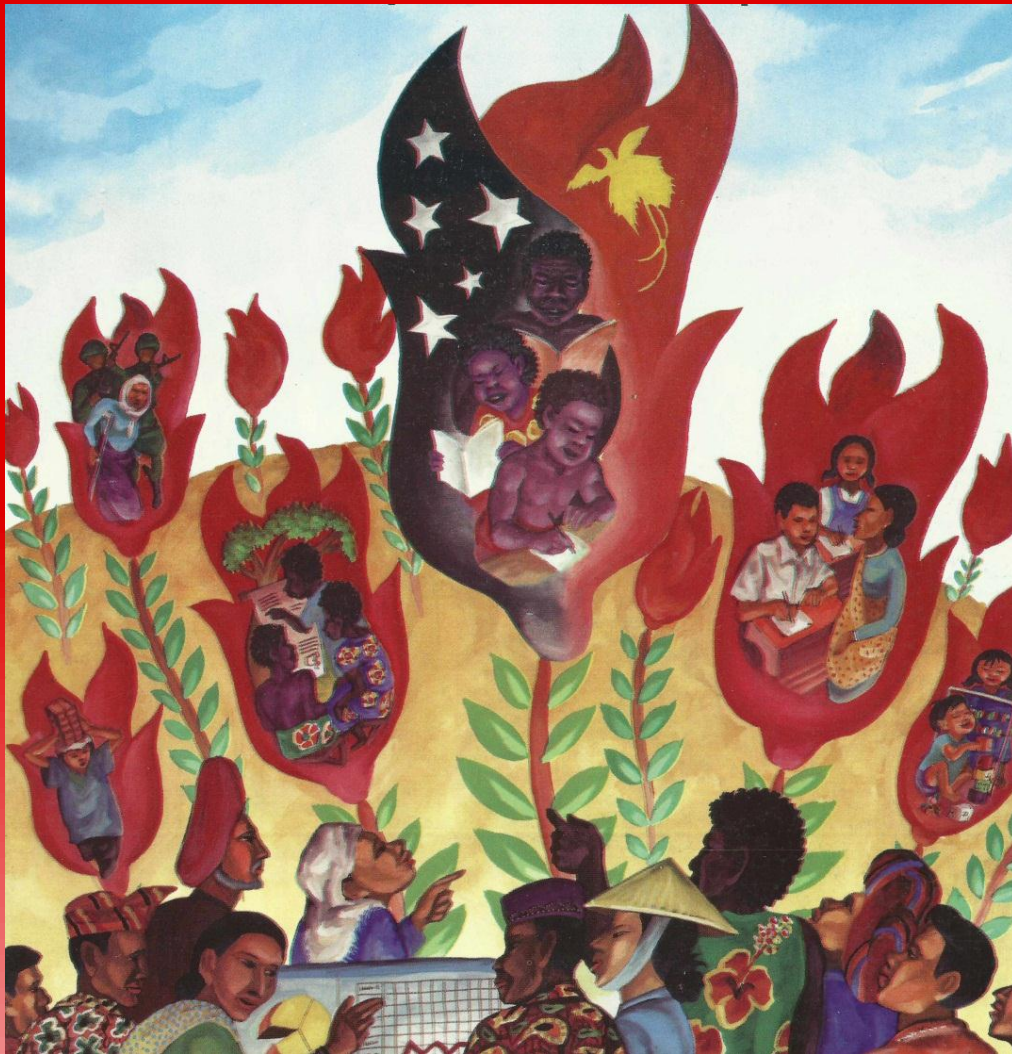


PNG

Education Experience Survey and Literacy Assessment



A Report on 5 Provinces

New Ireland, NCD, Chimbu, Sandaun & Gulf Provinces



Asia South Pacific Association
for Basic and Adult Education
Learning Beyond Boundaries



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Advocacy Network (PEAN)

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Executive Summary

The Education Experience Surveys and Literacy Assessments were conducted by the Asia South Pacific Association for Basic and Adult Education (ASPBAE) and the PNG Education Advocacy Network (PEAN). The first two surveys were conducted in the National Capital District (NCD) and New Ireland Province in 2006-2007, while the three latest surveys of Chimbu, Sandaun and Gulf provinces were conducted from 2009 to 2011. The combined results now provide a significant body of primary data and accurate, statistically significant information about important education issues in 5 provinces of PNG.

Further surveys and literacy assessments are needed to ascertain the extent to which the findings accurately reflect a national picture. However, already it is evident that many of the findings have implications beyond provincial boundaries. As such, this report is intended as an evidence-based contribution to education policy discussions and is made available to the PNG Government, donors, civil society organisations, other stakeholders and the wider community.

The full report provides a synthesis of results from the 5 provinces and then offers a detailed analysis of the latest three provinces of Chimbu, Sandaun and Gulf. The earlier detailed report on NCD and New Ireland Province is available from ASPBAE and PEAN. The surveys and literacy assessments highlight correlations between respondents' educational experience, income, literacy levels and language usage. The methodology used is also discussed.

While the results provide cause for concern about important education issues in PNG, they are offered in a spirit of facing the realities and working constructively to address them.

5 Province Synthesis

The three key common findings across all 5 provinces are:

- **Very low literacy rates**
 - **A crisis in school education quality**
 - **Significant gender disparity in education**
-

Literacy

More than 70% of respondents in all 5 provinces self-declared confidence in their ability to read and write in a national language. However, actual literacy rates in four of the five provinces were less than 15%, while in New Ireland Province the literacy rate was 25%.

- These poor literacy rates are even more alarming given that the literacy test used was not difficult. Sample literacy assessment questions are provided in Appendix A.

- These literacy levels are also substantially below PNG's internationally reported literacy rate of 52%, a figure which is based on the national census self-declaration question. The findings of this report show that self-declaration is a very inaccurate measurement of actual literacy attainment.
- In all 5 provinces, more respondents are classified as semi-literate than those that are literate. Those in the semi-literate category were assessed as not possessing a sufficient basic functional literacy.
- The percentage of non-literates across all age cohorts is a cause for concern in all 5 provinces, with Gulf Province having the worst figures at 58.8% non-literate, followed by NCD at 56.7%, 47.1% in Sandaun, 30.9% in Chimbu, and 17.8% in New Ireland Province classified as non-literate.
- Of those attending primary or secondary school at the time of the three recent surveys, less than 20% were classified as literate.
- Despite the poor literacy findings, it is clear that schooling did have a positive correlation with literacy; with each school level completed, the literacy rates increased.
- While younger cohorts were more literate, the figures nonetheless point to an ongoing poor quality of primary and secondary education over decades in these provinces.

Education Experience

The most commonly cited reason for not attending or completing primary and secondary school was school fees. Cost factors, poor access and parental expectations to help at home or to work are other frequently listed barriers to completing primary and secondary school.

- There are significant provincial differences regarding non-attendance rates. In Sandaun Province 36.3% have never attended school, while in Gulf Province 9.2% never attended.
- While there have been gains in primary school participation there has been little improvement in the percentage going on to secondary or tertiary education. In Sandaun Province less than 20% reached secondary school.
- Only a third of the respondents have participated in some form of community education program in the past 3 years.

Gender Disparity

The proportion of non-literate females is higher compared to males across all 5 surveyed provinces by at least 10 percentage points. In Chimbu Province, the non-literate rate for females was 40.9% is almost double the male non-literate rate of 21.3%.

- In all 5 provinces the proportion of males classified as literate is 4 to 5% higher than females.
- Primary and secondary school attendance rates for adults across most age groups are higher for males than females. In both Chimbu and Sandaun provinces, females are at least three times more likely to never attend primary school than males, despite overall gains in participation across age cohorts.
- In Chimbu, Sandaun and Gulf provinces less females reached secondary school despite increases in female participation in secondary school. In Chimbu, female participation in secondary school has increased from 16% to 41%. However, this is still below male participation which increased from 25% to 60%. The gender gap has actually widened to almost 20%.
- For all 5 provinces, expectations to help at home were a greater barrier for female participation at any level of education compared to males.

Attitudes Towards Literacy and Education

There was almost unanimous agreement (over 96%) that it was important for all children to go to school. Reading, writing and numeracy skills were considered very useful or useful sometimes by over 72% of respondents.

