to improve delivery, and premised on joined-up responses to key barriers to improving student learning. Over the four years PaBER has achieved a significant amount, in the collaboration of pilot countries, the generation of evidence, and the establishment of an approach that can be built on in coming years both within these three countries and potentially others in the region.

## CONTEXT

Section 2 of the report provides some important contextual background. This is important to the PaBER analysis in a number of ways. The results of the research need to be applied in the specific context of PNG, and align to and inform national priorities. PNG has a highly decentralised education system, and a key challenge has been the interface between national and subnational levels, particularly oversight and quality assurance of delivery. About half of all the schools are run by churches. Most others are government schools, apart from a small number of independent, non-faith-based providers. In 2015, the Government of PNG (GoPNG) adopted a National Education Plan (NEP) for the five-year period 2015–2019. The NEP sets out the broad road map for education in PNG with specific targets and strategies for achieving them. The NEP's overarching goal is to achieve quality learning for all students.

PNG has made good progress against most of the key performance indicators in education, including for enrolment, completion and gender parity. In terms of learning outcomes, the PILNA conducted in 2012 as part of the PaBER pilot indicated some worrying

results, in line with other country-level assessments in previous years. The majority of students assessed were not performing at satisfactory or expected levels in literacy (81.9 per cent) and numeracy (63.4 per cent). In literacy assessments, students in urban schools performed better than those in rural schools, and non-government schools outperformed government schools. While results in numeracy were more mixed, a similar trend was noticed.

## KEY FINDINGS

The analysis set out in Section 3 of the report aims to identify areas where the evidence was strongest, where weaknesses identified through research may represent critical bottlenecks, and where there were clear implications for improving learning outcomes. A team from the PNG National Department of Education (NDoE) ensured findings could also respond to stated country policy priorities. The more in-depth analysis provided in the source reports represents an important resource for more detailed work in each of these areas.

The key findings are set out against each of the policy domains, as summarised in Table 1. These findings and associated analysis go some way to capturing the extent to which policy is in place, the difference between policy intent and the reality of delivery at school level, and where we have it, an understanding of how institutional and staff capacity influences this dynamic. In some cases, specific action has already been taken to respond to some of these findings in the period since the research was undertaken.

## EMERGING THEMES AND PRIORITIES

The findings are the basis for a broader analysis of emerging themes and priorities set out in Section 4 of the report. This looks at ways in which the evidence points to key linkages across the sector, and priorities in terms of improving classroom teaching and learning.

There is a systemic inconsistency in the quality of teaching. PaBER work has shown some important ways in which the deployment of teachers, the ongoing professional development they receive, and the support and leadership given by head teachers, are contributing to systemic inconsistency in the provision of good quality teaching. It emerges as a key challenge to ensure

high quality teachers are deployed to hard-to-staff schools, and also to recruit teachers in some key subject areas. This is compounded by poorly developed policy on teacher competencies in delivering the curriculum, and inconsistency in the identification of teachers' needs for professional development, and the delivery of this kind of training and support at school.

There is inadequate use of student assessment to drive improvements in learning. PaBER research indicates a number of system weaknesses in the implementation of different types of assessment and the use of results to drive improvements in learning. Understaffing and other capacity constraints of the Measurement Service Branch (MSB; now the Measurement Service Division) will continue to limit change in this area. Policy does not currently give clear enough guidance for implementation, and research is indicating inconsistent use of classroom assessment in particular. This lack of clarity means even more is left to the capacity of teachers and the leadership given by head teachers to ensure delivery of the curriculum and monitoring of outcomes.

School governance in a decentralised system needs to be more effective to support student learning. PNG has a highly decentralised school system, which is in many ways well established. This puts more demand on school management and the need for highly skilled head teachers. PaBER has started to indicate ways in which this decentralised system could be limiting the consistent and equitable provision of learning opportunities. Some of the emerging issues include the potential overlapping roles of school governance bodies, limited effectiveness of these bodies, and the limited dissemination of assessment and performance results to parents and their associated role in holding the school accountable.

## RECOMMENDATIONS

A number of recommendations have been highlighted in Section 5, which draw on the country reports and look at the potential for joined-up responses to target improvements in classroom teaching and learning processes. These are strategic recommendations drawing on the key findings. They represent a first step; for implementation planning, more in-depth recommendations are provided in the background reports. The recommendations are represented in summary in Table 2.



TABLE 1. Summary of key findings by PaBER domain.

TEACHER QUALITY	ASSESSMENT SYSTEMS	CURRICULUM AND MATERIALS	SCHOOL GOVERNANCE AND MANAGEMENT	EMIS
Professional development of teachers at national and subnational levels is inconsistent and insufficient for the needs of teachers, in part due to the lack of clear policy guidelines	Current assessment policies do not adequately guide effective and consistent implementation of classroom assessment or use of assessment results across schools	The lack of adequate access to curriculum materials in schools prevents teachers from effectively delivering the curriculum	Mechanisms to monitor and evaluate performance of head teachers, as well as identifying and building capacity of potential school heads, are either weak or inconsistent	Absence of a comprehensive EMIS policy that provides clear guidelines on processes, procedures and resources allocation may limit the future development and sustainability of EMIS
There are variations in teacher evaluation, pedagogical guidance and support provided to teachers to improve, partly due to limited training of head teachers	The skills and competencies of teachers to effectively carry out classroom assessments vary considerably, limiting the use of the results to provide effective intervention for improving student learning	Evaluation and review of curriculum materials implementation, processes for the evaluation of literacy and numeracy programmes, and monitoring, evaluation and quality assurance of curriculum materials are all absent from policy	School and student assessments are not used to inform school improvements and adjustments in the areas of pedagogy, school management and resourcing due to lack of clear guidelines	Underutilisation of EMIS data by stakeholders for school and system planning and management, and informing policy decisions
Teachers lack skills in planning and developing classroom assessment, as well as using and reporting classroom assessment results to improve teaching and learning	The ability of the MSB to effectively implement its assessment mandate, as outlined in the various policy documents, is influenced by the limited capacity of the MSB and its staff	There is variable implementation of the curriculum due to teachers' variable competency and capacity	The effectiveness of school governance arrangements is undermined by a lack of clear guidelines to demarcate the roles of the Board of Management (BoM), the School Learning Improvement Plan (SLIP) Committee and the Parents and Citizens Committee (P&C), as well as a lack of involvement of the school community	EMIS Unit lacks the capacity to deliver its mandate effectively
The limited range of incentives to work in hard-to-staff schools, and lack of policy on addressing shortages in key subjects, may be creating variation and inequity in provision of quality teaching				

TABLE 2. Recommendations and key actions based on PaBER findings.

RECOMMENDATION	KEY ACTIONS
<p>Develop and implement a strategy for professional development and support to teachers, based on a strong understanding of their needs and competencies, and school context</p>	<p>Include head teachers on provincial teacher selection panels, and for selection of head teachers the BoM should be represented</p> <p>The NDoE should review and consider the range of incentives for good teachers to work and stay in hard-to-staff schools</p> <p>Provide a professional development framework, to guide school and provincial level planning for teacher professional development</p>
<p>Ensure sufficient curriculum materials are provided to schools</p>	<p>National budget provision, and the organisational structure and staff capacity in materials development and procurement need to be addressed</p> <p>Develop a manual to accompany teacher professional development and pre-service training</p>
<p>Develop and implement a strategy to strengthen the use of assessment by teachers, schools, education authorities and parents</p>	<p>Review and update the existing National Assessment and Reporting Policy to articulate clearer guidelines on use of the assessment results</p> <p>Develop, and provide to teachers, resources for classroom assessment, accompanied by more effective pre-service and in-service training and support</p> <p>Review and consider the option to drop exams at Grades 8 and 10</p> <p>Review the Curriculum Standards Monitoring Test (CSMT) to align with the curriculum and develop a strategy to ensure the CSMT is administered as intended</p> <p>Training for other school stakeholders in use of assessment results</p>
<p>Review and update school governance arrangements and ensure support is provided to head teachers</p>	<p>Review school governance arrangements, clarifying roles and responsibilities and ensuring fair representation of community</p> <p>Develop professional development standards and frameworks for head teachers</p>
<p>Consolidate and ensure future development of the EMIS</p>	<p>Establish an EMIS policy and develop a strategy for sustainable EMIS development</p>



# INTRODUCTION

PaBER was first conceptualised as an approach to address a regional concern that too many children leave primary school without the necessary literacy and numeracy skills.<sup>1</sup> In response to this concern the Pacific Forum Education Ministers Meeting 2010 endorsed the concept of ‘benchmarking the quality of education for results’ to improve the quality of education and student performance across the Pacific, building on benchmarking already underway in selected countries. A pilot project was proposed and three countries – Papua New Guinea (PNG), the Solomon Islands and Samoa – were selected to take part in the pilot.

## THE PABER PILOT

The aim of the PaBER programme is to improve literacy and numeracy levels of children in the region through a process that will equip policy-makers in Pacific countries with the information and knowledge to drive interventions that will have a real effect on learning results. The outcome from PaBER is that, at the end of the project, pilot countries are better positioned to plan and implement interventions and reforms that will improve learning.

To achieve this outcome, PaBER was designed around three components. The first component, Learning Assessment, is targeted at diagnoses of Year 6 students’ performance which are then used to inform policy development. The Learning Assessment component included the use of the Pacific Islands Literacy and Numeracy Assessment (PILNA) in 2012 as a regional

assessment for measuring literacy and numeracy outcomes at the primary (Year 6) level. Results of the PILNA 2012 and subsequent preliminary results of the PILNA 2015 have been shared with and among the three pilot countries, and capacity measured and developed within the relevant ministries for using assessment data to develop policy for improving learning.

The second component, Policy and System Assessment, undertook the benchmarking of the national education systems in each of five policy domains: Teacher Quality, Assessment Systems, School Governance and Management, Curriculum and Materials, and the Education Management Information System (EMIS). The EMIS was added as a domain partway through the pilot project. The World Bank Systems Approach for Better Education Results (SABER) tools were adopted for use in four of the domains. A parallel tool, modelled on the SABER tools, to measure Curriculum and Materials, was developed specifically for the PaBER project.

Through component two, the national systems in the five policy domains have been benchmarked against international good practice. This gives policy-makers and other stakeholders the opportunity to judge the strengths and weaknesses of current policy and systems, and how these may influence learning, and to formulate appropriate reforms and action. The SABER reports for each of the countries have been adopted and publicised on the World Bank website, contributing to the global body of knowledge in these areas. A system of cross-country analysis was adopted within PaBER to build

<sup>1</sup> Learning for all: Investing in people’s knowledge and skills to promote development, World Bank Education Strategy 2020 as referenced in programme design document: Pacific benchmarking for education results (2012).

capacity in relevant ministries in the use of benchmarking for improvement in target areas.

