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OTHER PUBLICATION

GULF PROVINCE

2009 PROVINCIAL AND DISTRICT UNIVERSAL BASIC EDUCATION PROFILE

Jeremy Goro
Kilala Devette-Chee
Peter Magury
Daphney Kollin
Martha Waim
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(b) the undertaking of research into social, political and economic problems of Papua New Guinea in order to enable practical solutions to such problems to be formulated.

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Acknowledgement

We are indebted to the Department of Education (DoE) for the use of its 2009 National Annual School Census data to compile the *Gulf Province District and Provincial Universal Basic Education Profile*. We would like to thank the National Statistical Office for providing the soft copies of the district and provincial maps, and for the 2009 population figures used in the profiles. We also thank Lewis Iwong for modifying the base maps. We wish to express our sincere appreciation to Dr Thomas Webster, Dr Charles Yala and Dr David Ayers for their insights, encouragement and passion for the project. We acknowledge the efforts of our colleagues, Peter Kerrison and the staff of the Knowledge Management Division, for layout of the profiles, the research cadets for their help with data downloading and formatting, and Dr Esther Lavu for her invaluable comments during the drafting of the profiles.

About the Authors

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Peter Michael Magury is a Research Fellow with the Development Indicators Research Program at the PNG National Research Institute. Prior to that Mr Magury was a Research Fellow with the Universal Basic Education (UBE) Research Program. His current projects include the 2019 selected education indicators of access, retention and quality at agreed geographical levels and understanding the basic concept of Access, Retention, and Quality Indicators in UBE Plan 2010–2019. Mr Magury received his bachelor’s degree in science from the University of Papua New Guinea and his master’s degree in statistics from the Swinburne University of Technology in Melbourne. Following his master’s degree, Mr Magury served as a principle statistician overseeing the statistics unit and the Education Management Information System (EMIS) at the Department of Education. His research and development interests are in the areas of social statistics and indicators for policy formulation and analysis, monitoring and evaluation of social indicators.

Daphney Kollin and Martha Waim were research cadets working under the Universal Basic Education Program at the time this report was written. Both had graduated from the University of Papua New Guinea with Bachelors in Economics in 2017.
Abbreviations and Acronyms

CRR  cohort retention rate  
DoE  Department of Education  
EMIS  Education Management Information System  
GER  gross enrolment rate  
LLG  local-level government  
NRI  National Research Institute  
NAR  net admission rate  
NER  net enrolment rate  
PNG  Papua New Guinea  
SDA  Seventh Day Adventist  
UBE  Universal Basic Education

Glossary of terms

Elementary education

Programs at the initial stage of an organised instruction, which are designed to introduce very young children, usually from age 6 to 8 to a school type environment. This is to provide a bridge between school and home. Such programs are a more formal component of the Early Childhood Care and Education. Upon completion of this program, children continue to lower primary education.

Gross enrolment rate

Number of students enrolled in a given level of education regardless of age, expressed as a percentage of the population in the relevant official age group. Note also that GER can be higher than 100 percent as a result of grade repetition and entry to school by younger and over-age children than the correct-age.

Net enrolment ratio

Number of students enrolled in the official age group for a given level of education enrolled in that level expressed as a percentage of the total population in that age group.

Net admission rate

Number of students in the official school entrance age who are new entrants into the first grade of elementary education, expressed as a percentage of the total population in that age group. This indicator is sometimes known as net intake rate.

Primary education

Education programs that are usually designed on a unit or project basis to give students a sound basic education in reading, writing and mathematics with an elementary understanding of other subjects such as history, geography, natural science, social science, art and music. In some cases, religious instruction is also taught. It has pupils enrolled in Grades 3 to 8. Children enrolled in primary school are around nine years old.

Retention rate

Number of students who complete the final year (Grade 8) of primary school expressed as a percentage of the number who entered the first year (elementary prep).
Foreword

Education has been a focal point of the Government of Papua New Guinea’s development strategy prior to, and after independence in 1975. This is due to its importance in the overall development of people capacity and the positive impact it will have on the citizens’ quality of life. The emphasis and strategies to develop education in Papua New Guinea (PNG) were influenced by international conventions associated with this sector. The Education for All goals agreed to in 1990 in Jomtien, Thailand (Shaeffer, 1995), and the Dakar Framework for Action (2000) to universalise primary education by 2015, informed the planning and actions taken in the country. Similarly, the United Nations Millennium Development Goals (MDGs) established in 2000, the United Nations Convention on the Rights of the Child (1990), and the Universal Declaration of Human Rights (1948) provided further international impetus for education development.