- Literacy skills are viewed by the vast majority as useful in everyday life. Counting is considered the most useful skill in all five provinces.
- The reason given by over 87% of respondents in the latest three provinces of Chimbu, Sandaun and Gulf, for the importance of school was because it offered children the opportunity to learn to read, write and think. Other important reasons were because it enabled children to gain skills for work, to learn about the wider world and to learn about traditional culture and values.

Language Experience

Local vernacular languages and Tokpisin are the main languages of communication.

- Local vernacular languages and Tokpisin are the most common languages spoken at home and with friends. English or Motu were not commonly used in the home or with friends.
- Younger age cohorts are more confident about their literacy skills than older age cohorts.

Challenges Ahead

This report provides accurate information about the education of respondents in Chimbu, Sandaun, Gulf, New Ireland and NCD provinces, and is offered as a contribution to inform policy debate and action by Government, donors, civil society organisations, other stakeholders and the community. All Papua New Guineans have a right to a basic education.

Based on the findings in this report, we offer five key recommendations towards meeting this human right:

1. The very low literacy levels are of serious concern. A more concerted planning effort and commitment of resources is required to lift the literacy levels of the population. This means strategies aimed at youth and adults, not just children. Widespread adult literacy programs need to be developed by the government and not just left to NGOs and the churches. .
2. Greater efforts are required to ensure all children go to school and stay at school.
3. There is a need to dramatically improve the quality of education at primary and secondary school and ensure that more students become literate.
4. Special attention is needed to reduce the gender gap in education, so that more women and girls have access to quality education opportunities.
5. Substantial second chance and post-school education programs need to be developed by the government to give out-of-school youth and adults the opportunity to achieve functional literacy and receive basic life skills education.

The findings point to the need to improve a range of existing education policies and programs, and to augment them with creative new programs and substantive additional resources to implement them.

Introduction

The PNG Education Experience Survey and Literacy Assessment was conducted in the provinces of Chimbu, Sandaun and Gulf, PNG in 2009 and 2010 in a collaboration between ASPBAE Australia and PEAN. The project was funded by the Myer Foundation. This report forms an integral part of ongoing research into adult and youth education in PNG. ASPBAE and PEAN have previously completed surveys in New Ireland Province and the National Capital District (NCD) in 2006 and 2007. The findings of the surveys and literacy assessments are offered to the PNG Government, donors and all education stakeholders as a contribution to national education policy planning and program development. The survey and literacy assessment instrument and methodology has been designed to collect accurate and statistically significant information about educational experience, language usage and literacy skills at the provincial, household and individual level.

The report is structured in six parts. Firstly there is a synthesis of the key findings common across the five provinces surveyed since 2006. This is followed by the *Background* section outlines the survey instrument, research methodology and analysis techniques. Then the next three sections provide a detailed analysis of the results from each of *Chimbu*, *Sandaun* and *Gulf* provinces. Finally, the *Challenges Ahead* section links these key findings to the PNG policy and global education context.

Background

Survey Instrument

Since 2006, ASPBAE Australia has worked with education coalitions in PNG and Solomon Islands to adapt and enhance the ASPBAE Education Experience Survey and Literacy Assessment instrument. In PNG, the adapted instrument was initially used in New Ireland Province and National Capital District in 2006 and 2007. As with these earlier surveys, the Chimbu, Sandaun and Gulf Province surveys contained four sections as follows:

1. Individual profile;
2. Education experience;
3. Language experience; and
4. Literacy assessment.

The Individual Profile section of the survey was designed to capture information about the respondents' gender and age, to allow disaggregation analysis to take place. Respondents also selected the interview language between English, Tokpisin or Motu. As per previous surveys, the interview was not continued for those participants who could only speak Tokples. The first section of the survey also included questions relating to sources of information and the respondents' attitudes to literacy and education. The results of the individual profile for each province are outlined within the section entitled *Profile of Survey Respondents*.

The second and third parts of the survey were designed to capture information about the respondents' educational and language experience. The questions in the second part of the

survey, explore the education history of the individual, including the highest level of Education Attended and reasons behind non-completion where appropriate. The third part of the survey questionnaire explored respondents' language preferences and asked respondents to self-declare their literacy status. The results of the education and language experience sections for each province are outlined within the sections entitled *Educational Experience* and *Language Experience* respectively.

The fourth part of the survey was the literacy assessment and as per the methodology in the previous surveys, the literacy assessment was carried out for only those participants who self-declared an ability to read English, Tokpisin or Motu. Therefore, those respondents who indicated that they could read some, or could read easily in English, Tokpisin or Motu, participated in the literacy assessment. In contrast, those respondents who indicated that they could not read English, Tokpisin or Motu did not undertake the literacy assessment and were classified as non-literate. A sample of the literacy assessment is contained within Appendix A at the end of this report. The results of the literacy assessment are outlined for each province within the section titled *Literacy Assessment*.

As per the two previous surveys in PNG, the literacy assessment focussed on each component skill of functional literacy: reading, writing and numeracy, as well as comprehension evidenced by the ability to apply these skills in familiar contexts in everyday life. The assessment tool contains a graduated series of questions in each skill area:

- Reading skills were tested by asking respondents to match three pictures with three corresponding names; to read two sentences aloud; and to read a simple story (of six sentences) and give oral answers to two written questions;
- Writing skills were tested by asking respondents to write the names corresponding to two pictures; and to write two short sentences about the pictures;
- Numeracy skills were tested by asking respondents to count the number of objects in a picture; to name the missing number in a sequence; and to make two simple calculations in everyday scenarios; and
- Comprehension and the ability to apply literacy skills were tested by asking respondents to read the time on a clock face; to interpret dates on a calendar; and to describe the message of a poster.

As per previous surveys in PNG, each response was scored depending on the accuracy of the answer given. A composite score, based on the assessment results in each skill area, was calculated and used as the basis for classifying each survey respondent as either non-literate, semi-literate or literate. The definitions of functional literacy used are further expanded in Appendix B and further explanation about the composite score appears in Appendix C.

Survey Methodology and Analysis

The survey was conducted in households in randomly selected communities in Chimbu, Sandaun and Gulf provinces. All people who normally resided in a selected household, between the ages of 15 and 60 years (inclusive), were invited to participate in the survey. As noted above, the literacy assessment questions were addressed only to respondents who could speak Tokpisin, English or Motu and declared an ability to read them.

With regard to the sampling methodology, as per previous surveys, great care was taken to ensure that statistically significant results were obtained. These minimum sample sizes were then used to guide the number of households that needed to be surveyed. As per previous surveys it was assumed that a household would typically contain at least three eligible people

(15-60 years) and further that a maximum of twenty households be surveyed in each community. A cluster sampling process was used to ensure geographical representation across the provincial districts. The minimum required sample size for each province was calculated using population statistics from the 2000 National Population and Housing Census¹. For Chimbu Province the population was 259,703 in 2000 and projected to be 353,949 in 2009 (provincial growth rate per annum of 3.5%). For Sandaun Province the population was 185,741 in 2000 and projected to be 244,816 in 2010 (provincial growth rate per annum of 2.8%). Finally in Gulf Province the population was 106,898 in 2000 and projected to be 164,428 (provincial growth rate per annum of 4.4%). The age profile indicated that just fewer than 57% of the population being between the age of 15 and 60 years of age. Consequently, the minimum sample size based on a 95% confidence level and a 5% confidence interval was 383 for all three provinces. As per previous surveys, the sample size was increased substantially beyond the minimum required. Consequently the minimum number of communities to be surveyed was ten villages in each province.

As per the previous three surveys conducted by ASPBAE and PEAN, the results were encoded using the Census & Survey Processing System (CSPPro) and the data was analysed using the Statistical Package for the Social Sciences (SPSS). For further explanatory notes on the survey analysis, see Appendix C.