To deepen the analysis provided around these policy domains, PaBER also undertook a number of institutional and capacity assessments, the aim of which was to provide analysis of current capacity and key bottlenecks in delivering in these five domains. Particular focus was given to capacity around the implementation and use of student assessment. Although the policy tools provided a ‘snapshot in time’ of systems in the three countries, through cross-country analysis, practices have been shared and policies and systems have been and continue to be adjusted with reference to international standards. This demonstrates the dynamic dimension of PaBER, and how strong country ownership of this evidence base has already led to policy and system reforms and strengthening.

The third component of PaBER, Policy in Practice, called for valid and reliable data to be collected on the implementation of education policy in schools and classrooms. A research framework, data analysis and reporting framework and associated data collection instruments were developed with input from all three countries, and collaboratively adapted and subsequently adopted for use. The field evidence is now being used to facilitate policy review and development in the related domains as well as to inform ministries as they build capacity in comparative analyses of country practice. While component two focuses mainly on policy intent, this field research is an important step in understanding what that looks like on the ground. It is well recognised that having a policy in place does not guarantee its effective and consistent implementation. There are complex dynamics involved in this. Taken together, these two components aim to help government and others to understand which policies may help improve learning outcomes, what needs to be done in order to deliver these in practice, but also to ensure that the realities of practice can inform policy.

## THE PABER APPROACH

Benchmarking is at the heart of both the PaBER pilot project and what has now been dubbed ‘the PaBER approach’. Originally developed for the business world, benchmarking provides a systematic process for

measuring and comparing the performance and work processes of one organisation to those of another. The goal of benchmarking is to provide an objective standard for measuring the quality, cost and efficiency of internal activities, and to help identify where opportunities for improvement may be found. The adoption of a benchmarking approach in education represents a significant shift in education system development and reform, since it involves making available performance information that permits comparisons within and between systems. Benchmarking in education attempts to answer three questions:

1. How well is a system, or parts of a system, doing compared to an external reference standard, defined in relation to the performance of others?
2. What are the better performers doing that the poorer performers are not?
3. What interventions can be developed to bring about improved learning outcomes?

Benchmarking provides a baseline against which the performance of education systems can be monitored, and it also facilitates diagnosis – understanding areas of lower performance and the underlying factors to act upon to bring improvement. It also helps to provide a measure of transparency so that stakeholders are able to hold education providers accountable for the quality of education based on evidence rather than anecdotes or political rhetoric.<sup>2</sup>

The PaBER team developed an approach to examine and apply the findings from the analytical work carried out throughout the three components of the project. This consisted of applying the same instruments/tools in all countries, which included an internal validation process where the countries signed off on the findings. Every analytical work then went through a cross-country analysis at the regional level.

Regional workshops were then held with participants from the countries. The reports were presented and a cross-country analysis was carried out to explore commonalities as well as contextual findings unique to each country. The workshops allowed for a robust exchange of ideas and knowledge. The findings and

<sup>2</sup> Program design document: Pacific benchmarking for education results (2012).

recommendations from these workshops were captured in cross-country regional reports. The cross-cutting analysis among the three countries was at the heart of the PaBER approach.

As noted above, existing instruments were utilised for some of the activities, including the PILNA tool and the SABER instruments of the World Bank. The SABER methodology includes identification of indicators of policy and institutional development, as well as the data source for each indicator. A rubric has been developed for combining the indicators to come up with ratings of the countries' progress within each domain.

SABER instruments have been standardised so that progress along each dimension is defined on a four-point scale, ranging from 'latent' (the lowest level) through 'emerging' and 'established' to 'advanced' (the highest level), based on international benchmarks.<sup>3</sup> The SABER programme had not developed an instrument for curriculum and materials, and PaBER contracted an international consultant to design an instrument using the SABER methodology and rubrics for easy comparability. This approach of ranking from latent to advanced was also used in some of the other instruments used in PaBER. Ranking is not explicitly used/referred to in this report, but it sits behind the analysis.

A more extensive description of the governance structures, the methodologies and the tools used can be found in Annex 1 to this report.

## FINAL RESULTS

Through this approach, PaBER has provided a breadth and depth of evidence for each domain on policy and policy delivery, including how institutional and staff capacity influences the implementation of policy. The purpose of this report, and final reports for the other pilot countries, is to pull together the evidence from the three components, what we are learning across the five domains and how they intersect, and from this to set out strategic recommendations that will impact on learning outcomes. This report looks at the specifics of the PaBER pilot within PNG. An associated regional report takes a broader look at trends across the three countries and draws conclusions around how this approach could be used more broadly in the region.

This final analysis and report has been accomplished through a triangulation process whereby the multitudes of findings drawn from each of the reports (there were over 40 individual documents) that have been tabled throughout the project were cross-tabulated. From that evidence, country-specific key findings were identified and articulated for each domain in an iterative process carried out in a workshop format, involving country representatives working with a regional PaBER team. The workshop was an opportunity to identify and analyse key cross-cutting themes for each country that encapsulated the evidence from the PaBER project. Working from these themes, recommendations were developed. The recommendations connect directly back to the evidence gathered and provide the beginning of a way forward for the countries in addressing the findings of the PaBER pilot project.

It is important to recognise that the various research tools, structured around the five domains (or areas of an education system), are not linked by an overarching framework. There is no theory of change which links the analysis, but rather the tools were developed to look at each domain as a contributing factor towards learning outcomes. However, a starting premise for the broader analysis set out in this report was that effective education systems are oriented towards supporting and improving what happens in the classroom. The teacher is the point at which the student comes into contact with the education system. So, while recognising the complexity of the broader system, and the need for strong institutions and processes at each level, the analysis in this report has aimed to draw out as a priority an understanding of how country systems support and ensure the quality of classroom teaching and learning. While drawing together this analysis, it became clear that there are critical ways in which different parts of the system (or domains) need to interact and align to impact on learning. The recommendations included in this report aim to speak to these issues and help decision-makers to formulate action that will work systemically.

In addition to these final reports, there is a body of work that has arisen from PaBER consisting of individual country reports and cross-country analysis reports on the specific components and policy domains (see Annex 2 for full list). These include detailed findings and

<sup>3</sup> The what, why and how of the Systems Approach for Better Education Results (SABER), April 2013.

recommendations in each domain, some of which have already been integrated into education planning in the pilot countries, and represent an important resource for on-going and future work in these areas.

## ACHIEVEMENTS AND LIMITATIONS

The PaBER pilot project has achieved several outcomes, both intended and unintended, over the four years of its implementation. In addition to diagnoses of Year 6 students' performance in literacy and numeracy, establishment of national benchmarks in key policy domains, and the generation of a substantive body of evidence to inform and facilitate whole-of-systems educational change, the project has produced a methodology and a set of contextualised tools to support benchmarking work in the Pacific. The principle of transparency that was key to the project has ensured that frank and open discussion has occurred at each workshop and meeting throughout the project. This spirit of sharing and collaboration has opened the door to learning from one another and has gone a long way to break down the barriers that have prevented ministries of education from sharing results and practices in the past.

The PaBER pilot project, like any other project, has limitations that should be kept in mind when looking at the results. The project was designed to look at evidence to inform policy and planning with a view to improving student learning. The evidence is being presented now, at the end of the project. While findings and recommendations in the individual domains have already begun to have impact on national planning and practice, the intent was not to have implemented everything by the end of PaBER but rather to have the evidence in place for the next steps in national education planning. In addition, although the aim of PaBER holds improvement of student literacy and numeracy at its core, the pilot project did not expect to impact on student learning levels during the data collection and analysis phase that was the pilot. The impacts on student learning levels will be apparent over time as the recommendations are acted upon to produce lasting system improvements.

PaBER has developed from an idea into a significant body of evidence that has the potential to make a real

difference in education systems and student learning outcomes across the PaBER pilot countries. The body of evidence can support decisions regarding education systems and education policy. Not only have the findings identified or confirmed areas in which to focus priorities, the evidence gathered from multiple sources during the pilot quantifies those findings and suggests what should be monitored for sustained improvement over time. The tools and methodologies that have come out of PaBER can be utilised by others to undertake similar work, and the findings of the pilot project can inform ministries, development partners and the broader education community at work in the Pacific as we collectively work to achieve high quality education for all students.



# BACKGROUND CONTEXT



PNG is one of the world's most ethnically, demographically and geographically diverse countries. Its population of an estimated 7.3 million speaks more than 850 indigenous languages and is spread across some of the world's most difficult terrain. The country has 22 provinces and 89 districts. An estimated 88 per cent of the population lives in rural areas, often isolated, and the agriculture sector employs about 90 per cent of the population. The overall literacy rate (literate in at least one language) is 68 per cent (2010), an increase of 12 percentage points since the 2000 census. Tok Pisin shows the highest literacy rate of 57 per cent, followed by local languages (Tok Ples) at 56 per cent and English at 49 per cent (according to the NEP 2015–2019 and NDoE).

PNG is the largest developing country in the South Pacific region, with a landmass of 463,840 square kilometres and over 600 islands. The main island of PNG has about 85 per cent of the total landmass. This is mostly covered by tropical rainforests divided by massive rugged mountain ranges, with fast flowing rivers and flat valleys. Transport links are poor or non-existent. Sustainable use and protection of PNG's natural resources, which are of global significance, have attracted worldwide interest, in particular its oil, gas, gold and copper reserves. The country has large arable land reserves with potential for future large-scale agricultural production, an abundant supply of freshwater, and extensive maritime resources.

Demographically, PNG is a young country – 76 per cent of the population is under 35 years old. Annual population growth is 3.1 per cent, with the population expected to

reach 9 million by the end of the decade (according to the NEP 2015–2019 and NDoE). According to the 2010 population census, 45 per cent of the population is below the age of 15, and projected that by 2020, school age population and the economically active population will have grown by 45 per cent respectively.

PNG gained independence from Australia in 1975 and is now a constitutional monarchy with a parliamentary democracy. Many government functions are devolved to the country's 22 provinces and to lower levels. The country is divided into four regions – Highlands, Momase, New Guinea Islands and Southern. The capital is Port Moresby, with a population of about 400,000. The main regional centres are Goroka and Mount Hagen in the densely populated Highlands Region, the commercial port of Lae in the Momase region, and Kokopo/Rabaul in the New Guinea Islands region.

## ECONOMIC SITUATION IN THE COUNTRY

PNG is a low- to middle-income country with a gross domestic product (GDP) of USD15.4 billion and a per capita income of USD2,104.<sup>4</sup> It has a formal, corporate sector and a large informal sector where subsistence farming accounts for the bulk of economic activity. The formal sector provides a narrow employment base, and consists of mineral production, some manufacturing, the public sector, and services 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

<sup>4</sup> World Bank 2013

less than \$1 a day<sup>5</sup>.

PNG is rich in natural resources (forests, fish and minerals) and has vast ecosystems hosting a unique biodiversity. Oil and gas, mining and construction activities have allowed the economy to expand strongly in recent years.