In PNG, more than 800 languages are spoken. More than 80 percent of the population lives in rural areas and some of these areas are very remote and inaccessible. The 22 provinces, 91 districts, 113 local-level governments and 6,131 wards, are very different and have their own challenges. Each locality has unique challenges and constraints when working towards Universal Basic Education (UBE). They require specific interventions that can work in their local settings.

It is in this context that the Gulf Province 2009 Provincial and District Universal Basic Education Profile is developed. This profile draws attention to the need for proper education data and information at the district level. It provides basic education information at the district level so that planners can plan better and develop policies that reflect the school-age children’s population distribution in the province. This profile establishes common UBE indicators for providing basic education services at the district level. It establishes a reference point from which each district can implement various UBE policies and monitor its progress over time.

At the same time, each community in the Gulf Province and its districts should take responsibility for designing and implementing their own strategies towards universalising basic education in their areas. The Achieving a better future through Universal Basic Education Plan, 2010–19 (Department of Education, 2009), outlines three critical areas for a community to measure its progress towards UBE: 1) How many of the school-aged children have access to and enroll in school?; 2) How many of them stay on and complete the full phase of basic education in elementary and primary level?; 3) How many of them have acquired the minimum level of knowledge and skills covered in the school curriculum — and is it quality education?

The main thrust of the plan was for a school-based education approach developed by each community and supported by district-level authorities and provincial and national governments. This bottom-up approach works towards achieving quality basic education targets. Each community knows which children are not in school and what they need to do to increase access and ensure that children do not drop out but are retained and complete the whole school cycle. Each community can work on strategies to improve the quality of learning in their schools in many areas identified by research.

It is hoped that this profile can be used by education administrators, planners, policy-makers, researchers and academics to monitor the progress of districts and to assist in planning and policy development in basic education in the Gulf Province.

Dr Osborne Ogis Sanida
Director
Introduction

The Gulf of Papua dominates the centre of Gulf Province, which stretches along the southern coast of the mainland. The Great Papuan Plateau lies in the west of the province, while a number of rivers, including the Turama, Kikori and Purari, all converge in a large delta area on the coast. The Albert and Stanithorp Ranges are in the east of the province. With two districts, 10 local-level governments (LLGs) and 150 wards, the challenges for education policy makers and implementers in delivering basic education services are substantial.

These challenges are coupled with additional pressures that emanate from serious concerns about the lack of access for the majority of school-age children to education, poor student retention rates, and poor student learning outcomes due to an irrelevant curriculum.

As a result, a number of enabling education policies and plans have been developed and implemented with the goal of making education universally available to all school-age children and to keep them in school to complete a basic education of good quality. It is essential that these education policies and plans are carefully monitored at the province and district levels to see progress over time.

In order to monitor the progress of these education policies and plans, we need to have up-to-date data and information disaggregated to the level of the district. This will help the government and its stakeholders to better understand the unique needs and challenges of each district, and to identify performance monitoring gaps regarding improvement or no change or deterioration in relation to access, retention and quality of learning.

The production and dissemination of the Gulf Province 2009 Provincial and District Universal Basic Education Profile focuses on the need for information at the province and district levels towards the attainment of UBE goals and simultaneously identify gaps that need interventions in the areas of access, retention and quality.

The Gulf Province 2009 Provincial and District Universal Basic Education Profile contains maps and general basic education information regarding the school-age population, enrolment, and number of schools and teachers. These are followed by the three key UBE indicators: access, retention and quality.

These profiles will be circulated to all stakeholders at the national, provincial, district and LLG levels, political leaders and public servants, and development partners.

It is hoped that these profiles will provide some insights on the progress of Gulf Province and its districts towards achieving UBE, and the unique challenges they have in doing so, and be used as a platform for influencing policy choices and interventions.
Provincial Education System coverage

Provincial Education System (PES) coverage is the extent to which education is made available in the province and at various education levels to adequately meet the demand for education. It helps education planners and policy makers to understand, among other factors, the absorptive capacity of the PES, the access and participation gaps, the number of places that will need to be provided for pupils at various levels in the education system, and the disparities in the provision of education. An understanding of these factors will enable more effective measures to be taken to address these and to ensure that education is made available to all school-age children.

For this education profile, data on the number of schools and in-school and out-of-school children are used as measures of PES coverage.