¹The National Population and Housing Census results are publically available at <http://www.nso.gov.pg/census-a-surveys/census-2000/provincial-population-division>

5 Province Synthesis

The ASPBAE Education Experience Surveys and Literacy Assessments have been conducted in 5 provinces in PNG since 2006. These are New Ireland Province, National Capital District (NCD), Chimbu Province, Sandaun Province and Gulf Province. The research tool which is written in three languages has been updated and modified over the last 5 years, to ensure the research findings are relevant and informative. While the type of information produced has evolved the instrument was designed to ensure valid comparisons could be made between the provinces. While there are notable differences between the provinces, there are some very clear concerns that are shared by all 5 provinces surveyed.

While this report does not claim to provide a complete national picture, there are clearly important national implications, which will require coordinated national responses by the PNG Government, the Department of Education, donors, CSOs, communities and other education stakeholders. The three key common findings are very low literacy rates, a crisis in school education quality and significant gender disparity.

Very Low Literacy Levels

The first key common finding is that literacy rates are very low in all 5 provinces, much lower than self-declared literacy rates which were at least 70% in each province. Gulf had the lowest literacy rate at 4.4%, followed by Sandaun, (11.4%), NCD (11.5%), Chimbu (14.5%) and New Ireland with 25%, as can be seen in Table P.1. These measured literacy rates are substantially below the Government of PNG national adult literacy rate of 52.0%². The findings of this report show that self-declaration is a very inaccurate measurement of actual literacy attainment. These alarming findings are despite the fact that the literacy test was not difficult to pass, as seen in the sample questions in Appendix A.

The vast majority of respondents in all 5 provinces were classified as either non-literate (45%) or semi-literate (42.5%). Those in the semi-literate category were assessed as not possessing a sufficient basic functional literacy. Gulf Province (58.8%) and NCD (56.7%) had the most non-literates while New Ireland performed best with a non-literate rate of 17.8%. More respondents are classified as semi-literate than those that are literate, with 54.6% of the respondents Chimbu assessed to be semi-literate, 41.5% in Sandaun and 36.7% in Gulf semi-literate. 31.8% NCD and New Ireland Province 57.2%.

Table P.1: Literacy Classification, by Province

PROVINCE	Non-literate	Semi-literate	Literate
NCD	56.7%	31.8%	11.5%
New Ireland	17.8%	57.2%	25.0%
Chimbu	30.9%	54.6%	14.5%
Sandaun	47.1%	41.5%	11.4%
Gulf	58.8%	36.7%	4.4%
Overall (5 Province Rate)	45.0%	42.5%	12.5%

² The national literacy rate is publically available at the National Statistics Office website www.nso.gov.pg

An overall literacy rate has also been included in Table P.1. It was calculated for the 5 provinces using a weighted average based on the different populations. The 5 province non-literate rate is 45.0%, with the semi-literate rate only slightly lower at 42.5%. The 5 province literate rate of 12.5% is not surprisingly substantially below the government declared rate of 52%.

The percentage of non-literates across all age cohorts is a cause for concern in all 5 provinces, with Gulf Province having the worst figures at 58.8% non-literate, followed by NCD at 56.7%, 47.1% in Sandaun, 30.9% in Chimbu, and 17.8% in New Ireland Province classified as non-literate.

A Crisis in School Education Quality

The second key finding across the provinces is that there is a crisis in school education quality. The literacy classification for youth (15-24 years olds) currently attending school is shown in Table P.2 for Chimbu, Sandaun and Gulf provinces³. The vast majority of youth currently attending school are not literate, with Gulf Province having the lowest rate of literacy at 5.3% for this age group while in Sandaun (16.9%) and Chimbu (17.1%) less than 1 in 5 currently attending school is literate. In all three provinces the large majority of youth currently attending school are semi-literate. This raises serious questions about quality of education in PNG, with school attendance clearly not assuring the achievement of basic functional literacy.

Table P.2: Literacy Classification for Youth Currently Attending School, by Province

PROVINCE	Non-literate	Semi-literate	Literate
Chimbu	13.1%	69.8%	17.1%
Sandaun⁴	26.2%	57.0%	16.9%
Gulf	23.2%	71.6%	5.3%

Similar findings can be seen by analysing the literacy levels amongst all who have attended primary school, as shown in Table P.3. Across all 5 provinces the majority of those who have attended primary school are either non or semi-literate. The situation in Gulf province is of particular concern, where only 6.6% are literate. In NCD/New Ireland and Gulf provinces, around 40% of those who attended primary school are not even semi-literate despite their schooling.

Table P.3: Literacy Classification for Those who Attended Primary School, by Province

PROVINCE	Non-literate	Semi-literate	Literate
NCD / New Ireland	40.7%	42.3%	17.0%
Chimbu	19.0%	63.7%	17.3%
Sandaun	18.9%	63.4%	17.7%
Gulf	39.6%	53.8%	6.6%
Overall (5 Province Rate)	32.4%	52.2%	15.4%

³ Disaggregated data for NCD and New Ireland is not available.

⁴ Literacy classification for 15-19 age cohort only.

Unfortunately the crisis in education quality is not restricted to primary school, with low levels of literacy acquisition evident even amongst those who attend secondary school in all 5 provinces. The literacy classification for those who attended secondary school is shown in Table P.4. It can be observed that a minority, between 19% and 38%, of respondents who attended secondary school are literate. Moreover the majority of respondents who attended secondary school are either non or semi-literate. In NCD/New Ireland a high 37.5% of respondents who attended secondary school are non-literate, despite the extra years at school. In Chimbu, Sandaun and Gulf provinces respondents who attended secondary school were mostly semi-literate.

Table P.4: Literacy Classification for Those who Attended Secondary School, by Province

PROVINCE	Non-literate	Semi-literate	Literate
NCD & New Ireland	37.5%	42.7%	19.8%
Chimbu	3.0%	63.9%	33.1%
Sandaun	2.9%	58.9%	38.2%
Gulf	7.9%	72.9%	19.2%
Overall (5 Province Rate)	26.7%	49.8%	23.5%

Despite the poor literacy findings, it is clear that schooling did have a positive correlation with literacy: with each school level completed, the literacy rates increased. While there have been gains in primary school participation there has been little improvement in the percentage going on to secondary or tertiary education. In Sandaun Province less than 20% reached secondary school.

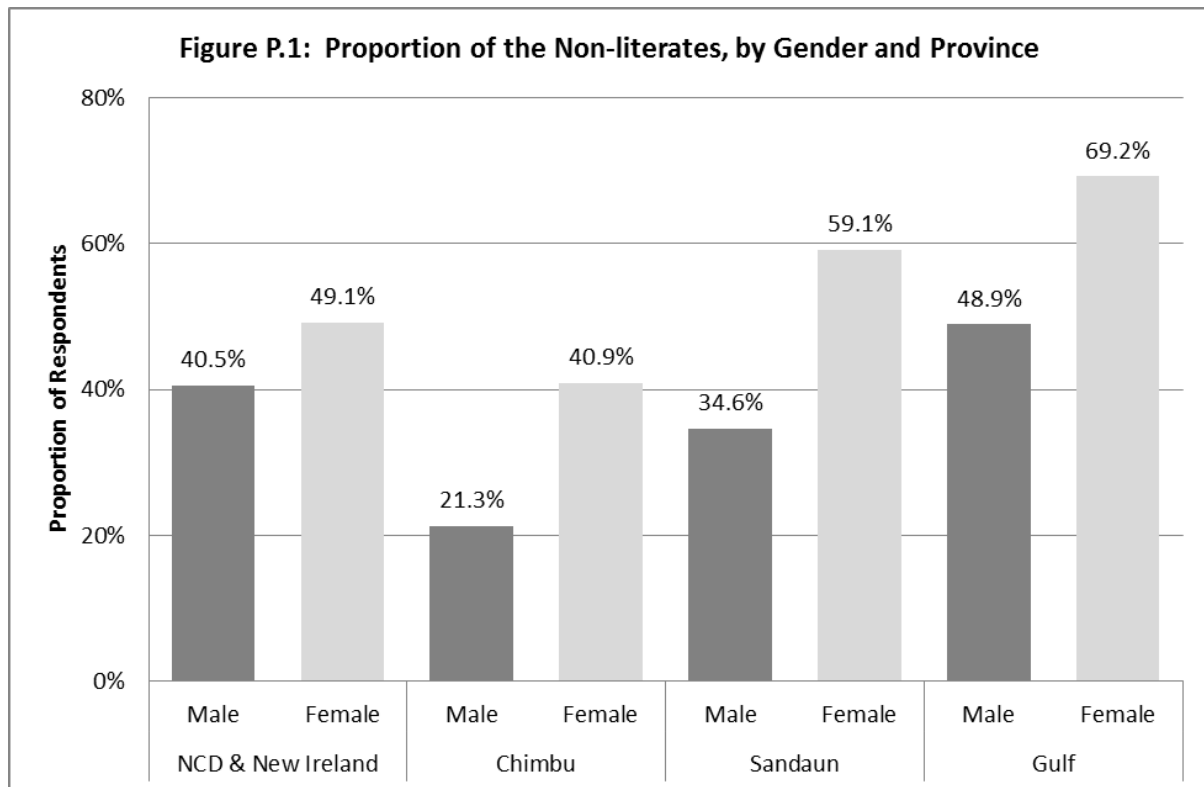
The most commonly cited reason for not attending or completing primary and secondary school was school fees. Cost factors, poor access and parental expectations to help at home or to work are other frequently listed barriers to completing primary and secondary school. While younger cohorts were more literate than older cohorts, the figures nonetheless point to an ongoing poor quality of primary and secondary education over decades in these provinces. These findings reveal that the literacy challenge facing PNG cannot be addressed simply by increasing enrolments. Significant planning needs to be undertaken and resources allocated to improve education quality to ensure that students learn, at minimum, the basic functional literacy skills.