The current economy is growing at 9.9 per cent annually and the economy growth is focused to grow by 4.3 per cent in 2016 and by 2.4 per cent in 2017. The strong growth is the result of the first full year of gas production. Non-mineral GDP, which better indicates underlying trends and how growth is affecting people's livelihoods, is projected to grow by 3.4 per cent in 2016 and 3.6 per cent in 2017. Increasing reliance on resource extraction raises the unpredictability of the economy. However, continuing weakness in oil and agriculture prices has reduced investment in the mineral sector, which has been the main driver of economic growth in recent years.

## NATIONAL EDUCATION SYSTEM

The national education system in PNG is highly decentralised following the passing of the Organic Law on Provincial and Local Level Governments in 1978. Under this law, the national government is responsible for developing national policies including the curriculum, national education plan and teacher education and training, while provinces are responsible for building schools, school infrastructure maintenance, and recruitment and salaries of teachers. The interface between national and subnational levels of education is weak, with the NDoE having no oversight or quality assurance function over responsibilities decentralised to provinces, districts and local-level governments. The NDoE itself continues to face the challenge of having the organisational capacity to administer and monitor the implementation of policies at the province, district and school levels.

Education in PNG is not compulsory and parents have the option whether or not to send their children to school. However, the government encourages parents to send their children to school to get an education under the Fee Free Tuition Policy. Under this policy, school fees previously paid by parents have been abolished and

all schools within the national education system are tuition fee free.

The national education system has grown since the education structural reforms in 1991. As of 2014, the system has 51,066 teachers, and almost 2 million students in 7,298 elementary schools, 3,543 primary schools, 219 secondary schools and 114 vocational schools (according to NEP 2015–2019). The national education system is still growing and expanding. The NDoE provides support and oversight to provinces for all schools registered within the national education system. About half of all the schools are run by churches.

In 2015, GoPNG adopted a National Education Plan (NEP) for the five-year period 2015–2019. The NEP sets out the broad roadmap for education in PNG with specific education targets and strategies for achieving them. It provides the framework for translating the national plans and the international education goals, including the Millennium Development Goals and the Education for All goals, into concrete targets and strategies for the PNG education sector. The NEP's overarching goal is to achieve quality learning for all students. The NEP has six focus areas which contribute towards achieving the main goal over the five years of the plan. There are specific targets and strategies proposed for each education level, including elementary, primary, secondary, flexible and open distance education, vocational and technical education. Table 3 shows progress in selected indicators between 2012 and 2014.

Table 3. Progress in selected education indicators for Papua New Guinea.<sup>6</sup>

INDICATOR	2012	2014
Net enrolment rate, primary/basic	78.5%	84%
Completion rate, primary/basic	63.8%	77%
Pupil: teacher ratio, primary/basic	36:1	36:1
Qualified teachers, primary/basic (per cent)	72.3%	75.4%
Gender parity index, primary/basic	0.83	0.92
Public expenditure on education as per cent of total government expenditure	14%	20.2%
Public expenditure on education as per cent of GDP	3.7%	4.9%

<sup>5</sup>United Nations Development Programme 2014

<sup>6</sup>National Department of Education, Statistical Bulletin, 2015; EMIS Unit, NDoE, 2016.



PNG did not achieve MDG 2 by 2015. However, the country has strong upward trends in most of the key performance indicators in education. PNG has made strong progress in the last five years towards improving net enrolment rate, completion rate, gender parity index rate and qualifications of teachers from certificates to diploma. The official pupil: teacher ratio of 36:1 is difficult to achieve. This is because of inadequate classrooms and shortages of teachers to cater for the increase in enrolment in elementary and primary education as a result of the Fee Free Tuition Policy.

GoPNG financing of education programmes has increased over the last five years (2011–2015). Education's share of total public expenditure rose from 12.5 per cent in 2011 to an estimated 14.4 per cent in 2015. This was due to the government prioritising education as one of the important pillars for effecting and stimulating economic growth. Likewise, the share of GDP going to education has increased over the five years.

The NEP 2015–2019 will address quality of education, access, retention, school management and governance, with financial and technical support from development partners to implement the plan.

## QUALITY OF EDUCATION AND REFORMS

Preserving and promoting education standards is a major challenge, especially related to literacy and numeracy skills. Assessments (PILNA, Curriculum Standards Monitoring Test (CSMT)), and Early Grade Reading Assessment) have revealed a severe decline of students' learning achievements in literacy and numeracy. In addition, the equitable provision of education services to rural, remote and extremely remote locations, and increasing girls' participation in education in certain parts of the country, are challenges. These issues have resulted in policy reforms in the last five years (2011–2015).

GoPNG has carried out a number of significant reforms in education. Large-scale curriculum reform was introduced in 2014 based on a standard based curriculum model. The curriculum reform puts emphasis on the subject and content standards which students are expected to acquire to transit

into higher grades or transit into universities and colleges. To address teacher quality issues, a number of strategic initiatives have been developed including upgrading of teacher qualifications. Aptitude tests have been introduced for persons wishing to become teachers; and teacher quality indicators have been developed.

School management is a real concern, especially in the areas of financial management, and teaching and student learning programmes. In 2015, a new school leadership degree programme for school head teachers was introduced and is currently being implemented at selected teacher training institutions. A Board of Management training programme is also being developed/implemented in various teacher education institutions, and a number of financial management training programmes have been developed.

One of NDoE's success stories is the implementation of an Education Management Information System (EMIS). This programme is now fully operational and supports the NDoE to collect school-based data to monitor and evaluate policies and plans implemented at the school level. The current EMIS is under review and the NDoE is trialling data collection using SMS technology that collects real-time data from schools. Major reforms endorsed by NDoE are improving student learning and classroom assessment systems, strengthening systems and large-scale assessment systems<sup>7</sup>, which is likely to begin in 2017.

<sup>7</sup> The current NEP (2015–2019) specifically identifies the need to establish large-scale assessment in-country and to explore opportunities to join international and global assessment programmes.



# FINDINGS BY DOMAIN



This section sets out some of the key findings coming out of the PaBER project. As stated earlier in this report, PaBER has generated a significant amount of evidence structured around five domains: Teacher Quality, Curriculum and Materials, Student Assessment, School Governance and Management, and the Education Management Information System (EMIS). The analysis below draws on the evidence from each of the domains. This analysis identified areas where the evidence was strongest, where weaknesses identified through research may represent critical bottlenecks, and where there were clear implications for improving learning outcomes. Teams from each of the pilot countries ensured findings could also respond to stated country policy priorities. The more in-depth analysis provided in the source reports is an important resource for more detailed work in each of these areas which could not be fully captured in this higher level summary analysis.

The analysis below aims where possible to capture the extent to which policy is in place, the difference between policy intent and the reality of delivery at school level, and where we have it, an understanding of how institutional and staff capacity influences this dynamic. Where appropriate the analysis also provides updates where specific action has been taken to respond to some of these findings in the period since the research was undertaken. It should also be noted that key findings discussed here include some overlap across the five

domains. This is a representation of the separate analyses undertaken, but also serves to highlight the interaction between these domains. This is drawn out more fully in the analysis of cross-cutting themes.

## TEACHER QUALITY

### DOMAIN CONTEXT

The Teacher Service Commission establishes and enforces the teacher salary scale and terms and conditions for teachers. The recruitment and deployment of teachers is the responsibility of the NDoE (the Provincial Education Divisions).

The HR Policy Information and Operations Manual lays out the official tasks that teachers are expected to carry out. Policies such as the Teaching Service Act (1988), the Teacher In-service Management Plan (2001–2005) and the National Education Systems Staff Development Policy Statement (1989) guide professional development.

The Teacher Education Division (TED) of NDoE is responsible for training of teachers and developing and reviewing the national content guideline for primary teacher training colleges. This guides the colleges to develop their training modules. In-service teacher training is managed at the provincial level through the Standards and Guidance Division within the Provincial Division of Education. Standards officers are responsible, together with schools, for identifying training needs to be addressed by a given provincial division.

## KEY FINDINGS

Global research indicates the central importance of teacher quality in ensuring improved student learning. PaBER research aimed to assess how the PNG education system recruits and deploys good quality teachers, equips them with the skills and knowledge they need, and keeps them motivated, performing and improving over time. Here we pull out four key findings and explore the underpinning evidence.

**KEY FINDING 1: Professional development of teachers at national and subnational levels is inconsistent and insufficient for the needs of teachers, in part due to the lack of clear policy guidelines.**

One of the requirements for remaining in the teaching profession in PNG is participating in professional development. Although policies state that professional development is required for teachers, these policies lack specific details that would guide implementation at national as well as subnational level, and also ensure consistency. For example, teacher professional development training does not include activities that research has found to be associated with instructional improvement (e.g. participation in teacher or school networks, engaging in research and induction programmes, and mentoring) and there is no statement of minimum number of required days of professional development per year.

Policy documents support regular in-service training for teachers at the school and cluster level. However, from PaBER research findings, the extent to which it occurs varies between schools and subject content and does not appear to reflect the demand for training and skills development. In addition, not all teachers are given the opportunity to participate. This could be due to lack of guidance from national level to schools on how to conduct such training, and also may be because professional development needs are identified at provincial level, with training disparities across provinces and from school to school.

**KEY FINDING 2: There are variations in teacher evaluation, pedagogical guidance and support provided to teachers to improve, partly due to limited training of head teachers.**

In PNG, education policies require head teachers to receive induction training and receive ongoing training, to perform a key function of evaluating and supporting teachers to improve instructional practice. In practice, PaBER research findings indicated that not all teachers are being evaluated, and application of evaluation criteria varied significantly from school to school. This could be due to lack of training and support given to head teachers.

Head teachers are aware of the need to develop leadership skills, however not all have received training on leadership. Head teachers receive training in mentoring and staff development, but there was no evidence that training was provided on how to conduct evaluation and use evaluation results to provide guidance to teachers. Mostly teachers were evaluated for registration, promotion and probation purposes.

**KEY FINDING 3: Teachers lack skills in planning and developing classroom assessment, as well as using and reporting classroom assessment results to improve teaching and learning.**

While teachers receive practice-oriented pre-service training, PaBER research was not able to determine the quality of instructional practice in the classroom. Findings do indicate though that teachers lack skills in planning and developing classroom assessment, as well as using and reporting classroom assessment results. One of the most important skills teachers lack is the use of classroom assessment results to improve teaching and learning.

**KEY FINDING 4: The limited range of incentives to work in hard-to-staff schools, and lack of policy on addressing shortages in key subjects, may be creating variation and inequity in provision of quality teaching.**

In PNG, entry requirements and pay levels in the teaching service appear to be attractive for good quality candidates. However, while there is an allowance for teaching in remote schools, the incentives are limited compared to high performing countries. This may limit the ability to encourage the best teachers to work in these schools. In addition, while it is recognised there are shortages in some key subjects, there is no policy in place to address this through recruitment, incentives

and training. PaBER research was not able to explore in depth the effect of this, but it is likely to cause inequities and inefficient deployment of teachers and the quality of instruction/learning.