In 2009, the Gulf Province education system had grown to one employing around 473 teachers, with 19,936 students in 158 elementary schools, 64 community schools, and 51 primary schools. While the DoE provides support to and oversight of all schools registered within the PES, more than half of all the schools are run by the non-government sector. The main church education agencies are the Catholic Church and United Church, with smaller ones such as the Evangelical Brotherhood Church and Baptist Union making up the remainder.

Within the church agency category, the Catholic Church provided 18 percent of schools, the United Church provided 13 percent and others provided three percent in 2009 (DoE, 2009).

Each district profile shows the number of schools in each level of education, by district, in order to ascertain whether there is an adequate supply of space to meet the demand for education. Access and enrolment data suggest that one of the critical factors for the increased number of school-age children being out of school is the lack of schools.
Overview of Universal Basic Education indicators

This section provides a background and a guide to the key UBE indicators chosen for this profile. It provides a description of the three main indicators and an overview of the situation in Gulf Province and its districts’ basic education in 2009. These indicators are addressed according to three priority pillars in basic education development in the province and each of the districts. These are: increasing access to schools, ensuring that students complete a full nine years of education, and improving the quality of education so that all students have acquired all the knowledge and skills that are taught at the primary school level.

Net admission rate

Children’s access to the first level of education is measured using the net admission rate (NAR). This is measured in terms of the proportion of six-year-old children admitted to Elementary Prep relative to the total population of six-year-olds.

The NAR is a useful indicator because it tells us not only the number of students with access to Elementary Prep but, more importantly, the number of students being denied access.

Overall, the NAR for Gulf Province was 14.1 percent. This indicates that of all the children enrolled in Elementary Prep, only 14.1 percent of the children were six years old, while 85.9 percent were either more or less than six years old.

The data presented illustrate that all the districts had a low number of six-year-old children enrolled in elementary schools in 2009.

District distribution shows that Kerema had the highest NAR at 15.5 percent while Kikori had the lowest (12.7%).

Generally, the NARs for the Gulf Province and its two districts show that a large proportion of children in the population of six-year-old did not have access to the first year of formal education. The very large number of children enrolled at older ages can be explained by the fact that children are starting school very late. This merits further investigation into the factors behind the low participation rate of six-year-olds. Better understanding of the reasons will help in designing effective strategies for encouraging parents to enrol their six-year-old children in school.

Enrolment rates

Enrolment rates are used to measure students’ participation in education as well as to identify the number of children enrolled in education as a proportion of the population of related school age. The gross and the net enrolment rates (GERs and NERs) are often used to measure students’ participation in education.

The GER has been used here because it helps to know the exact number of children, regardless of age, who are enrolled from Elementary Prep to Grade 8 and, most importantly, those who are not enrolled.

The enrolment data presented indicate that Gulf Province had a NER of 35.8 percent. This means that 35.8 percent of 6- to 14-year-olds were enrolled in basic education in 2009, while 64.2 percent were still out of school. In terms of the districts, Kikori (38.8%) had the highest NER and Kerema had 32.8 percent. The data suggest that Gulf Province and its districts had made some progress towards the attainment of the goal of UBE.
Retention rate

The cohort retention rate (CRR) is the indicator used to measure the number of children who complete a basic education cycle. It takes the children completing the final grade (Grade 8) of basic education as a percentage of those who started in the first grade (Elementary Prep).

The CRR is a useful indicator because it not only tells us the number of children who remain in school to progress to the next level of the education cycle, but also the number of children who drop out of school.

Completion of basic education implies achieving the necessary level of competence to allow a child to progress to the next level of education or to be able to be self-taught. Leaving school before completing the nine years of basic education for various reasons means that a smaller number of children complete Grade 8. This fact is important in looking at the UBE because we will only be successful if all the children enrolled in Elementary Prep continue in school until the end of Grade 8. This is the CRR.

Leaving school before completing Grade 8 means children may not have learnt as much as they should have and may not be competent with their skill levels. It may also mean that children may be illiterate and unable to fulfil many roles in society.

Overall, data presented here show that Gulf Province had a CRR in 2009 of 43 percent, which is below the all-PNG average CRR of 65.3 percent. In terms of districts, Kerema had the highest retention rate at 54 percent and Kikori had 31 percent.

Although the enrolment rate is high in Gulf Province, the retention of students in school is slightly below average. A large percentage of the children who enrol in Elementary Prep and Grade 1 in community and primary schools do not complete Grade 8. This is a problem in the province. Nearly half the children do not complete the full basic education program (see tables on retention rates).