Significant Gender Disparity

The third key finding across all 5 provinces is that females are seriously disadvantaged compared to their male counterparts in terms of accessing education and achieving basic literacy. Despite recent improvements in literacy and access to schooling, across the 5 surveyed provinces girls and women are less literate and more likely to be excluded from formal schooling.

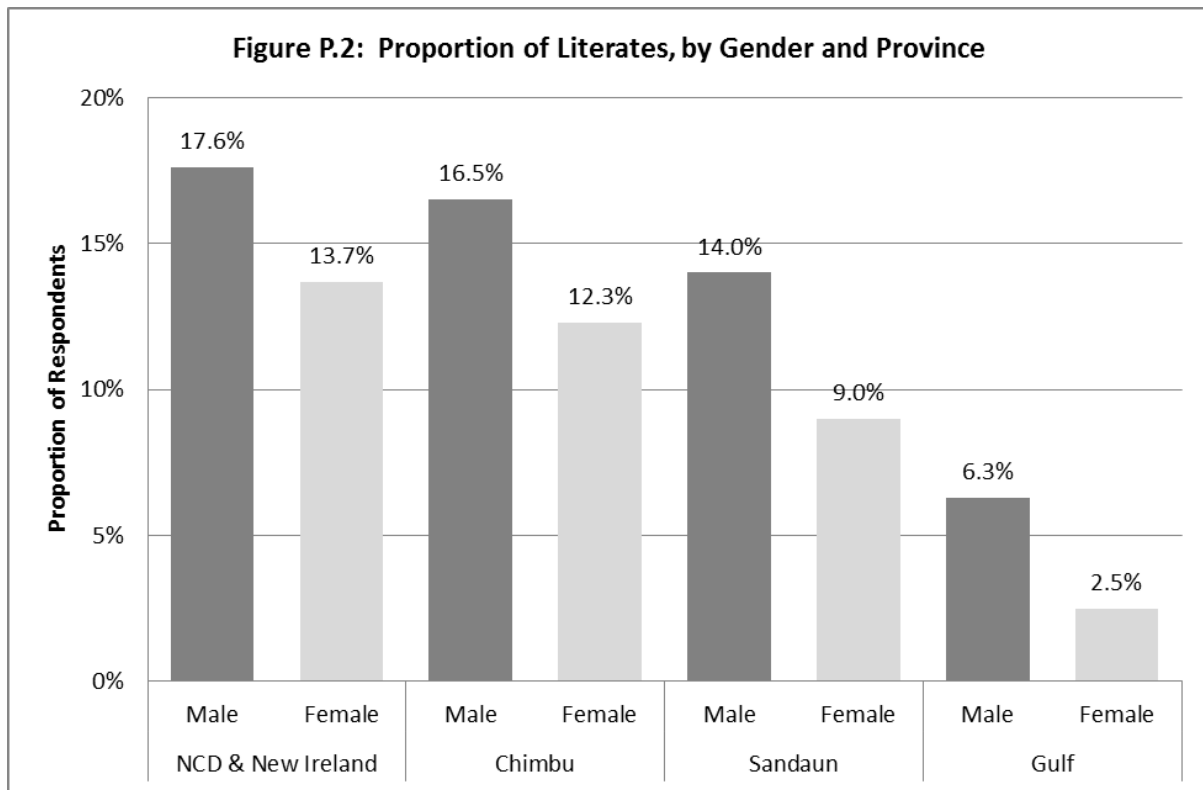
The proportion of non-literate females is higher by at least 10 percentage points compared to males across all 5 surveyed provinces as can be seen in Figure P.1. In Chimbu Province, the non-literate rate for females at 40.9% is almost double the male non-literate rate of 21.3%. In both Sandaun and Gulf provinces, the female non-literate rate is at least 20% higher than the

rate for males. The gap is smallest in NDC/New Ireland, however the female non-literate rate is still almost 10% higher than the male rate.



In addition, males are more literate than females across all 5 provinces as shown in Figure P.2. In Gulf Province, the proportion of males classified as literate (6.3%) is more than double the proportion of females classified as literate (2.5%). In the other surveyed provinces, the proportion of males classified as literate is typically 4 to 5% higher than females.