## SUMMARY

Looking at the PNG system for managing and supporting teachers, there are some clear strengths on which to build. The key challenges lie in ensuring that pre- and in-service training addresses teachers' needs in terms of knowledge and skills needed to deliver the curriculum, assess student progress and adjust teaching to meet student needs, which could be guided by clear professional development policy. There is a key role for head teachers in terms of evaluating teacher performance and providing support, however head teachers need ongoing training and support from the NDoE to carry out their roles and responsibilities. Underlying these issues may be concerns around the equity of provision of good quality teachers across schools and provinces.

## ASSESSMENT SYSTEMS

### DOMAIN CONTEXT

The National Assessment and Reporting Policy (2003) identifies the Measurement and Services Branch (MSB) of the NDoE as having the responsibility for the implementation of the assessment policy for the country. The assessment and reporting policy however does not provide specific guidelines for each of the key assessments in the system, namely teacher classroom assessment, high-stake examinations, national large-scale assessments and international large-scale assessments.

Under the current assessment regime articulated in the policy document, MSB is tasked with the responsibility of implementing several high-stake examinations annually at end of Grade 8, end of Grade 10 and end of Grade 12. The MSB is also responsible for implementing the large-scale national assessment, the CSMT, which is intended to be administered every two years at the end of Grades 5 and 7 (however it was last implemented in 2010). The MSB is also responsible for coordinating the administration of the regional assessment PILNA,

administered every three years at the end of Grade 5.

## KEY FINDINGS

PaBER research into student assessment in PNG has looked at the effectiveness of systems at the school/classroom, national and international levels and how these are used to improve learning outcomes. At the national level, this analysis has looked at classroom assessments, examinations and large-scale system assessments. These types of assessment all play different but important roles. A significant focus of PaBER work in this area has looked at capacity at different levels to implement assessments and use the results. Analysis of the emerging evidence has identified three key findings directly relating to the role of assessment in PNG.

**KEY FINDING 1: Current assessment policies do not adequately guide effective and consistent implementation of classroom assessments or use of assessment results across schools.**

PaBER research points to the importance of classroom assessment to influence teaching as well as student learning. While assessment policy documents make reference to assessment as a whole, they fail to make specific reference to classroom assessment, with no guidelines on implementation at the classroom level, monitoring the quality of the assessment and use of the results to improve teaching and learning. Consequently, the way teachers conduct classroom assessment varies significantly between schools/classrooms, grading is prone to errors, and there are inconsistencies in how the results are used by stakeholders within the school (students, teachers, school leaders) and outside the school (parents, school boards and community) to improve learning.

**KEY FINDING 2: The skills and competencies of teachers to effectively carry out classroom assessments vary considerably, limiting the use of the results to provide effective intervention for improving student learning.**

The effectiveness of classroom assessment is influenced by teacher knowledge, and resources at their disposal, as well as their level of competency in identifying and using the most appropriate assessment method. The

reliance on teachers to develop their own assessment tools has resulted in teachers using only the methods they are comfortable and competent with, such as multiple choice tests focusing on information recall, at the expense of other more appropriate assessments, such as portfolios.

Evidence from the PNG research indicates that teachers use various methods of assessment in class, though with an emphasis on summative assessment, which reports students' scores and rank order, rather than on their achievement and progress on the learning continuum. While some formal mechanisms to monitor the quality of assessment practices are in place, they are inconsistent and vary significantly between schools and classrooms. Even the reporting of student progress to students and parents is inconsistent. This restricts teachers' ability to use the results of the assessment (scores) to provide the appropriate targeted intervention. Additionally, teachers do not have access to the necessary support to be able to successfully carry out the assessment in the classroom and be able to effectively use the results to improve teaching and learning. This may be impacting on delivery.

**KEY FINDING 3:** The ability of the MSB to effectively implement its assessment mandate, as outlined in the various policy documents, is influenced by the limited capacity of the MSB and its staff.

The MSB plays a critical role in student assessment in PNG. The demand from the high-stake examinations has dominated the day-to-day responsibilities of the staff at the expense of other assessments which are part of the responsibilities of the MSB. The over-emphasis on exams at different grades is limiting their capacity to do other assessments effectively. Evidence has highlighted that the MSB is not only understaffed but that its professional staff do not possess the technical assessment skills at the level expected in all aspects of assessment, particularly in the areas of instruments development, data analysis and reporting. Some of these constraints have resulted in the MSB not being able to fulfil its mandate, especially in the implementation of the CSMT.

The current technical capacity of the staff, together with the focus on high-stake examinations, has also prevented

the MSB from fulfilling its role of providing support to schools with internal assessments for the high-stake examination, as well as building the capacity of teachers in classroom assessment.

## SUMMARY

PNG has in place the key elements of an assessment system, for classroom, national and international levels. However, the focus of activity has been on the annual certification examinations at end of Grades 8, 10 and 12. The national large-scale assessment (CSMT) was last implemented in 2010. The failure to implement the CSMT since 2010 was partly due to the low capacity of staff at the MSB as well as the preoccupation of the MSB with the certification examinations. However, with the new standards-based curriculum in place, the role of the CSMT becomes more important. Findings from the PaBER have highlighted the need for PNG to have the CSMT in place considering the critical role it plays in monitoring the literacy and numeracy standards.

However, to fulfil the priorities set out in the PNG Education Sector Strategic Plan 2011–2030, enhancing the role of assessment in improving student learning, a number of weaknesses should be addressed. The evidence strongly indicates that there are limitations in how policy guides the specific delivery and use of classroom and national large-scale assessments, and equally staff capacity at national and school levels is limiting the use of assessments to improve learning.

## CURRICULUM AND MATERIALS

### DOMAIN CONTEXT

The NDoE determines what is taught and what materials and resources are used. While the PNG Education Act (1983) articulates the vision and expectations of education, the National Curriculum Statement (2003) has clearly outlined the key features of the curriculum, including implementation, progression, language, assessment, reporting, quality monitoring and review. The policy however does not prioritise literacy and numeracy or their assessment.

The National Curriculum Statement (2003) also states that students should enjoy using a wide range of resources and that teachers should use local resources and improvise with materials that are around them. The National Policy for the Procurement, Distribution and Storage of Curriculum Materials (2003) provides guidance on the procurement and coverage ratios of curriculum materials.

## KEY FINDINGS

PaBER has explored how well policies provide guidance on what should be taught, how it should be delivered and assessed, and how these processes should be evaluated, monitored and reviewed. Field research gathered evidence on how curriculum and materials policies have been implemented at the school level to support the school learning environment. Here we pull out three key findings and explore the underpinning evidence.

**KEY FINDING 1:** The lack of adequate access to curriculum materials in schools prevents teachers from effectively delivering the curriculum.

Policy documents state that students should enjoy using a wide range of resources and teachers should use local resources and improvise with materials that are around them. However PaBER research revealed that there are insufficient curriculum documents in most schools and almost all schools lack adequate curriculum support materials for literacy and numeracy. Almost all teachers have access to the current (2003) syllabus but they lack adequate access to teacher guides for all primary subjects including literacy and numeracy. Most teachers reported a need for curriculum support materials in English (91 per cent) and Mathematics (90 per cent). Similarly, there are insufficient textbooks for English, Mathematics and all other subjects. It was also revealed that while a number of teachers had access to curriculum materials, they had to photocopy them or use their own resources to supplement the materials.

**KEY FINDING 2:** Evaluation and review of curriculum materials implementation, processes for the evaluation of literacy and numeracy programmes, and monitoring, evaluation and quality assurance of curriculum materials are all absent from policy.

Although processes for evaluation of curriculum policy and programmes are in existence, these are not mandated by policy. Similarly, there is no policy on processes for evaluation of literacy and numeracy programmes. There is policy on evaluation of curriculum development and procurement, but there is none on the evaluation of materials implementation. Mechanisms for quality assurance are embedded in the curriculum development cycle, however literacy and numeracy programmes do not undergo quality assurance nor a separate review process from other policies.

The current curriculum has not been reviewed since it was implemented. The outcomes-based curriculum has been in place since 2005 and the government has announced the move to a standards-based model without benefit of a review. As a result, PNG does not have information about the suitability of the outcomes-based curriculum or the extent to which the intended curriculum has been implemented. PaBER research revealed that most teachers and head teachers feel that the national curriculum requires improvement in both literacy and numeracy. Under the National Curriculum Statement (2003), it is not required that teachers and head teachers review the written curriculum support materials in tandem with the curriculum.

**KEY FINDING 3:** There is variable implementation of the curriculum due to teachers' variable competency and capacity.

While minimum qualifications are in place for entry into pre-service teacher training and for serving graduate teachers, PNG has not developed policy on teacher competencies that specifically address teaching curriculum or teaching curriculum in English. Policies delineating teachers' and teacher candidates' personal skill levels in literacy and numeracy, or skill level in English, are also absent. Teacher professional development programmes for curriculum delivery are well documented at the national level, and although these professional development opportunities are provided, the research findings show that these opportunities do not generally target literacy and numeracy and in some cases do not target any particular area of need.

PaBER research revealed that there is mixed awareness of the content of the curriculum documents amongst teachers and head teachers. At least half of the teachers are not aware that the curriculum contains clear suggestions on teaching strategies. This could be due to the fact that over 90 per cent of teachers stated that they required more copies of teacher guides. It was also revealed that although policy documents support regular in-service training for teachers at the school and cluster level, the extent to which this occurs varies between schools and subject content, and does not appear to reflect the demand for training and skill development.

## SUMMARY

It is apparent from the analysis of the three key findings that there is a mismatch in the policy intent and policy implementation, as well as an absence of policy. While the policy document clearly articulates that students should enjoy a wide range of resources, the effective implementation of that policy is limited by inadequate provision of pedagogical materials to support teaching and learning. As a result, the capacity of teachers and curriculum officers to implement and monitor the national curriculum as well as undertake proper assessment and reporting is affected. This in turn is linked to the achievement of learning outcomes in the classroom.

Evaluation and review of curriculum processes and materials can provide data about what is working well and what needs to be addressed. A well-articulated policy reflecting the benefit of these processes and the involvement of wider stakeholders would definitely assist the Ministry in making changes based on informed decisions.

## SCHOOL GOVERNANCE AND MANAGEMENT

### DOMAIN CONTEXT

The NDoE manages the Fee Free Tuition Policy, which represents the largest share of education financing. School expenditures are determined by the School Learning Improvement Plan (SLIP) and approved by the Board

of Management (BoM). Schools do not prepare requests for budgets to be submitted to the NDoE for funding. Instead they receive their operational allocation based on the Fee Free Tuition Policy. The Teaching Service Commission is the body responsible for managing teachers in PNG, including salaries. Schools manage non-teaching staff but there is no salary scale as a guideline to assist schools, nor is there a requirement to consult the community to determine salary structure.