This means that many children have dropped out of schools in Gulf Province and its districts, and emphasises how important it is that efforts by the government should concentrate more on these disadvantaged districts. However, if these problems are not addressed immediately, the CRR will decline further and the opportunities to reach the goal of UBE will be reduced in Gulf Province.

Closer monitoring is necessary to see which districts are comparatively worse off in order to focus attention on those districts.

Quality

The third parameter of UBE in PNG is quality education, which is where students are able to learn the required knowledge, skills and competencies prescribed in the national school curriculum. It is often measured using students’ academic achievements from examination results or pass marks. In most cases, proxy indicators such as Pupil-Teacher Ratio, Qualified Teachers, and Pupil-to-Textbook Ratio are used instead. However, for this UBE profile, the pass mark for the Grade 8 examination is used as a measure of quality education under UBE, which then translates into the sum of mean scores of the subjects examined (English, Maths and Combined Subject), which is the determining factor in selection for admission to Grade 9 in secondary schools.

An analysis of the national Grade 8 examination results in 2009 shows that the average for Gulf Province (42.6) in basic education is low in all of the four subject areas, including literacy, numeracy and general skills. The province’s pass mark of 42.6 is well below the national target of 80.

District comparisons show that Kerema scored 43 and Kikori 42.1 in the Grade 8 examination in 2009. Because these results are below the national average pass mark, which is the benchmark for selecting students for Grade 9, the province lowered its pass mark in order to enrol more students in Grade 9.

The results also indicate that most students who complete Grade 8 have not acquired the minimum knowledge and skills necessary to equip them for work and life in their rural village settings to which most will return.
Guide to data sources

This publication is produced by the National Research Institute (NRI) based on collections from school census of PNG schools held in March 2009. It presents information on all government and non-government schools, students and teachers in Gulf Province.

From 2007, all Gulf Province schools provide details of enrolments and staffing data once every year. The collection starts in March and provides data that is used as a basis for school resource allocation and for inclusion in provincial and national statistical digest publications. The census was processed and validated by staff of the Policy Planning Research and Data Analysis Division of the DoE.

The figures in this publication have been taken from the 2009 school census, which collected student-age data for the first time, as well as the large amounts of previously unavailable data about the teachers.

Approximately 90 percent of schools in Gulf Province responded to the 2009 school census, a figure that was considered acceptable. In order that realistic figures could be established, we decided to estimate the enrolments and staffing from those schools that did not submit their enrolment and staffing data. This was so that reasonable estimates could be made of enrolment rates; both gross and net enrolments from non-respondents (missing schools) that were known to be operating in 2009 were adjusted by using the 2008 enrolment returns from those schools.

Staffing in the missing schools was based upon the teacher-pupil ratio of the other schools in the province that did submit returns.

The age structure of the missing schools was assumed to be the same as those schools in the province that submitted returns. So, the age structure of the schools that submitted data was applied to the estimated enrolments of those that did not.

District age population was estimated by applying the age structure of the province across each of the districts as in the province as a whole.

Population data were supplied by the National Statistical Office in the form of estimates in five-year age groups, disaggregated by gender. The age groups were: 0–4, 5–9, 10–14, 15–19, 20+. The age for commencement of elementary school in PNG is six years, primary school starts at nine years and secondary school from 15 years of age. The data had to be rearranged to form appropriate age groups to calculate age-related indicators such as the NAR and NER. For this purpose, the following age groups were defined:

- Age six, for calculating NAR for Elementary Prep;
- Age 6–14, for calculating GER and NER for basic education.

District age population was estimated by applying the age structure of the province across each of the districts in the province as a whole. The estimates were compared for provincial and district consistency.

In some situations where there has been rounding, discrepancies may occur between sums of the component items and totals.

Further information about this publication may be obtained by contacting:
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Limitation of data

The education profile data published here are based on the 2009 school census and assesses the status of provinces and districts in relation to achieving UBE. The indicators are limited to what data were available, based on the school census undertaken by the DoE at the time, throughout the country.

Reliable estimates of net admissions, and net and gross enrolment rates require reliable estimates of net admissions, net and gross enrolments, and school-age population. Errors occur when enrolment levels are under- or over-reported.

Over-reporting of enrolment levels may occur if schools have a financial incentive to do so (e.g. Tuition Fee Free, which is based on enrolment figures). Under-reporting of enrolment may occur when the DoE fails to include all schools in the country, particularly private schools.