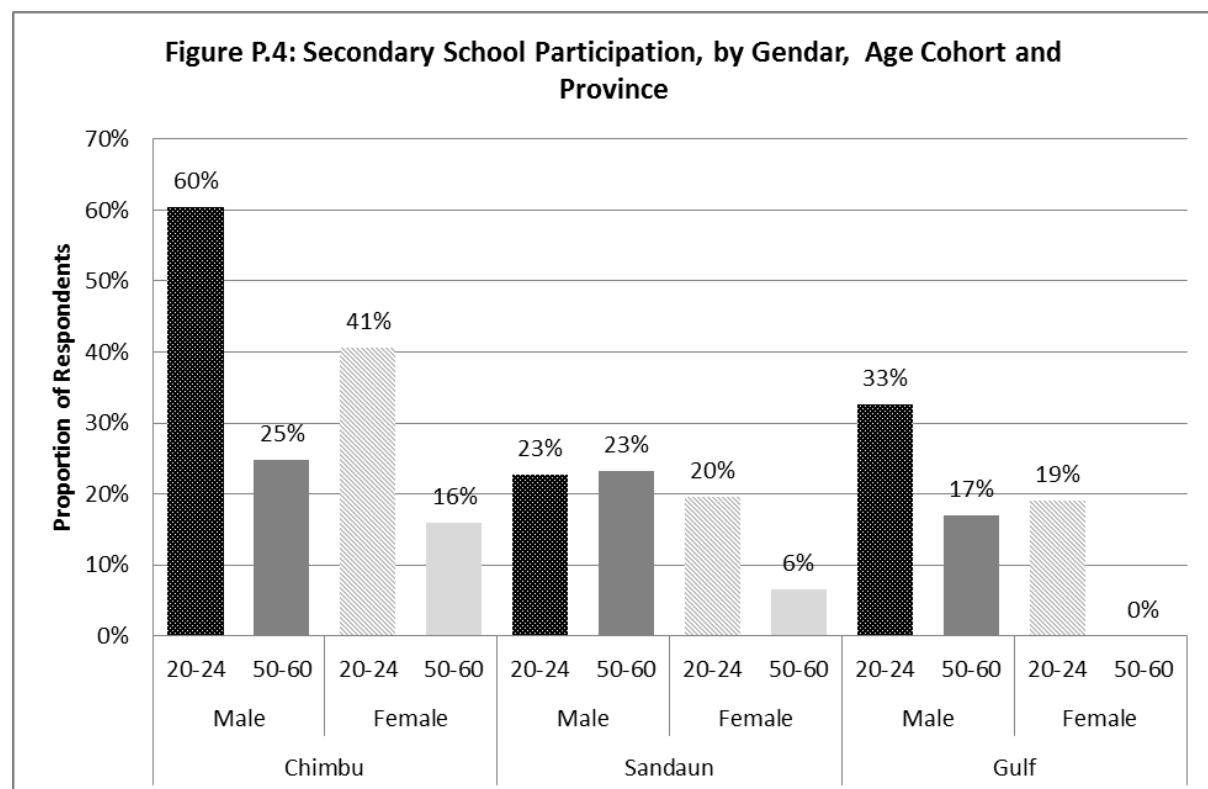
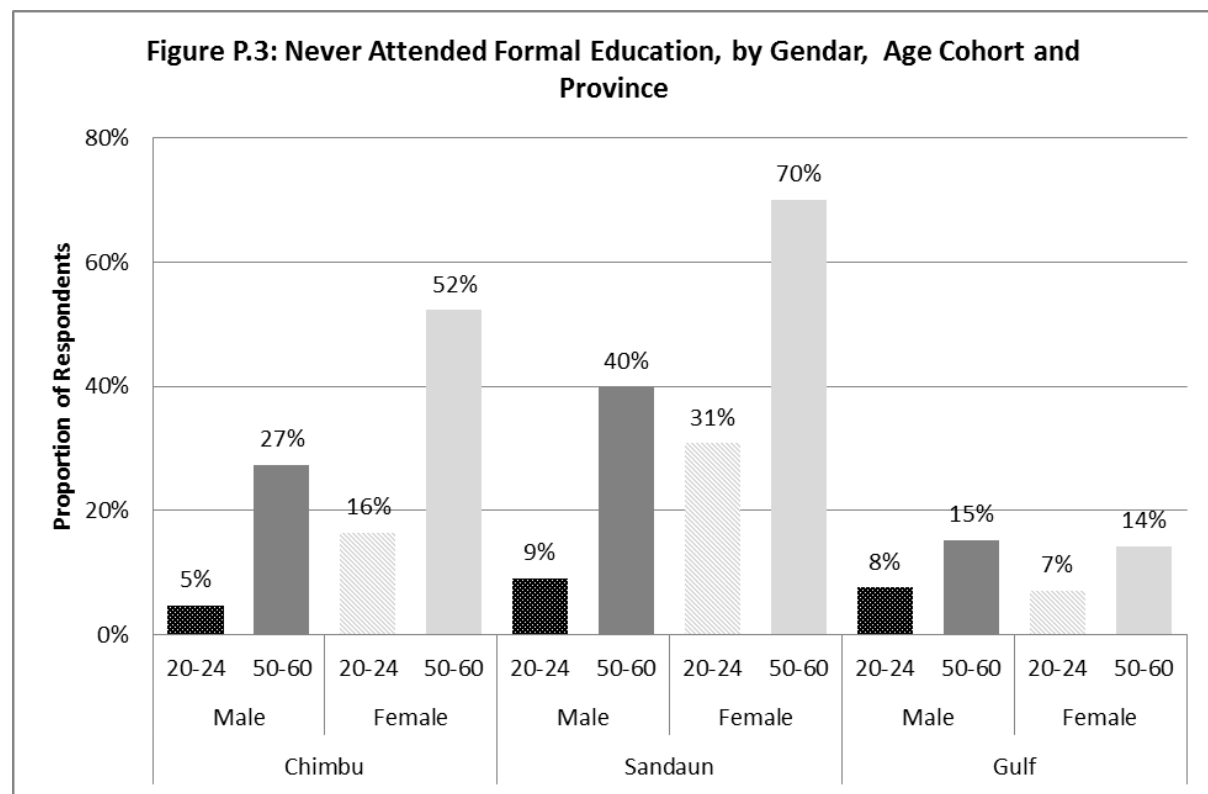
The gender disparity in relation to literacy achievement is, not surprisingly also present in relation to participation in education. Despite improvements in access to formal education, females are more likely to have never attended school than males as shown in Figure P.3. Across all three provinces it can be observed that the rate of non attendance for both males and females is lower amongst the 20-24 year old age cohort as compared the 50-60 year olds. However, despite these gains, females are still more likely to be excluded from formal schooling..

In Sandaun Province, there have been huge reductions of at least 30% in school exclusion for males (reduced from 40 to 9%) and females (70 to 31%) across the generations. However, in Sandaun there remains significant gender inequity, with the rate of exclusion for young females (31%) being over three times higher than young males (9%). A similar finding can be seen in Chimbu, with the exclusion rate for 20-24 year old females (16%) over three times higher the male rate of 5%. In Gulf Province, there is little gender disparity in terms of exclusion from formal schooling.

In addition, despite increased transition of females to secondary school, males are still more likely to participate in secondary school as shown in Figure P.4. It can be observed that significant gains have been made across generations in terms of increasing female access to secondary school. For example in Chimbu Province, only 16% of 50-60 year old females attended scndary school, but 41% of 20-24 year old females attended secondary school.

For both males and females, the younger generations were more likely to reach secondary school. However across all provinces, the rate of participation in secondary school amongst younger females is still lowever than males. For example in Gulf province, 33% of 20-24 year old males attended secondary school as compared to only 19% of females. The inequity is smallest in Sandaun Province, where the participation of younger females in secondary school is only 3% less than males. However, it is clear that females are less likely than males

to reach secondary school. For all 5 provinces, while school fees and other costs were barriers to participation for both males and females, expectations to help at home were a greater barrier for female participation at any level of education compared to males.



These three key common findings across all 5 provinces: very low literacy levels, a crisis in school education quality, and significant gender disparity, form the basis of the recommendations listed in the final section on the challenges ahead. Other noteworthy common findings relate to attitudes towards literacy and education, and language experience.

Attitudes Towards Literacy and Education

In all 5 provinces, there was almost unanimous agreement (over 96%) that it was important for all children to go to school. Reading, writing and numeracy skills were considered very useful or useful sometimes also by over 72% of respondents across the 5 provinces. Counting is considered the most useful in all five provinces.

The reason given by over 87% of respondents in the latest three provinces of Chimbu, Sandaun and Gulf for the importance of school was because it offered children the opportunity to learn to read, write and think. Other important reasons were because it enabled children to gain skills for work, to learn about the wider world and to learn about traditional culture and values.

Language Experience

Local vernacular languages and Tokpisin are the most common languages spoken at home and with friends. English or Motu were not commonly used in the home or with friends. Younger age cohorts are more confident about their literacy skills than older age cohorts.

The following sections now provide a detailed analysis for three provinces: Chimbu, Sandaun and Gulf which were undertaken between 2009-2011. The detailed earlier report on New Ireland Province and National Capital District was produced by ASPBAE and PEAN in 2007. Copies of this report can be gained by contacting ASPBAE⁵.

⁵ ASPBAE can be contacted by email (bernie.aspbae@gmail.com or louise.aspbae@gmail.com) or phone (+61 2 6241 6252).

Chimbu Province

This third section presents the results of the survey conducted in Chimbu Province in 2009. As discussed earlier, these provincial results are presented in four sections: Profile of Survey Respondents, Education Experience, Language Experience and Literacy Assessment.

Profile of Survey Respondents

Demographic Profile

In Chimbu 1615 interviews were conducted, well above the minimum sample size of 383 people. The survey was undertaken in 15 communities, above the minimum of ten villages anticipated to provide a valid sample. The villages surveyed were located in the six Chimbu districts as follows:

- Kundiawa district: Kanggiri, Gonbo and Numbru;
- Chuave district: Garden City and Siane;
- Sina Sina district: Segima, Alen Bona and Ku Primary School;
- Karamui-Nomane: Saiya, and Kalem;
- Gumine district: Keru and Genabona; and
- Kerowagi: Station, Comm / School and Kangri Range.

All respondents were between the ages of 15 and 60 years, so as to encompass both the youth and adult demographic. The sample's age profile is similar to the national profile during the 2000 census as seen below in Table C.1.