The National Curriculum Statement (2003) and the National Assessment and Reporting Policy (2003) are the two documents that formally establish the assessment system in PNG. The Whole School Quality Assessment (2013) is a monitoring tool developed by the NDoE to help all stakeholders in a school to identify ways to improve the quality of education at their school. It governs school assessment and is implemented by the NDoE. The approach has three elements: (1) interviews with the head teacher and BoM chairman; (2) interviews with students, teachers, and Parents and Citizens Committee (P&C) members; and (3) classroom observation. The National Assessment and Reporting Policy (2003) outlines the two standardised student assessment approaches. The first is a diagnostic test which is conducted every other year, is administered to Grade 5 and Grade 7 students, and focuses on literacy and numeracy. These have not been carried out since 2007. The second form of standardised student assessment in PNG is achievement-based examinations used to measure student progression and level of certification.

PNG has a multi-layered approach to school governance. As mentioned above, two entities exist at the school level to take on the task of governance. First, the SLIP Committee is responsible for preparing the SLIP and associated annual plans, which includes responsibility for determining the expenditure aspect of the school's operational budget. The second entity is the school's BoM. One of the primary responsibilities of the BoM is to have legal authority for financial oversight, including responsibility for approval and monitoring of the expenditure aspect of the school budget submitted by the SLIP. The NDoE's Board of Management Handbook for Elementary, Primary and Community Schools provides a comprehensive overview of BoM responsibilities and duties.

## KEY FINDINGS

**KEY FINDING 1:** Mechanisms to monitor and evaluate performance of head teachers, as well as identifying and building capacity of potential school heads, are either weak or inconsistent.

Generally, the capacity of the PNG NDoE is solid in the realm of institutional arrangements for school governance and administration, but less well developed for preparing leaders for their roles. According to the Organic Law on Provincial and Local Level Government, the NDoE does not have responsibilities for governance and management of schools. This has been found to be a major obstacle to exercising leadership at different levels. Decentralisation of functions to schools has brought about contradictory policies particularly with the relative low capacity of head teachers. The high degree of school autonomy, combined with poorly trained head teachers, means further support is needed, including evaluation and monitoring of their work. This function lies with the provincial education offices.

Some policies supporting school leadership professional development, training and performance management have been developed and some school leaders use these policies to inform their own professional competency and contribute to overall school improvement. Head teacher performance evaluations are not consistently undertaken. One important part of the evaluation includes leadership skills and capacity to motivate teachers.

**KEY FINDING 2:** School and student assessments are not used to inform school improvements and adjustments in the areas of pedagogy, school management and resourcing due to lack of clear guidelines.

There is a contradiction in the evidence that there is no policy mandating the use of information from school assessments for making pedagogical, operational or personnel adjustments at the school level. However, evidence from the research showed that school-level policies relating to the use of school assessments have been developed. According to the research, classroom assessments are undertaken annually by most schools and in most cases inform school improvements

and adjustments in the areas of pedagogy, school management and resourcing. This is done without any specific guidelines or capacity of the head teachers and teachers.

Standardised assessment (Grade 8 exam) results are analysed at the provincial divisions of education to give comparison and recommendations. However, only some head teachers and teachers are aware of this. Results of assessment are fed back and received by most parents, teachers and head teachers and often used for pedagogical, operational and personnel adjustments. The research also confirmed the existence of formal mechanisms to monitor the quality of assessment practices, including reviewing teacher-designed assessments and use of formative and summative assessments. However, these practices are inconsistent and vary significantly between schools.

**KEY FINDING 3:** The effectiveness of school governance arrangements is undermined by a lack of clear guidelines to demarcate the roles of the BoM, the SLIP Committee and the P&C, as well as a lack of involvement of the school community.

Policy and regulations exist to govern school operations and financial management but insufficient information is provided to parents and education stakeholders in the area of student and school performance. This limits their ability to demand accountability on school performance. Almost all schools have an active BoM and P&C. Most BoMs comprise representatives from the community and are advised by the head teacher, but it is not clear how appointments are made. In most schools the BoM authorises school budget and plans.

There is significant overlap in the roles and responsibilities of the BoM and the P&C in many schools. Although the structures are established for strong community participation, there are mixed views on their effectiveness. The evidence shows that this overlap potentially undermines the effectiveness of community participation in school governance. In a highly decentralised system, the roles and responsibilities of the community are crucial.



## SUMMARY

Head teachers are not being evaluated and not receiving consistent training. The high level of decentralisation has put an enormous strain on head teachers who have relatively low capacity. The support mechanisms from the higher levels, particularly the provincial office, have not been examined in the research. This is crucial as head teachers need assistance in the decentralised model. There is contradictory evidence around the existence of policies and particularly use of student assessment in schools. While there is a well-developed structure for community participation in school governance and management, the effectiveness is weak.

## EDUCATION MANAGEMENT INFORMATION SYSTEM

### DOMAIN CONTEXT

The value of EMIS as the key source of information for management and decision-making purposes is well recognised and is fully articulated in key documents which highlight education priorities for PNG. Achieving a Better Future: A National Plan for Education 2005–2014 (NEP 2005–14), the ICT Policy (2005), the Universal Basic Education Plan (2010–2019) and the Fee Free Tuition Policy all discuss the important role of EMIS in informing decision-making for the improved management of education at all levels. Education priorities have shifted towards improving system infrastructures to increase access and equity in all levels of education. EMIS plays a crucial role in this.

PNG has made significant transitions in the development of its EMIS from a Microsoft Excel and Access-based system in 2005 to a more stable and robust Oracle Application Express Platform that is supported by a web-based development environment. The new EMIS has been piloted in six provinces. EMIS has had significant donor support over the years.

### KEY FINDINGS

PaBER research has assessed the institutional arrangements that support the effective functioning,

the soundness of data systems (e.g. collection, analysis, reporting and quality assurance), and the use of EMIS for decision-making. This work provides a basis for identifying the successes and challenges affecting EMIS in PNG and for proposing actionable and strategic directions to support future improvements in EMIS. From this evidence base, the following three key findings are highlighted.

**KEY FINDING 1: Absence of a comprehensive EMIS policy that provides clear guidelines on processes, procedures and resources allocation may limit the future development and sustainability of EMIS.**

Significant milestones have been achieved in setting up a robust EMIS infrastructure, both physical and software, to meet data needs at the national, provincial, district and school level. But despite investments made to date, a policy dedicated to EMIS has not been developed to provide guidelines on processes, procedures and resource allocations. This lack of policy may now be limiting the effectiveness and sustainability of EMIS operations, and use of EMIS data at different levels.

The absence of EMIS policy guidelines on resource allocations and a dedicated budget line for EMIS operations has made planning difficult for the EMIS Unit, which currently sits under the Policy, Planning, Research and Communication Division. EMIS activities are largely donor-funded and funding timelines and amounts are usually inconsistent and susceptible to change. Related budgetary expenses on staff are covered by NDoE, and maintenance and operation costs of EMIS are borne by the ICT Division. Without a dedicated EMIS budget in place, the EMIS Unit may be limited in its effectiveness.

The absence of EMIS policy guidelines on key processes such as data collection, data management, data auditing, data validation and verification, quality assurances of data, and reporting and dissemination of information to education stakeholders may have a number of negative consequences. For example, this impacts on school response rate, which is currently at 85 per cent. Response rate has improved significantly since the introduction of Fee Free Tuition Policy where schools are being motivated to provide timely enrolment data to receive school grants. However, there are incentives

to inflate student enrolment data, compromising the quality, validity and accuracy of school data. A policy and revised operations manual may better enable the system to manage such challenges.

**KEY FINDING 2: Underutilisation of EMIS data by stakeholders for school and system planning and management, and informing policy decisions.**

EMIS data are not fully utilised by key stakeholders of education in PNG. Utilisation of data is a factor of accessibility, awareness and convenience. EMIS data are released in two modes – the EducationInfo Dashboard and the Annual Statistics Book, which are supported by a web-based platform. Using EMIS information for decision-making is currently possible only for those stakeholders who have internet connectivity. The NDoE is the primary user of EMIS information for planning purposes as well as for monitoring education programmes such as the fee-free tuition. However, schools and clients such as parents, communities and students are not using EMIS.

Schools are actively reporting data but rarely receiving any feedback. Lack of internet access and limited communication and training prevent most stakeholders outside of the national government from accessing and using EMIS. They are unaware of and/or unable to access the EducationInfo Dashboard, and they are also unaware that they can request the EMIS Unit to send them the relevant data. Many schools rely on their own internal methods to collect and use data. Training is required for stakeholders at all levels to access and use EMIS data on EducationInfo Dashboard and the Annual Statistics Book to do planning that are important for school improvement.

PaBER findings have also indicated that decision-makers use EMIS more for tracking purposes and reporting trends than for planning. This is evident from the limited number of requests made on the use of data for planning purposes. Furthermore, the data architecture currently does not integrate the existing EMIS with data on learning, human resources and financial management. A more integrated system may provide further opportunities for use of EMIS to support system improvements focusing on teaching and learning and serve the information needs of all stakeholders.

**KEY FINDING 3: EMIS Unit lacks the capacity to deliver its mandate effectively.**

The EMIS operates a database system built on an Oracle Business Intelligence (BI) platform which is on a par with the latest developments in database systems outside the region. Managing and maintaining an advanced EMIS system of this level demands sufficient staff with appropriate qualifications and experience. The current situation is that EMIS at national, provincial and district level is understaffed. This is compounded when the EMIS officers, particularly at subnational levels, have other core responsibilities besides EMIS.

EMIS officers need the knowledge, skills, confidence and capability to fully utilise the system. Technical advisors have conducted capacity development on the use of Oracle BI, but the issue of sustainability remains in question without continued technical support. Frequent and continued training, for example on data quality assurance processes, data analysis, reporting and information dissemination, are needed to ensure quality of data.

**SUMMARY**

PNG has made significant progress in establishing a functioning EMIS, but is now at a crossroads to consolidate and further ensure the long-term effectiveness of this system, defining how the EMIS should respond to the needs of a range of stakeholders. There are no policies for EMIS in PNG, despite it being mentioned in the national strategic plan as an important tool for improving strategic planning and decision-making.

Issues related to low response rates and enrolment data inflation could be better controlled if policy guidelines were in place. A key challenge now is the lack of awareness and accessibility to EMIS data, which affects the level of data utilisation by stakeholders such as principals, teachers, parents and the community. Quality of EMIS data and utilisation of data could be improved if the EMIS Unit was provided with regular training on quality assurance processes, data analysis, reporting and information dissemination.



# CROSS-CUTTING ANALYSIS



PaBER adopted an ambitious scope of analysis across the education system. The five domains were selected in recognition of their important role as enabling inputs to improving the quality of education. In planning reform each of these areas can be seen, to some extent, as closed, self-reinforcing systems. So, in addressing teacher quality, we cannot only look at in-service professional development, or the preparation teachers receive on recruitment. Teacher quality is also influenced by the quality of candidates entering the profession, the conditions under which they work, and how they are motivated and supported to perform. A teacher also needs to work in a well-managed school, the operational parameters of which vary from country to country. We know that to contribute to learning, a good school needs a degree of managerial autonomy, to use assessment to inform teaching practice and inform the training of teachers, and to use results to ensure accountability to stakeholders locally and higher up the system.