Reliable estimates of net admissions, and net and gross enrolment rates also require reliable estimates of the school-age population.

Some schools were included in the census but did not have any data and therefore have not been included in the analysis or the profiles. For districts whose information was missing at the time, projections were made, particularly for the access rates.
About Gulf Province

The Gulf of Papua dominates the centre of Gulf Province, which stretches along the southern coast of the mainland. The Great Papuan Plateau lies in the west of the province while a number of rivers, including the Turama, Kikori and Purari, all converge in a large delta area on the coast. The Albert and Stanithorp Ranges are in the east of the province. A road runs from Kerema to Port Moresby, but the quality of the roads is poor between Kerema and Malalaua. Instead, many people use sea transport, often in dangerous conditions. New road developments around Kikori and leading up to Lake Kutubu in Southern Highlands will serve the planned Liquefied Natural Gas Project, which may increase transport infrastructure in the area.

Gulf Province has two districts with 10 LLGs and 150 wards. The province had 158 elementary schools, 64 community schools and 51 primary schools in 2009. These schools were provided by the government as well as churches, which are known as agency schools. Sixty-six percent of the schools were run by the government, 18 percent by the Catholic Church, 13 percent by the United Church, and three percent by other smaller denominations such as the Evangelical Brotherhood Church and Baptist Union.

Summary

Gulf Province’s performance in UBE for 2009 is reported in this profile. In terms of access, the NAR of 14.1 percent was below the national average of 24.2 percent. There was no significant difference between the proportion of male and female admissions in Elementary Prep. The gross enrolment data for Gulf Province and its districts were not available. The NER of 35.8 percent was below the national average (69.5%). A higher percentage of male students were enrolled at the correct age of six years in 2009.

District distribution shows that Kerema had the highest NAR of 15.5 percent while Kikori had 12.7 percent. For the NER, Kikori had the highest rate at 38.8 percent and Kerema had 32.8 percent.

The CRR for Gulf Province of 43.4 percent was below the national average of 65.3 percent in 2009. Gender
comparisons found a higher percentage of boys than girls were in schools until the end of Grade 8. In terms of
districts, Kerema had the highest retention rate of 54 percent and Kikori had 31 percent.

The quality indicator, which was measured using the Grade 8 national examination results, shows that the Gulf
Province sum of mean scores (42.6) was fairly low in all three subject areas. Literacy, numeracy and general skills
results were low in the province. The province’s pass mark of 42.6 percent was below the national average of 60.1
percent as well as the national target of 80 percent.

At the district level, Kerema had the highest sum of mean scores (43) and Kikori had 42.1. The results of the
district’s data were all significantly below the national average of 60 and the national target of 80.

Basic education institutions

Table 1: Gulf Province - number of schools, classes, students and teachers by school level

<table>
<thead>
<tr>
<th>School Level</th>
<th>Schools</th>
<th>Classes</th>
<th>Students</th>
<th>Teachers</th>
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<tbody>
<tr>
<td>Elementary</td>
<td>158</td>
<td>311</td>
<td>7,957</td>
<td>221</td>
</tr>
<tr>
<td>Community</td>
<td>64</td>
<td>98</td>
<td>2,894</td>
<td>46</td>
</tr>
<tr>
<td>Primary</td>
<td>51</td>
<td>290</td>
<td>9,085</td>
<td>206</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>273</strong></td>
<td><strong>699</strong></td>
<td><strong>19,936</strong></td>
<td><strong>473</strong></td>
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</table>


Figure 2: Gulf Province - basic education distribution


Distribution of schools

Table 2: Gulf Province - distribution of schools by district and school level

<table>
<thead>
<tr>
<th>District</th>
<th>Elementary</th>
<th>Community</th>
<th>Primary</th>
<th>Total</th>
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<tbody>
<tr>
<td>Kerema</td>
<td>873</td>
<td>35</td>
<td>27</td>
<td>149</td>
</tr>
<tr>
<td>Kikori</td>
<td>71</td>
<td>29</td>
<td>24</td>
<td>124</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>158</strong></td>
<td><strong>64</strong></td>
<td><strong>51</strong></td>
<td><strong>273</strong></td>
</tr>
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</table>

Education providers

Table 3: Gulf Province - number of schools by basic education providers

<table>
<thead>
<tr>
<th>Provider</th>
<th># of Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catholic</td>
<td>49</td>
</tr>
<tr>
<td>Government</td>
<td>181</td>
</tr>
<tr>
<td>Others</td>
<td>8</td>
</tr>
<tr>
<td>United</td>
<td>35</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>273</strong></td>
</tr>
</tbody>
</table>


Figure 3: Gulf Province - basic education providers

Universal Basic Education indicators

Access

Access to education is the extent to which children of specific age can gain access to a particular level of education. In this report, the access to education was measured using the NAR. The NAR measures access to the first grade (elementary prep) of formal education.