Table C.1: Survey Respondents for Chimbu Province, by Gender and Age

AGE COHORT	CHIMBU			NATIONAL CENSUS	
	Male	Female	Overall	%	%
15-19	150	177	327	20.2%	19.1%
20-24	129	128	257	15.9%	16.4%
25-29	102	117	219	13.6%	15.4%
30-39	182	197	379	23.5%	24.6%
40-49	145	127	272	16.8%	15.5%
50-60	117	44	161	10.0%	8.9 ⁶ %
Total	670	701	1615	100.0%	99.9%

Sources of Information

This section details the different sources of information accessed by respondents in the month prior to being surveyed. It is important to note that respondents could identify multiple sources of information, and so percentages refer to the proportion of the sample that used a particular source.

⁶ The most similar census age cohort 50-59 is used; hence, the figure 8.9% does not include 60 year olds.

In Chimbu Province, the main sources of information were magazines, newspapers, books and radio, with over 60% of respondents citing them as sources of information in the last month as seen in Table C.2. Less than half of the respondents in Chimbu cited television as a source of information.

Table C.2: Sources of Information in the Last Month, by Gender

SOURCE	CHIMBU		
	Male	Female	Overall
Radio	66.8%	53.7%	60.4%
Television	59.5%	37.0%	48.5%
Magazine or newspaper	75.2%	66.6%	71.0%
Book	67.1%	63.1%	65.2%

It is worth noting the gender disparity evident in the results. For all four possible sources of information, a lower proportion of females than males cited using each source in the last month. This trend could indicate that women in Chimbu are less likely to seek information or that they are less able to access information sources. It is also worth noting that literacy levels are likely to impact on ability to source information and this will be discussed further in the *Literacy Assessment* section.

Another possible source of information for respondents was through attending community meetings. As can be seen in Table C.3, 52.8% of respondents had not attended a meeting in the last month. Only 10.2% of respondents attended community meetings more than four times in the last month.

Table C.3: Attendance at a Community Meeting in the Last Month

CHIMBU			
None	Once	2 – 4 times	More than 4 times
52.8%	17.6%	19.4%	10.2%

Attitudes to Literacy

As can be seen below in Table C.4 the overwhelming majority of respondents in Chimbu (almost 90%) believed reading and writing to be very useful or sometimes useful skills in everyday life. Counting was considered an even more useful skill, with only 1.9% of respondents declaring it was not useful.

Table C.4: Usefulness of Literacy Skills in Everyday Life

DECLARED LEVEL OF USEFULNESS	CHIMBU		
	Reading	Writing	Counting
Very useful	73.3%	68.6%	82.7%
Useful sometimes	16.7%	19.8%	15.4%
Not useful	10.1%	11.7%	1.9%
Total	100.1%	100.1%	100.0%

Attitudes to Education

There was near universal support for the proposition that it is very important for all children to go to school, as shown in Table C.5. Less than 1% of respondents stated that it is not important for children to go to school.

Table C.5: How Important is it for Children to go to School

CHIMBU			
Very important for all	Important for some	Not important	Overall
97.6%	2.4%	0.1%	100.1%



Those respondents who declared that school was important for all or some children were then asked an additional question to ascertain why it is important for children to go to school. As shown below in Table C.6, school was seen by over 95% of respondents as important for learning to read, write and think, for skills for work and to learn about the country and the world. Slightly less (88.9%) respondents cited traditional practices as a reason for children to go to school. As can be seen below, there is little difference between responses by males and females.

Table C.6: Importance of School, by Gender

IMPORTANCE OF SCHOOL	CHIMBU		Overall
	Male	Female	
Read, write & think	97.5%	98.6%	98.0%
Traditional culture and values	87.2%	90.6%	88.9%
Skills for work	97.1%	97.4%	97.2%
About country and world	95.0%	95.0%	95.0%

Income

In Chimbu Province, only 8% of respondents declared earning an income higher than K6,000 per annum, as shown in Table C.7. The gender-disaggregated results show that more women earn less than K6,000, and a higher proportion of males (9.7%) than females (6.2%) earn greater than K6,000 per annum, with only 2.3% of males and 1.1% of females earning above K21,000 per annum.

Table C.7: Estimated Annual Income, by Gender

ANNUAL INCOME	CHIMBU		
	Male	Female	Overall
K0 - 5,000	89.9%	92.7%	91.3%
K6,000 – 10,000	5.0%	3.3%	4.2%
K11,000 – 20,000	2.4%	1.8%	2.1%
K21,000 +	2.3%	1.1%	1.7%
Not declared	0.4%	1.1%	0.7%
Total	100.0%	100.0%	100.0%

Educational Experience

Education Attendance

Youth were asked if they were currently attending school. Note this should not be confused with school completion. Attendance might be very brief or intermittent. Not surprisingly, as can be seen in Table C.8, participation in schooling at the time of the survey was higher amongst the 15 to 19 year old age cohort compared to the 20 to 24 cohort, with 63.2% and 40.0% respectively declaring that they were currently attending school. In the older age cohort, males were almost twice as likely as females to be attending school. Further research is needed to understand the reasons for the significant over-age attendance at school; to what extent it is due to late starting, intermittent access and repetition of years.

Table C.8: Currently Attending School for Youth, by Gender

AGE COHORT	CHIMBU		
	Male	Female	Overall
15-19	62.2%	64.1%	63.2%
20-24	50.0%	27.3%	40.0%

All respondents, aged 15 to 60 years, were then asked a series of questions about their past education attendance. In Table C.9 below we see that most respondents had attended primary or secondary school; although 17.2% had never attended school and only 33.0% had attended secondary school. Gender disparities are evident with a worrying 23.6% of female respondents having never attended formal schooling at all compared to 11.2% for males. Only 26.9% of females reached secondary school or higher, highlighting the poor transition rate from primary to secondary school.

Table C.9: Highest Level of Education Attended, by Gender

DECLARED HIGHEST LEVEL ATTENDED	CHIMBU		
	Male	Female	Overall
Never attended	11.2%	23.6%	17.2%
Primary	49.9%	49.6%	49.7%
Secondary	24.3%	18.1%	21.2%
Tertiary	14.7%	8.8%	11.8%
Total	100.1%	99.9%	99.9%