For each of the domains under PaBER, the research and analytical tools were designed with this in mind. A significant body of work has been established which can be used by policy-makers and technical staff at different levels of the system to inform planning and delivery, and track progress over time. It is not possible in a summary report to capture the breadth of this work, or do justice to some important issues. However, it is possible to draw out some clear emerging priorities. It is also possible to see that there are important ways in which these domains, or parts of the education system, interact. It is unlikely that in trying to address a shortcoming in

one area without taking account of these interactions, optimal results will be achieved.

As stated in the introduction to this report, the purpose of PaBER was to focus on those areas that would impact on learning, particularly literacy and numeracy results. It has also been a guiding premise to focus on how the education system enables the process of teaching and learning in the classroom. With this in mind, this section sets out some of the cross-cutting themes which are emerging as priorities, and which in some way speak to the priorities already set out in PNG's NEP 2015–2019 and Education Sector Strategic Plan 2011–2030.

## EMERGING THEMES AND PRIORITIES

**There is a systemic inconsistency in the quality of teaching .**

PaBER work has shown some important ways in which the deployment of teachers, the ongoing professional development they receive, and the support and leadership given by head teachers is contributing to systemic inconsistency in the provision of good quality teaching. Before developing strategies to provide teachers with the necessary support, it is important to recognise the challenge of recruiting high-quality candidates and deploying them equitably. In PNG, it emerges as a key challenge to ensure high quality teachers are deployed to hard-to-staff schools, and also to recruit teachers in some key subject areas. This is probably disadvantaging certain schools.

This is then compounded by poorly developed policy on teacher competencies in delivering the curriculum and inconsistency in the identification of teachers' needs for professional development, and the delivery of this kind of training and support at school. Guidelines are not clearly stipulating the kind of professional development to be provided or the amount of time to be dedicated to this. There is no specific guidance on teacher competency in English or their own literacy and numeracy skills. This seems to translate into very inconsistent support to teachers. Head teachers have had some training in their role, but research indicates inconsistent evaluation of and support given to teachers.

In addition to this, teachers who may not have received the training and support they need are also working with insufficient curriculum resource materials. Field research indicates limited availability of textbooks, teachers' guides, and support materials, including for literacy and numeracy. The expectation that teachers should develop their own locally available teaching resources is also probably being limited by their own training and capacity.

### **There is inadequate use of student assessment to drive improvements in learning.**

PaBER research indicates a number of system weaknesses in the implementation of different types of assessment and the use of results to drive improvements in learning. Understaffing and other capacity constraints of the MSB will continue to limit change in this area. Currently, efforts are focused on examinations at Grades 8, 10 and 12. This may be at the expense of a functioning national large-scale assessment, which would enable government to monitor progress in key areas of learning against the curriculum, particularly in literacy and numeracy. The CSMT is not well aligned to the curriculum and has not been used in recent years. These problems seem to emerge from limited capacity and also the failure of policy to give clear and specific guidance.

PaBER research has focused more strongly on the classroom assessment, its use in class, and the capacity of teachers to deliver this kind of assessment and use the results. Policy does not currently give clear enough guidance for implementation, and research is indicating inconsistent use of classroom assessment in

particular. This lack of clarity means even more is left to the capacity of teachers and the leadership given by head teachers to ensure delivery of the curriculum and monitor outcomes. Resources at schools to support the design and implementation of assessments, and the understanding and capacity of head teachers in this area, means variation in how this takes place from school to school. On the whole, assessment is not informing improved pedagogical practice, and is not being used to inform students or parents on their progress, although field research did indicate some good practice in this area.

### **School governance in a decentralised system needs to be more effective to support student learning.**

PNG has a highly decentralised school system, which is in many ways well established. This puts more demands on school management and the need for highly skilled head teachers. While the policy framework is strong, there is still a lack of agreed professional standards for head teachers. This has led to the situation where there is weak or inconsistent evaluation of the performance of head teachers.

PaBER has started to indicate ways in which this decentralised system could be limiting progress in learning, or at least the consistent and equitable provision of learning opportunities. This may need further analysis across different provinces and types of schools. Some of the emerging issues include the potential overlapping roles of school governance bodies, limited effectiveness of these bodies, and the limited dissemination of assessment and performance results to parents and their associated role in holding the school accountable. In a decentralised system, with varied levels of provision, the role of effective school governance and management with engaged and supportive roles for parents and teachers, is critical.

## **CONCLUSION**

This section has highlighted three areas emerging as priorities – area of under-performance, which may be acting as bottlenecks to driving learning improvement. Within this, and across other PaBER analyses, it is possible to see that a broader issue is the inconsistent delivery against policy, or inconsistent provision as a

result of unclear policy and guidelines. For instance, this research has indicated variations across schools in the supply of teachers, the provision of teacher development, the use of assessment results, and the availability of materials.

Looking back to the PILNA results from 2012, set out earlier in this report and reported separately in more detail, we can see this kind of inconsistency born out in results. It is not possible to draw any lines of correlation or causality to the policy areas described and analysed by PaBER. However, it is possible that such inconsistency is linked to the variation in performance, for instance of private and public, urban and rural schools. PaBER has not been able to analyse this in depth, but rural and remote schools, as well as some larger urban schools, face a number of particular challenges. It would seem to warrant further research and analysis into the practice and capacity in these different contexts and to look more closely at what good performing schools in PNG are doing.

It is likely though that in some cases clearer articulation of policy and associated guidance, alongside more effective monitoring and targeted support where most needed, may improve the consistency of implementation in each of these areas. As part of this, while good progress has been made in establishing a functioning EMIS, the use of data for planning and management at school level and for more effective planning across the system may require better articulation of EMIS roles, allocation of resources, and integration of a broader range of data, including learning results. The PaBER analysis also points to the need for more joined-up and perhaps new approaches to capacity development at different levels. Staff capacity to deliver policy, and monitor and adjust teaching and learning processes may need to be better aligned to achieve change at school and classroom levels.



# RECOMMENDATIONS AND LESSONS LEARNED

## RECOMMENDATIONS

This report has pulled together some of the key findings across the five PaBER domains. From this, we have looked at how some of the issues interact and how this may have an impact on student learning. It needs to be reiterated that it is not possible to do full justice in this approach to the full range of analysis across the many PaBER country and regional reports. It is, however, important to draw conclusions from all of this that can help inform action. This section therefore sets out a short number of recommendations, which draw on the country reports, seeking joined-up responses which target improvements in classroom teaching and learning processes.

Where possible, the recommendations are cognisant of the need for clear policy to be in place, but that this in itself is often insufficient to drive change. The recommendations therefore aim to promote practical efforts and action that can bring about change at different levels, also recognising from the PaBER analysis that we need to target a number of actors at the same time, and target capacity building and institutional support where most needed. It is not suggested that these recommendations represent all that is needed to address what are often complex and interconnected areas of system reform. They are a first step, a good place to start based on the evidence we have. It is suggested that for more detailed reform and implementation planning, the source documents are referred to for more comprehensive and nuanced recommendations. Indeed, it is understood

that in some cases those recommendations have already been acted on.

**RECOMMENDATION 1: Develop and implement a strategy for professional development and support to teachers, based on a strong understanding of their needs and competencies, and school context.**

PaBER has set out an analysis and a number of associated recommendations on issues relating to teacher quality. It would be helpful in the context of PNG's highly decentralised school system to have more school control than currently exists in the appointment of good quality teachers who meet the local needs. In this regard **head teachers should be included on provincial teacher selection panels**, and for selection of head teachers, the BoM should be represented. At a system level, the NDoE should review and consider the **range of incentives for good teachers** to work and stay in the hard-to-staff schools. It is well known from global experience that salary incentives may not be sufficient to work, for example, in remote rural schools. The existing policy on teacher housing should be part of this.

Recognising that there is variation in the distribution of good quality, experienced and qualified teachers, the current gap in consistent and comprehensive professional development needs to be addressed. PaBER reviews suggest a **policy is needed** or a review of current **guidance and responsibilities for ensuring professional development takes place**, is of sufficient quality and quantity (annual minimum requirements),

sets out the modes of delivery, and gives sufficient attention to matching provision to needs. As part of this, there is a need to ensure sufficient allocation of resources. **Teacher competency standards** need to be better articulated, with skills for teaching specific syllabi and teaching in English, including teachers' own levels of literacy, numeracy and English language skills. A related action would be to provide a **professional development framework**, to guide school- and provincial-level planning for teacher professional development.

The **role of standards officers and head teachers should be enhanced**, in particular through training and support to better evaluate teachers and provide associated professional development. Professional development frameworks should include a range of activity known to have an impact on teaching and learning. As part of its professional development strategy, NDoE should consider giving priority to literacy and numeracy teaching, and ways to target resources and support nationally to ensure more consistent provision across provinces and schools.

This enhancement of in-service teacher professional development needs to be framed by the transition from an outcomes-based to a standards-based curriculum. Clearly, any strategy developed will need to build on what is already set out in the Education Sector Plan, and link closely to the provision of pre-service training. PaBER reports also suggest reforms for pre-service training.

**RECOMMENDATION 2:** Ensure sufficient curriculum materials are provided to schools.

It is recognised in the National Education Sector Plan – but continues to be a bottleneck to learning – that teachers are without sufficient textbooks and other teaching/learning resources. The PNG country reports under PaBER highlight a number of actions that could be taken at national and provincial levels to support schools in this.

**National budget provision**, and the **organisational structure and staff capacity** in materials development and procurement, need to be addressed.

To enable teachers to develop classroom-based literacy

and numeracy resources, a **manual should be developed to accompany teacher professional development** and pre-service training. Schools could also be mandated to use a minimum proportion of their **grants to purchase literacy and numeracy materials**.

A national-level **policy is also needed to set out mobile learning modes**, in particular for remote/rural schools, and innovation should be sought to test, and fast-track where appropriate, cost-effective approaches that enhance the availability of teaching and learning resources.

**RECOMMENDATION 3:** Develop and implement a strategy to strengthen the use of assessment by teachers, schools, education authorities and parents.

There is a need to **review and update the existing National Assessment and Reporting Policy** to articulate clearer guidelines on how the assessment results should be used to improve pedagogical practices and school operations, and to make personnel adjustments to maximise student learning outcomes. This should account at school level for the reforms around school improvement planning and the use of assessment to inform this. PaBER work on curriculum and materials also points to the need for policy to mandate standardised assessment of literacy and numeracy at all levels.

PaBER presents some practical recommendations to make classroom assessment more effective. These include developing and **making available resources for classroom assessment** (e.g. activities, scoring guides, video of best practice) for use by teachers, and ensuring use of these nationally. This should be accompanied by more effective pre-service and in-service training and support, and guidelines for supervisors to monitor and support teachers. It is suggested that the professional development framework for teachers, discussed above, should include their ability to conduct and use classroom assessment as part of the learning process.