Children’s participation in education is measured using the NER and the GER.

Net admission rates

Table 4: Gulf Province - net admission rates

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gulf Province</td>
<td>13.8%</td>
<td>14.4%</td>
<td>14.1%</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>23.4%</td>
<td>25.1%</td>
<td>24.2%</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations from 2009 enrolment data from EMIS Database (DoE, 2009) and 2011 PNG National Population and Housing Census (NSO, 2013).
Gross and net enrolments

Table 5: Gulf Province - gross and net enrolment rates

<table>
<thead>
<tr>
<th></th>
<th>Gross Enrolment</th>
<th>Net Enrolment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Gulf Province</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>91.1%</td>
<td>85.9%</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations from 2009 enrolment data from EMIS Database (DoE, 2009) and 2011 PNG National Population and Housing Census (NSO, 2013).

Retention

Table 6: Gulf Province - retention rates

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gulf Province</td>
<td>48%</td>
<td>38%</td>
<td>43%</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>69%</td>
<td>61%</td>
<td>65%</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations from 2009 enrolment data from EMIS Database (DoE, 2009) and 2011 PNG National Population and Housing Census (NSO, 2013).

Quality

Table 7: Gulf Province - Grade 8 examination results by subject

<table>
<thead>
<tr>
<th></th>
<th>English Language (average marks out of 50)</th>
<th>Mathematics (average marks out of 50)</th>
<th>Combined Subject (average marks out of 50)</th>
<th>Sum of mean scores (out of 50)</th>
<th>Written Expression (average marks out of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gulf Province</td>
<td>15.9</td>
<td>12.2</td>
<td>14.5</td>
<td>42.6</td>
<td>9.2</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>19.8</td>
<td>19.9</td>
<td>20.3</td>
<td>60.0</td>
<td>13.8</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations from 2009 examination data from EMIS Database (DoE, 2009).
Kerema District

Kerema District borders Central Province in the east and Morobe Province in the north. It stretches across the Albert and Stanithorp ranges and the Tauri and Lakekamu rivers.

Kerema District has six LLGs and 74 wards. The district had 87 elementary schools, 27 community schools and 35 primary schools in 2009. These schools were provided by the government as well as churches, which are known as agency schools. Sixty-seven percent of the schools were run by the government, 22 percent by the Catholic Church, two percent by the Lutheran Church. One percent by the Seventh Day Adventist (SDA) Church and others shared the remainder.

Summary

Kerema District had a NAR of 15.5 percent, which was above the province average of 14.1 percent but below the national average of 24.2 percent. Of the 15.5 percent of children who were admitted to Elementary Prep in 2009, the remaining 84.5 percent were not enrolled in school or they were in other grades. The GER data for the district were not available. The NER of 32.8 percent was below the province and national averages (35.8% and 69.5%, respectively). Gender comparison sees no significant difference between the proportion of male and female admissions as well as NER in 2009.

The retention rate for Kerema District of 54 percent was above the province and national averages (43% and 65% respectively). Significantly, a higher percentage of the male population was being retained and completed Grade 8 in 2009.

In terms of quality UBE for Kerema district, the Grade 8 examination results for the three subjects (English, Maths and Combined Subject) were well below the national average. The sum of mean scores for Kerema district (43) was slightly above the province average (42.6) and below national average (60.1).
Basic education institutions

Table 8: Kerema District - number of schools, classes, students and teachers by school level

<table>
<thead>
<tr>
<th>School Level</th>
<th>Schools</th>
<th>Classes</th>
<th>Students</th>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>87</td>
<td>151</td>
<td>4,061</td>
<td>120.97</td>
</tr>
<tr>
<td>Community</td>
<td>27</td>
<td>168</td>
<td>5,342</td>
<td>135.97</td>
</tr>
<tr>
<td>Primary</td>
<td>35</td>
<td>53</td>
<td>1,496</td>
<td>28.99</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>149</strong></td>
<td><strong>372</strong></td>
<td><strong>10,899</strong></td>
<td><strong>286</strong></td>
</tr>
</tbody>
</table>