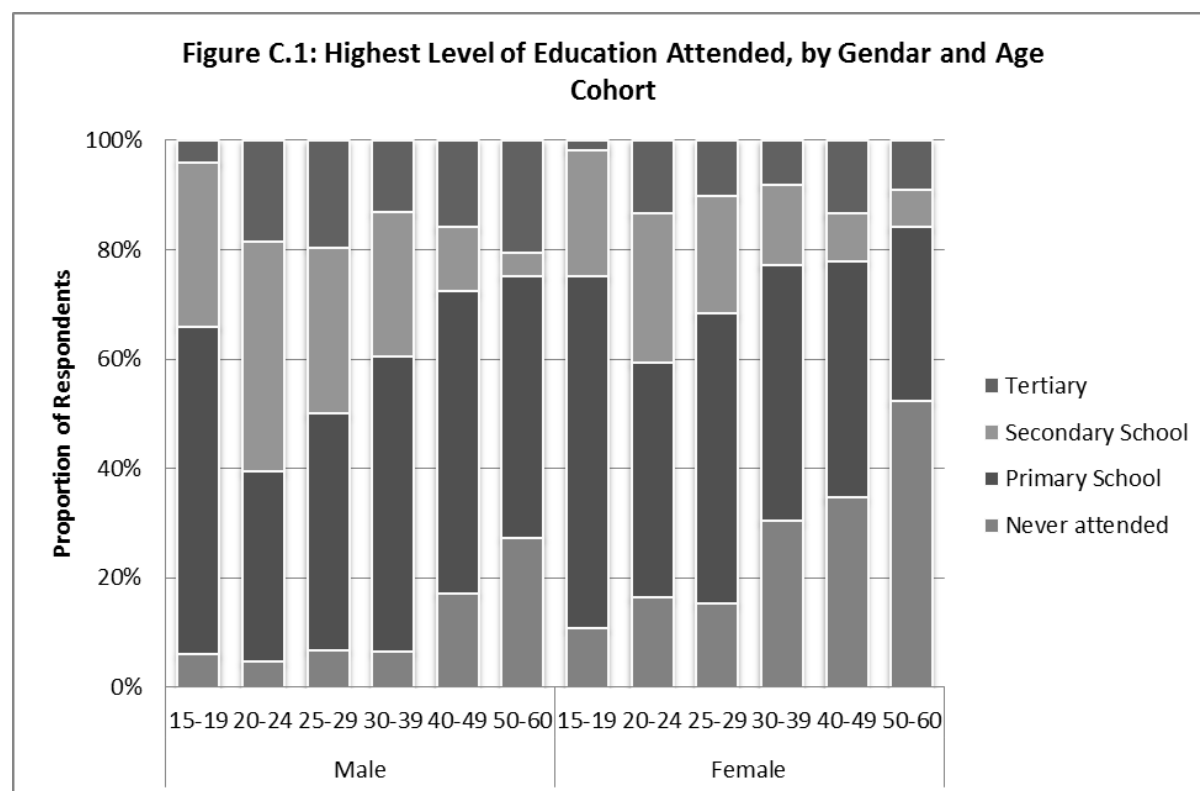


The results for the highest level of schooling attended are further disaggregated by age cohort, as shown in Table C.10 below. It is pleasing to note that participation in formal schooling is significantly higher amongst younger cohorts, with 91.5% of 15-19 years olds attending some schooling as compared to only 65.0% of 50-60 year olds. While participation in secondary schooling has shown fairly consistent growth, there is a noticeable dip in the number of 15-19 year olds compared to the 20-24 year olds that attended secondary school. It is of serious concern that 71.0% of the 15-19 year olds never reach secondary school. Another cause for concern is the almost unchanged participation in tertiary studies, with in fact the highest proportion of tertiary attendees (17.2%) amongst 50-60 year olds.

Table C.10: Highest Level of Education Attended, by Age

DECLARED HIGHEST LEVEL ATTENDED	CHIMBU						Overall
	15-19	20-24	25-29	30-39	40-49	50-60	
Never attended	8.5%	10.5%	11.4%	19.0%	25.6%	35.0%	17.2%
Primary	62.5%	38.9%	48.6%	50.1%	49.5%	42.9%	49.7%
Secondary	26.2%	34.6%	25.5%	20.3%	10.3%	4.9%	21.2%
Tertiary	2.7%	16.0%	14.5%	10.6%	14.7%	17.2%	11.8%
Total	99.9%	100.0%	100.0%	100.0%	100.1%	100.0%	99.9%

The results are further disaggregated to permit analysis of trends relating to different age cohorts amongst males and females separately. As shown in figure C.1, with regard to females, the positive trend towards greater participation in primary school amongst younger cohorts can be easily observed. There has also been an improved proportion of females transitioning to secondary school, but female participation at tertiary level is still lower than males across all age cohorts.



With regard to males' schooling experience, the proportion of males who had never attended school decreased over time and the non-enrolment rate was less than 7% for the youngest four cohorts. The proportion of adult male respondents who had reached secondary schooling grew, but amongst the 15-19 year olds only 34.0% had reached secondary school as compared to 60.5% of 20-24 year olds. This could be due to over-age enrolment, but may also be due to lower transition rates from primary school in recent years.

Primary and Secondary School

For those respondents who did not complete or enrol in primary or secondary school, cost factors, parental expectations and poor access were the most common reasons cited, as shown in Table C.11. Almost 40% of the respondents noted the absence of a school in their village as a reason they did not complete or enrol in primary or secondary school. The most commonly cited reason was school fees (62.7%), but other costs such as transport was a reason for 37.8% of respondents who had dropped out or never enrolled. Finally, many respondents cited parental expectations to assist at home (47.1%) or take up employment (40.6%) as reasons.

The gender-disaggregated results show that some factors are gender related, while others such as school resourcing, safety, disinterest and lack of infrastructure such as toilets are

gender-neutral reasons. More females cite the reason of domestic responsibilities, whereas more males don't go due to expectations of seeking work and cost factors. The results in Table C.11 highlight the complexity of school participation and reaffirm the notion that any interventions that aim to address low enrolments and poor transition must be holistic and extend beyond supply side only solutions, such as building new class rooms.

Table C.11: Reasons for Primary and Secondary School Non-Completion, by Gender

DECLARED REASON(S)	CHIMBU		
	Male	Female	Overall
No school in village	39.2%	36.4%	37.8%
School fees	65.9%	59.2%	62.7%
Other costs	39.2%	32.5%	35.9%
Not safe	29.2%	28.8%	29.0%
Not enough desks, books	27.2%	25.7%	26.5%
No toilet	24.1%	26.3%	25.1%
Not interested	27.9%	28.7%	28.3%
Parent want help at home	39.2%	55.3%	47.1%
Parent want me to work	43.4%	37.7%	40.6%
Other reasons	1.2%	0.7%	0.9%

Tertiary Education Experience

As discussed earlier only 11.8% of respondents in Chimbu declared they had attended university level education, with a significantly more males than females across most age cohorts. Attendance at the tertiary level does not imply completion. Cost factors were commonly cited by respondents as reasons for not participating in tertiary education. Most respondents felt that there were suitable courses available, but 66.8% of those who attended secondary school were ineligible to participate due to the entry criteria being too high. Parental expectations were also cited as a barrier to participation, with 53.1% of females citing domestic responsibilities and almost half of all respondents citing an expectation to work as a barrier to university participation.

Table C.12: Barriers to Attending and Completing University, by Gender

DECLARED REASON(S)	CHIMBU		
	Male	Female	Overall
University fees	72.4%	72.5%	72.5%
Other costs	61.2%	61.9%	61.6%
Not enough places	46.8%	51.7%	49.1%
Entry criteria too high	65.6%	68.1%	66.8%
No courses	21.5%	17.2%	19.5%
Parent want help at home	40.0%	53.1%	46.1%
Parent want me to work	49.5%	44.4%	47.1%

Community Education Programs

All respondents not currently attending primary or secondary school were asked if they had attended a training or education program run by a community organisation in the past three years.

Table C.13: Participation in Community Education in Last 3 Years

CHIMBU			
None	Once	2 – 4 times	More than 4 times
70.6%	11.0%	11.4%	7.0%

In Chimbu Province, 70% of respondents had not participated in community education in the last three years. For the 30% that had participated in community education, the course was typically undertaken on a part-time basis (60.8%) as shown in Table C.14. Part-time courses were usually short in duration, with only 4.4% having undertaken a course that lasted more than a year. Just under a quarter (39.2%) participated in community education programs on a full-time basis.

Table C.14: Length of Longest Community Education Undertaken

CHIMBU							
PART –TIME				FULL –TIME			
Less than 2 weeks	Less than 3 months	Less than a year	More than a year	Less than 2 weeks	Less than 3 months	Less than a year	More than a year
38.4%	11.0%	7.0%	4.4%	12.9%	6.4%	7.0%	12.9%