PaBER identified the lack of MSB capacity and staffing levels as a key challenge, and related to this the significant focus of their work on the national examinations at Grades 8, 10 and 12. It is recommended to **review and consider the option to drop exams at Grades 8 and 10**, and/or restructure Year 12 exams in order to free up

capacity and staff time to ensure other assessments are conducted.

The **CSMT should be reviewed to align with the curriculum**, and a strategy developed to ensure CSMT is administered as intended. As part of this, the MSB should be strengthened in terms of staffing and staff capacity for assessment more broadly.

Capacity at national, provincial and school levels should include the use of and reporting of assessment results, including communicating findings in a user-friendly way. Where needed, **training should be provided to relevant stakeholders** on how to interpret/understand assessment results and use the results. For example, head teachers need to know how to use the assessment information for school-wide planning, to provide support to teachers and to identify professional development needs, while the BoM needs to know how to use assessment information to assist their governance role and their decisions on school resourcing.

**RECOMMENDATION 4: Review and update school governance arrangements and ensure support is provided to head teachers.**

PaBER has highlighted that as school governance arrangements have evolved, there is now some confusion between the roles of the BoM and the SLIP Committee. **A review of these governance arrangements should be conducted**, clarifying the respective roles and responsibilities, and the opportunity taken to ensure selection processes are guaranteeing representation of the community, and that personnel with the right skills are recruited to these bodies to perform their functions and ensure broad community participation, support and accountability.

There is a need to develop **professional development standards and frameworks for head teachers**, based on which head teachers should be evaluated at provincial level. As part of this, there should be clear guidelines and criteria for evaluating head teachers for consistency. Rewarding head teachers for good performance could work as an incentive for performance.

The professional development framework needs to articulate training needs of head teachers and focus

on areas to improve leadership skills. In addition, training needs should be decided based on the results of evaluation of head teachers. This will ensure professional development addresses weak areas rather than conducting professional development on an ad-hoc basis.

**RECOMMENDATION 5: Consolidate and ensure future development of the EMIS.**

The PaBER country reports highlight the good progress made in establishing a functioning EMIS, particularly in terms of providing information upwards from schools to provincial and national levels. The reports outline a number of ways in which the EMIS now needs to be consolidated and its future guaranteed, and planned for. These include **establishing an EMIS policy** to set out provisions for the budget; data collection, management and utilisation; integration with external databases; and professional development.

There are a number of ways EMIS can be taken forward in coming years, and this will need to be reflected in NDoE plans. It is suggested the PaBER reports can form a starting point for planning and capacity-building in this area. Some of the key areas included in this will need to be the **integration of learning assessment data**, the development of **unique student identifiers** to enable better tracking of student outcomes, and **enhanced feedback loops** to local/school-level stakeholders.

## LESSONS LEARNED

**PaBER had an ambitious agenda and a multifaceted methodology.** The project attempted to go down the road from formulation of policy at the national level to implementation of policy and practices in the classroom. To a large extent PaBER succeeded in producing a robust evidence base of the challenges the countries are facing in improving learning. Some key lessons emerged from the analytical work that was done along the journey. The research also opened new pathways that could be explored. The following are some of the key lessons learned.

**The research told us some things, but not everything.** The field research has made a valuable contribution as it gave a clearer picture of what is taking place at the school level. But it could be improved to answer key



questions in more depth, and possibly to look at how policy implementation takes place at levels between the central ministry and school (local authorities/districts etc.). There would be some value in reflecting on the tools used for capacity analysis, and looking at aspects of teacher skills other than for assessment. All of this could be considered if/when planning further roll out and adoption.

**Some schools perform better than others, but we do not know why.** The PILNA results clearly showed that some schools are achieving good learning outcomes. Follow-up analysis could look at high performing schools and understand what they are doing that could be applied more broadly. According to the PILNA results, there are significant differences between public and private, and urban and rural schools.

**Publication and open discussion of learning outcomes can act as a wake-up call for countries – governments are acknowledging that learning is not taking place.** When PaBER started there was little public sharing of what was considered ‘sensitive’ information. Most staff from ministries had a strong sense that there was a learning crisis but few actually knew how serious the situation was. The process of benchmarking with other countries can lead to more transparency, better implementation of solutions, and strong ownership. It is difficult to know if the three countries would have addressed the findings and evidence if they had not put their own weaknesses in the spotlight.

**Good policies alone do not translate into good education results.** The policy reports from PNG, Samoa and Solomon Islands showed many areas where the three countries have established policies benchmarked against international standards. However, the learning outcomes are very poor. Policy intent provides the framework for strong education systems but the implementation of policies must be carried out through proven practices that lead to better learning.

**Countries want to implement reforms but the resources and capacity are not always available.** Ministries and departments of education are keen to improve their education systems and are increasingly open to seriously reviewing their weaknesses and using evidence to find solutions. There is now an abundance

of findings and recommendations and the countries are embracing them, but implementation is still very weak. Implementation may be based on priority areas.

**The SABER instruments and approach can give a country a solid start to assessing its education systems.** The original SABER tools assessed only policy intent, and there is now a recognised need to assess both policy intent and policy implementation. Otherwise, there is a serious risk that the findings from the reports could give a skewed picture of a country’s education system. In addition, the tools become more reliable when a series of SABER tools are used in one country. This provides a deeper analysis of the system and a wider array of policy recommendations. The EMIS instrument underpins the data needs in a country and should be included where other tools have been implemented. New SABER tools include both policy intent and implementation.

**Regional collaboration, and open exchange of best practices based on a solid evidence base, can help countries better focus their resources.** PaBER provided a good start at benchmarking education systems across the Pacific. The evidence provided in this report and the recommendations should help the countries improve learning over time. This experience should not be lost, and future work could include: periodic tracking of the domains in the existing countries; review and revision of the PaBER instruments and tools for other countries; and expansion of the approach to other countries in the region.

# ANNEXES

## ANNEX 1. PABER METHODOLOGY

### PABER GOVERNING STRUCTURE

PaBER governing structure comprised of three layers; i) governments of the three countries (ministries of education) and SPC have overall, oversight and responsibility for PaBER; ii) a steering committee (SC) which consisted of CEOs from the respective government education ministries including the presence of the Director of EQAP and representatives from DFAT; a technical working group (TWG) comprises of country technical experts and jointly chaired by EQAP and DFAT. PaBER governing structure is shown in Figure 1 below.

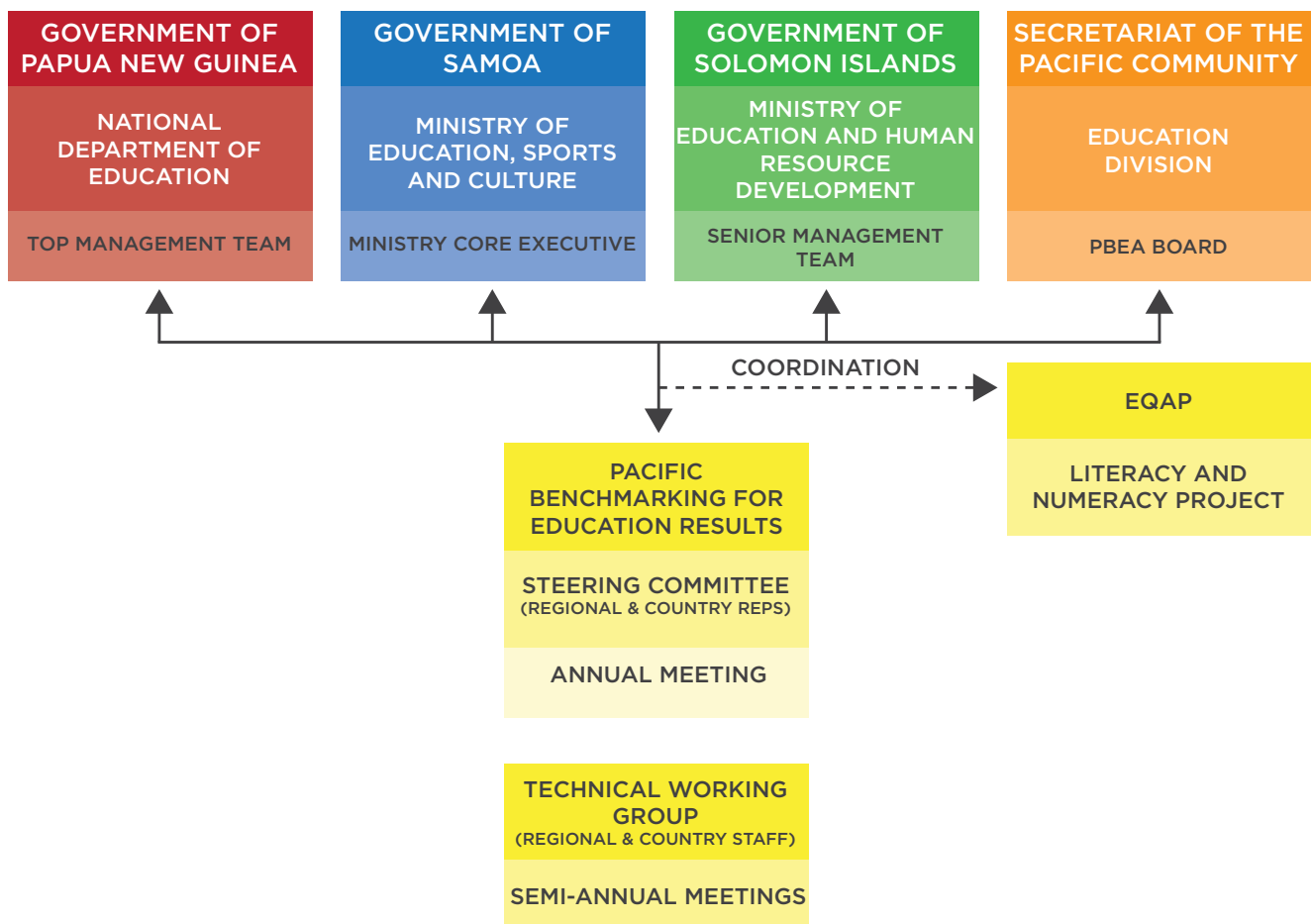


Figure 1: PaBER governing structure

The TWG has co-chairs [EQAP Director and DFAT] and meet bi-annually produce reports on annual implementation plans, monitor progress achieved on a six-monthly basis and provided budgetary updates and financial reports that are discussed and endorsed by TWG. These reports are presented to the SC for approval.

EQAP took on the role of Project Manager and played a leading role in overseeing the overall management of the program. EQAP PaBER officers provided the secretariat support and technical assistance to the countries. At the country level, each country appointed a PaBER Country Coordinator to oversee the proper implementation of

the program at the country level. This governance structure is unique to PaBER and is successfully implemented throughout its life.