Figure 5: Kerema District - basic education distribution


Education providers

Table 9: Kerema District - number of schools by basic education providers

<table>
<thead>
<tr>
<th>Provider</th>
<th># of Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catholic</td>
<td>32</td>
</tr>
<tr>
<td>Government</td>
<td>100</td>
</tr>
<tr>
<td>Lutheran</td>
<td>3</td>
</tr>
<tr>
<td>Others</td>
<td>12</td>
</tr>
<tr>
<td>SDA</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>149</strong></td>
</tr>
</tbody>
</table>


Figure 6: Kerema District - basic education providers

## Universal Basic Education indicators

### Net admission rates

**Table 10: Kerema District - net admission rates**

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerema District</td>
<td>10.5%</td>
<td>14.4%</td>
<td>12.4%</td>
</tr>
<tr>
<td>Gulf Province</td>
<td>13.8%</td>
<td>14.4%</td>
<td>14.1%</td>
</tr>
</tbody>
</table>

Source: Authors' calculations from 2009 enrolment data from EMIS Database (DoE, 2009) and 2011 PNG National Population and Housing Census (NSO, 2013).

### Gross and net enrolments

**Table 11: Kerema District - gross and net enrolment rates**

<table>
<thead>
<tr>
<th></th>
<th>Gross Enrolment</th>
<th>Net Enrolment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Kerema District</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Gulf Province</td>
<td>91.1%</td>
<td>85.9%</td>
</tr>
</tbody>
</table>

Source: Authors' calculations from 2009 enrolment data from EMIS Database (DoE, 2009) and 2011 PNG National Population and Housing Census (NSO, 2013).

### Retention

**Table 12: Kerema District - retention rates**

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerema District</td>
<td>59%</td>
<td>49%</td>
<td>54%</td>
</tr>
<tr>
<td>Gulf Province</td>
<td>48%</td>
<td>38%</td>
<td>43%</td>
</tr>
</tbody>
</table>

Source: Authors' calculations from 2009 enrolment data from EMIS Database (DoE, 2009) and 2011 PNG National Population and Housing Census (NSO, 2013).

### Quality

**Table 13: Kerema District - Grade 8 examination results by subject**

<table>
<thead>
<tr>
<th></th>
<th>English Language (average marks out of 50)</th>
<th>Mathematics (average marks out of 50)</th>
<th>Combined Subject (average marks out of 50)</th>
<th>Sum of mean scores (out of 50)</th>
<th>Written Expression (average marks out of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerema District</td>
<td>15.7</td>
<td>12.8</td>
<td>14.5</td>
<td>43.0</td>
<td>9.0</td>
</tr>
<tr>
<td>Gulf Province</td>
<td>15.9</td>
<td>12.2</td>
<td>14.5</td>
<td>42.6</td>
<td>9.2</td>
</tr>
</tbody>
</table>

Source: Authors' calculations from 2009 examination data from EMIS Database (DoE, 2009).
Kikori District

Figure 7: Kikori District map


About Kikori District

Kikori District encompasses the Great Papuan Plateau and the valleys of the Turama, Kikori and Purari Rivers, which all form a large common delta on the coast.

Kikori District has four LLGs and 76 wards. The district had 71 elementary schools, 24 community schools and 29 primary schools in 2009. These schools were provided by the government as well as churches, which are known as agency schools. The government had 65 percent of the schools, the Catholic Church had 14 percent, SDA had 1 percent and others shared the remainder.

Summary

Kikori District had a NAR of 12.7 percent, well below the province and national averages (14.1% and 24.2%, respectively). Of the 12.7 percent of the children who were admitted to Elementary Prep in 2009, the remaining 87.3 percent were not enrolled in school or were in other grades. The GER data for the district were not available. The NER of 38.8 percent was below the province and national averages (35.8% and 69.5%, respectively). There was no significant difference between the proportion of male and female admissions or NER in 2009.

The retention rate for Kikori District of 31 percent was below the province and national averages (43% and 65% respectively). Significantly, a higher percentage of boys were being retained and completed Grade 8 in 2009.