## PROCESSES FOR POLICY ASSESSMENT

Five policy assessments were carried out in 2013 – 2015 in Papua New Guinea, Samoa and Solomon Islands. Each policy assessment was carried out using the same process with the exception of the EMIS assessment. The SABER EMIS instrument was developed later by SABER and not included in the original design of PaBER. It should be noted that the Teachers, School Autonomy and Accountability, Student Assessment and Curriculum and Materials instruments were primarily looking at policy intent and not policy implementation. The EMIS instrument provides an assessment of policy intent and implementation. The process for carrying out the policy assessments is shown in Figure 2 given below.

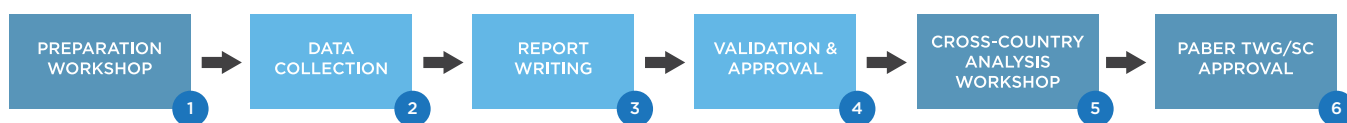


Figure 2: Policy assessment process

For each domain, a 2-3 day preparation/training workshop (Step 1) is required with key Ministry of Education staff from the relevant policy areas. The objective of the training workshops are to ensure better ownership and facilitation of the data collection, report writing and validation procedures. Consultants are usually engaged to carry out the review using the SABER framework and methodology. Additional items/questions can be included in the data collection instrument relevant to the countries' context.

The consultant along with the PaBER Assessment Officers and assistance from the local PaBER coordinators usually carry out the data collection in each country for each domain (Steps 2-4). The first part of the exercise is to collect data in-country using the agreed instruments. The draft reports are written by the consultant and / or by the SABER team in Washington, D.C., depending on the domain. The draft reports are always presented to the Ministries for validation.

Following the validation and country approval of reports, a 2-3 days workshop (Step 5) is usually held with all three countries. The objectives of the workshop are to benchmark the findings and agree on recommendations from the report. The participants are usually senior staff (3-4) from the relevant policy sections within the ministries of education. The reports are reviewed and agreements are made by each Ministry of Education on the issues to adopt.

It should be noted that countries sometimes bring other issues to the table and shared their views, practices and probable solutions with each other as part of benchmarking or learning from each other. A regional report is then developed and submitted to the Technical Working Group for further deliberation and endorsement before it goes to the Steering Committee for final approval (Step 6).

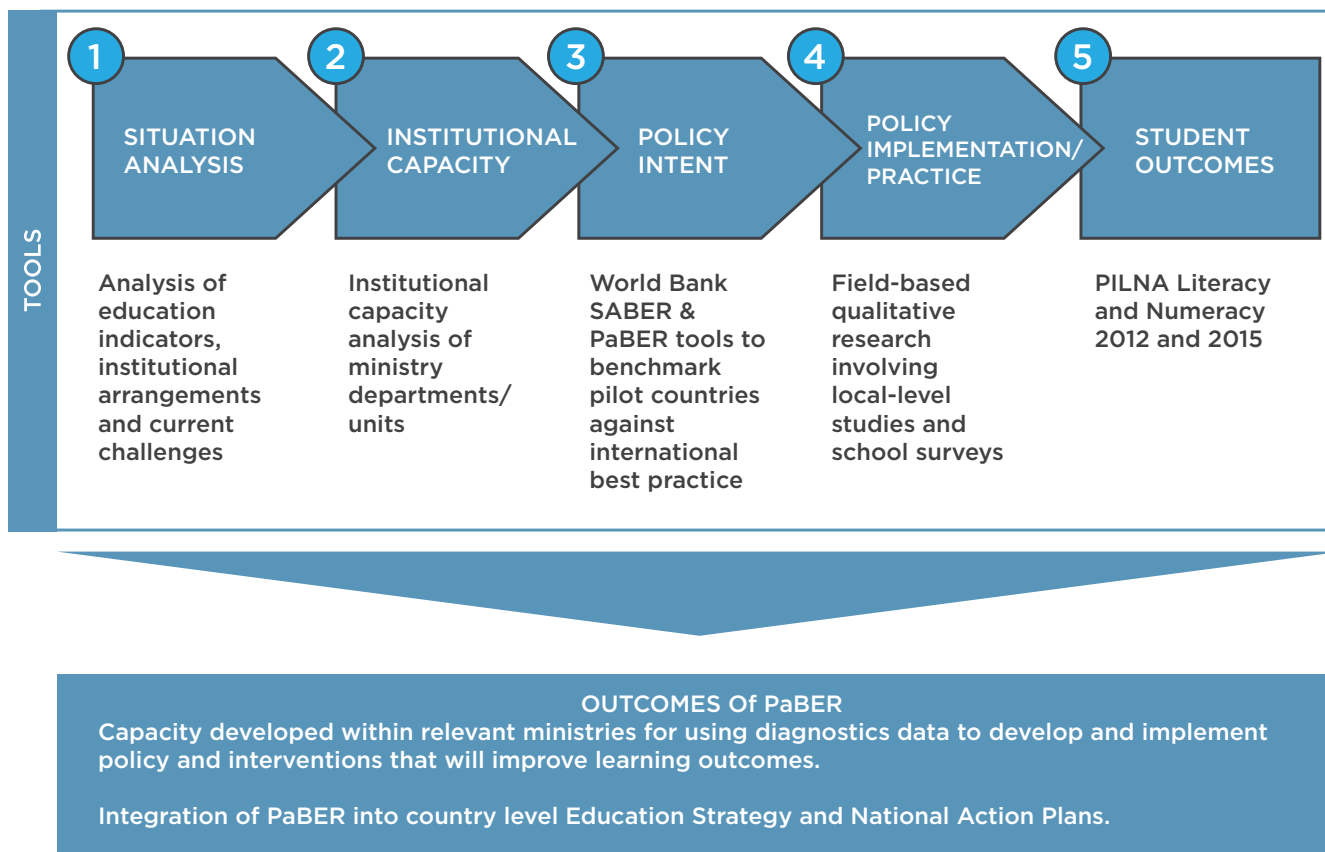


Figure 3: The PaBER approach through using of various tools.

To facilitate the process, PaBER through its approach has developed/adapted and used tools to inform and identify policy and interventions that could improve learning outcomes as shown in Figure 3.

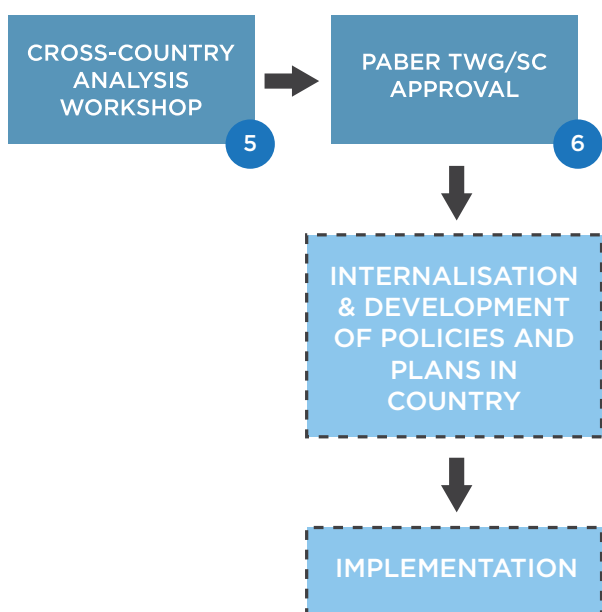


Figure 4: Implementation of Steering Committee recommendations in-country

The Ministries of Education in each country are not expected to begin actively consider and implement all the recommendations from the 5 policy assessments immediately following the workshops. The original intention of PaBER is that the reports would be considered in line with the institutional assessments and the research carried out under component 3. This would form part of the evidence base at the end of the program that would be submitted to all three countries to show what worked and what didn't work. Figure 4 indicate the process at the country level after Steering Committee has approved the recommendations.

To make use of the breadth of evidences collected through PaBER, a triangulation exercise is planned and instituted to consolidate the huge amount of data and evidences collected under each of the domain. Throughout the exercise the countries identified key findings that are important evidences to informing policy interventions to improve quality of education.

## ANNEX 2. PABER REPORTS (SOURCE DOCUMENTS) USED IN THE PNG ANALYSIS

The table below sets out the source documents used to derive the key findings for PNG for each of the policy domains, as detailed in Section 3 of this report.

REPORTS	DOMAIN				
	TEACHER QUALITY	CURRICULUM AND MATERIALS	STUDENT ASSESSMENT	SCHOOL GOVERNANCE AND MANAGEMENT	EMIS
Papua New Guinea Teacher Quality SABER Country Report (2014)	X			X	
Papua New Guinea Student Assessment SABER Country Report (2014)	X		X		
Papua New Guinea School Autonomy SABER Country Report (2013)	X			X	
Cross Country Analysis School Governance and Management report (2013)				X	
Cross Country Analysis System Assessments report (2014)			X		
Papua New Guinea Curriculum and Materials Country Report (2014)	X	X			
Papua New Guinea Institutional Capacity Analysis of National Education System (2013)		X	X		
Audit of the Assessment Skills of Teachers in Papua New Guinea (2016)	X	X	X		
Papua New Guinea Institutional Policy Capacity Analysis Report (2016)	X	X	X	X	
Pacific Benchmarking for Education Results Papua New Guinea Research Report (2016)		X	X	X	
Mapping of the Implementation of the Policy Domains in Papua New Guinea (2016)	X	X	X	X	
Papua New Guinea Education Management Information System SABER Country Report (2015)					X

## ANNEX 3. PILNA 2012 RESULTS

The tables below present the PILNA 2012 data.

PERCENTAGE DISTRIBUTION OF STUDENT PROFICIENCY IN LITERACY AND SUBGROUPS							
<b>ACHIEVEMENT LEVELS</b>	LITERACY	BOYS	GIRLS	GOV'T	NON-GOV'T	URBAN	NON-URBAN
Performing at a satisfactory and expected level	18.1	15.7	21.1	15.5	20.6	15.5	20.6
Working towards expected level	56.8	56.5	57.1	54.3	59.1	54.3	59.1
Critical and not yet working towards expected level	25.1	27.8	21.7	30.2	20.3	30.2	20.3

PERCENTAGE DISTRIBUTION OF STUDENT PROFICIENCY IN NUMERACY AND SUBGROUPS							
<b>ACHIEVEMENT LEVELS</b>	NUMERACY	BOYS	GIRLS	GOV'T	NON-GOV'T	URBAN	NON-URBAN
Performing at a satisfactory and expected level	36.7	40.7	31.4	32.8	40.6	32.8	40.6
Working towards expected level	24.0	23.4	24.7	26.1	21.8	26.1	21.8
Critical and not yet working towards expected level	39.4	36.0	44.0	41.1	37.6	41.1	37.6