In terms of quality UBE for Kikori District, the Grade 8 examination results for the three subjects (English, Maths and Combined Subject) were well below the national average. The sum of mean scores for Kikori District of 42.1 was below the province average (42.6) and national average (60.1).
Basic education institutions

Table 14: Kikori District - number of schools, classes, students and teachers by school level

<table>
<thead>
<tr>
<th>School Level</th>
<th>Schools</th>
<th>Classes</th>
<th>Students</th>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>71</td>
<td>160</td>
<td>3,896</td>
<td>100.14</td>
</tr>
<tr>
<td>Community</td>
<td>24</td>
<td>122</td>
<td>3,743</td>
<td>69.93</td>
</tr>
<tr>
<td>Primary</td>
<td>29</td>
<td>345</td>
<td>1,398</td>
<td>17.48</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>124</strong></td>
<td><strong>327</strong></td>
<td><strong>9,037</strong></td>
<td><strong>188</strong></td>
</tr>
</tbody>
</table>


Figure 8: Kikori District - basic education distribution


Education providers

Table 15: Kikori District - number of schools by basic education providers

<table>
<thead>
<tr>
<th>Provider</th>
<th># of Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catholic</td>
<td>17</td>
</tr>
<tr>
<td>Government</td>
<td>81</td>
</tr>
<tr>
<td>Others</td>
<td>25</td>
</tr>
<tr>
<td>SDA</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>124</strong></td>
</tr>
</tbody>
</table>


Figure 9: Kikori District - basic education providers

Universal Basic Education indicators

Net admission rates

Table 16: Kikori District - net admission rates

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kikori District</td>
<td>9.1%</td>
<td>9.3%</td>
<td>9.2%</td>
</tr>
<tr>
<td>Gulf Province</td>
<td>13.8%</td>
<td>14.4%</td>
<td>14.1%</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations from 2009 enrolment data from EMIS Database (DoE, 2009) and 2011 PNG National Population and Housing Census (NSO, 2013).

Gross and net enrolments

Table 17: Kikori District - gross and net enrolment rates

<table>
<thead>
<tr>
<th></th>
<th>Gross Enrolment</th>
<th>Net Enrolment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Kikori District</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Gulf Province</td>
<td>91.1%</td>
<td>85.9%</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations from 2009 enrolment data from EMIS Database (DoE, 2009) and 2011 PNG National Population and Housing Census (NSO, 2013).

Retention

Table 18: Kikori District - retention rates

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kikori District</td>
<td>35%</td>
<td>27%</td>
<td>85%</td>
</tr>
<tr>
<td>Gulf Province</td>
<td>48%</td>
<td>38%</td>
<td>43%</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations from 2009 enrolment data from EMIS Database (DoE, 2009) and 2011 PNG National Population and Housing Census (NSO, 2013).

Quality

Table 19: Kikori District - Grade 8 examination results by subject

<table>
<thead>
<tr>
<th></th>
<th>English Language (average marks out of 50)</th>
<th>Mathematics (average marks out of 50)</th>
<th>Combined Subject (average marks out of 50)</th>
<th>Sum of mean scores (out of 50)</th>
<th>Written Expression (average marks out of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kikori District</td>
<td>116.1</td>
<td>11.6</td>
<td>14.5</td>
<td>421</td>
<td>9.4</td>
</tr>
<tr>
<td>Gulf Province</td>
<td>15.9</td>
<td>12.2</td>
<td>14.5</td>
<td>42.6</td>
<td>9.2</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations from 2009 examination data from EMIS Database (DoE, 2009).
Summary of findings

According to the data, in 2009, Gulf Province’s access rates were lower than the national average. Of its districts, both Kerema and Kikori had lower access rates, with Kikori slightly higher in NER than Kerema. However, Kerema had a higher NAR compared to Kikori. Data for GER were not available.

The Gulf Province retention rate (43%) in 2009 was below the national average (65.3%). A higher proportion of the male population was being retained than females in the province. In the districts, Kerema’s retention rate at 54 percent was the highest while Kikori’s (31%) was the lowest.

In 2009, the Gulf Province’s sum of mean scores (42.6) was below the national result (60.0). Its highest scoring district was Kerema (43) while its lowest scoring district was Kikori (42.1).

Table 20: Summary of Gulf Province’s Performance in UBE in 2009.

<table>
<thead>
<tr>
<th>2009</th>
<th>Access</th>
<th>Retention</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NAR</td>
<td>GER</td>
<td>NER</td>
</tr>
<tr>
<td>Gulf Province</td>
<td>14.1%</td>
<td>NA</td>
<td>35.8%</td>
</tr>
<tr>
<td>Kerema District</td>
<td>15.5%</td>
<td>NA</td>
<td>32.8%</td>
</tr>
<tr>
<td>Kikori District</td>
<td>12.7%</td>
<td>NA</td>
<td>38.8%</td>
</tr>
</tbody>
</table>
Bibliography