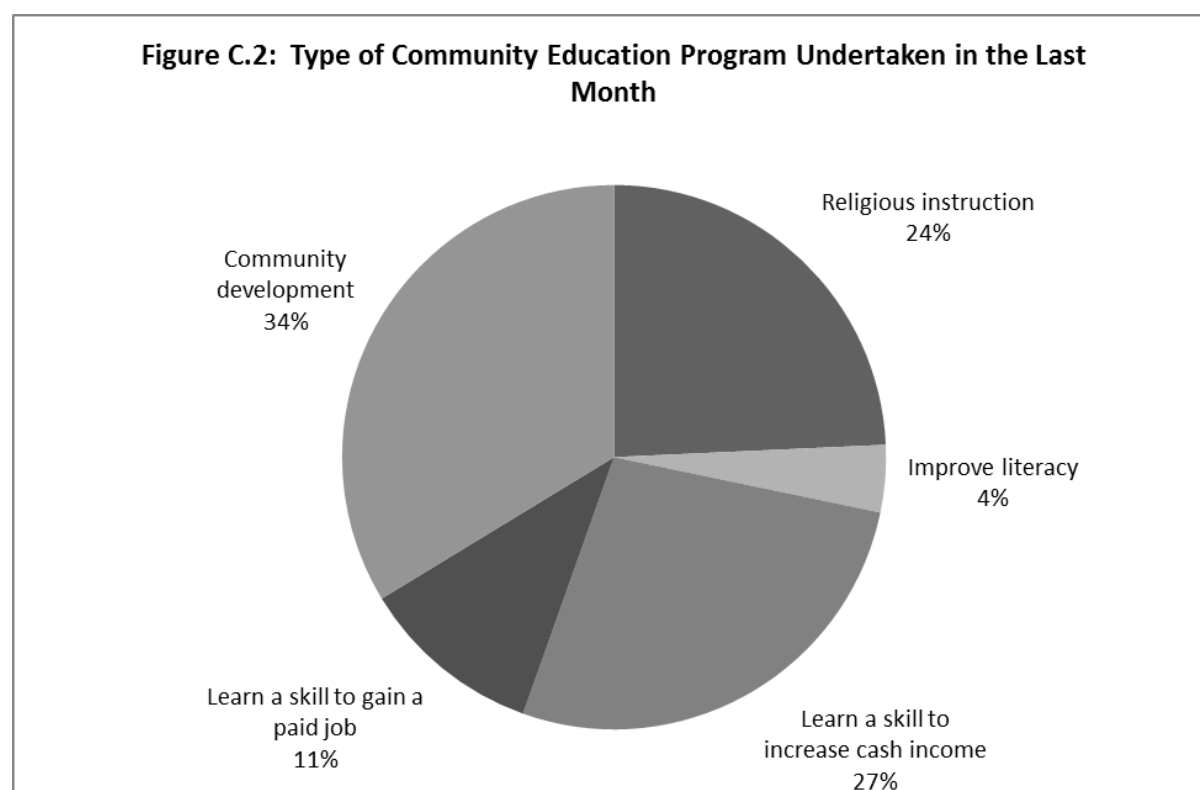
As with other education levels, cost factors and parental expectations were barriers to completing and not attending community education courses, as shown in Table C.15. The most significant barrier to participation cited by 68% of both men and women was that community providers did not offer suitable training opportunities. It is worth noting that 29.5% of respondents felt that there was lack of places, but also prominent as a barrier to participation was courses were considered uninteresting or inappropriate.

Table C.15: Barriers to Attending and Completing Community Courses, by Gender

DECLARED REASON(S)	CHIMBU		
	Male	Female	Overall
No suitable training	68.5%	68.1%	68.3%
Fees	38.8%	37.4%	38.1%
Other costs	34.1%	33.1%	33.6%
Not enough places	29.4%	29.6%	29.5%
Courses not interesting	27.5%	31.4%	29.5%
Parent want help at home	42.8%	56.3%	49.5%
Parent want me to work	39.8%	34.8%	37.3%

The types of courses undertaken are summarised in the Figure C.2, with community development programs focusing on health, human rights and environment the most popular courses. Almost a quarter of respondents had undertaken a religious course, with work and

income related courses also commonly taken. Despite low school completion rates only 4% had undertaken community education programs to improve literacy.



Education and Income

This section briefly analyses the relationship between the highest level of schooling and the respondent's annual income. The overwhelming majority (91.3%) of respondents estimated their income to be K5,000 or less. Amongst respondents who had never attended school there is an over-representation of respondents from the lowest income bracket, as shown in Table C.16. Conversely, amongst respondents who attended tertiary studies, there is underrepresentation (65.6%) from the lowest income bracket (compared to overall of 91.3%) and an overrepresentation from higher income brackets.

Table C.16: Highest Level of Education Attended and Estimated Annual Income (K)

DECLARED HIGHEST LEVEL ATTENDED	CHIMBU				Not declared	Overall
	0 - 5,000	6,000 – 10,000	11,000 – 20,000	21,000 +		
Never attended	95.1%	2.5%	0.0%	0.4%	2.1%	17.2%
Primary	96.2%	2.6%	0.4%	0.5%	0.4%	49.7%
Secondary	91.0%	5.2%	1.4%	1.7%	0.6%	21.2%
Tertiary	65.6%	11.5%	13.5%	8.9%	0.5%	11.8%
Overall	91.3%	4.2%	2.1%	1.7%	0.7%	-

Language Experience

The following section provides analysis of findings relating to language usage patterns and literacy confidence.

Oral Communication

It is common for Papua New Guineans to have oral fluency in multiple languages. The tables in this section detail language usage at home and amongst friends.

In Chimbu Province, about 90% of respondents answered that they speak Tokples (local vernacular language) and Tokpisin at home, as shown in Table C.17. English was spoken at home by 21.9% of respondents, and only 0.3% respondents declared using Motu in their home. According to respondents, it was unusual for other languages, including non-PNG languages, to be spoken in the home. Similar findings can also be observed for all language groups with regard to the languages spoken with friends, with the use of Tokpisin being slightly higher than Tokples.

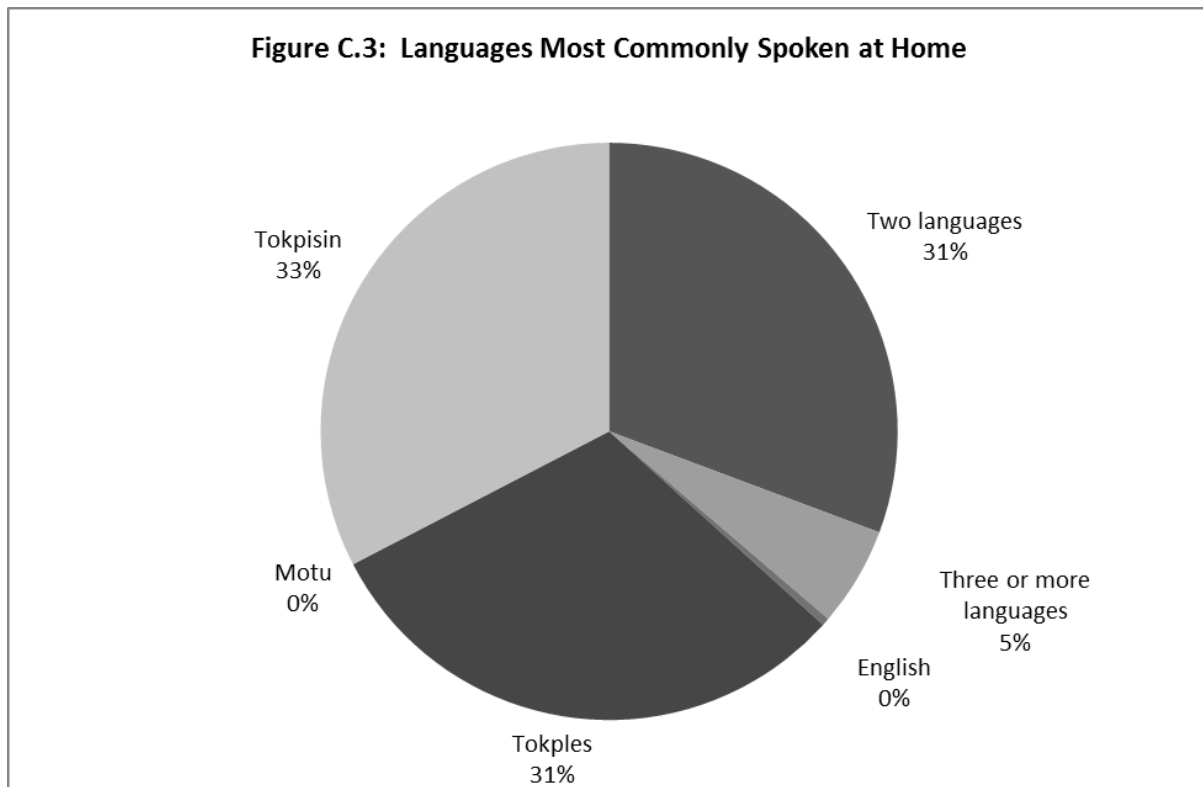
Table C.17: Language Spoken at Home and with Friends

LANGUAGE(S)	CHIMBU	
	Home	Friends
Tokples	89.4%	82.9%
Tokpisin	94.8%	94.4%
Motu	0.3%	0.3%
English	21.9%	23.5%
Other	5.7%	5.5%

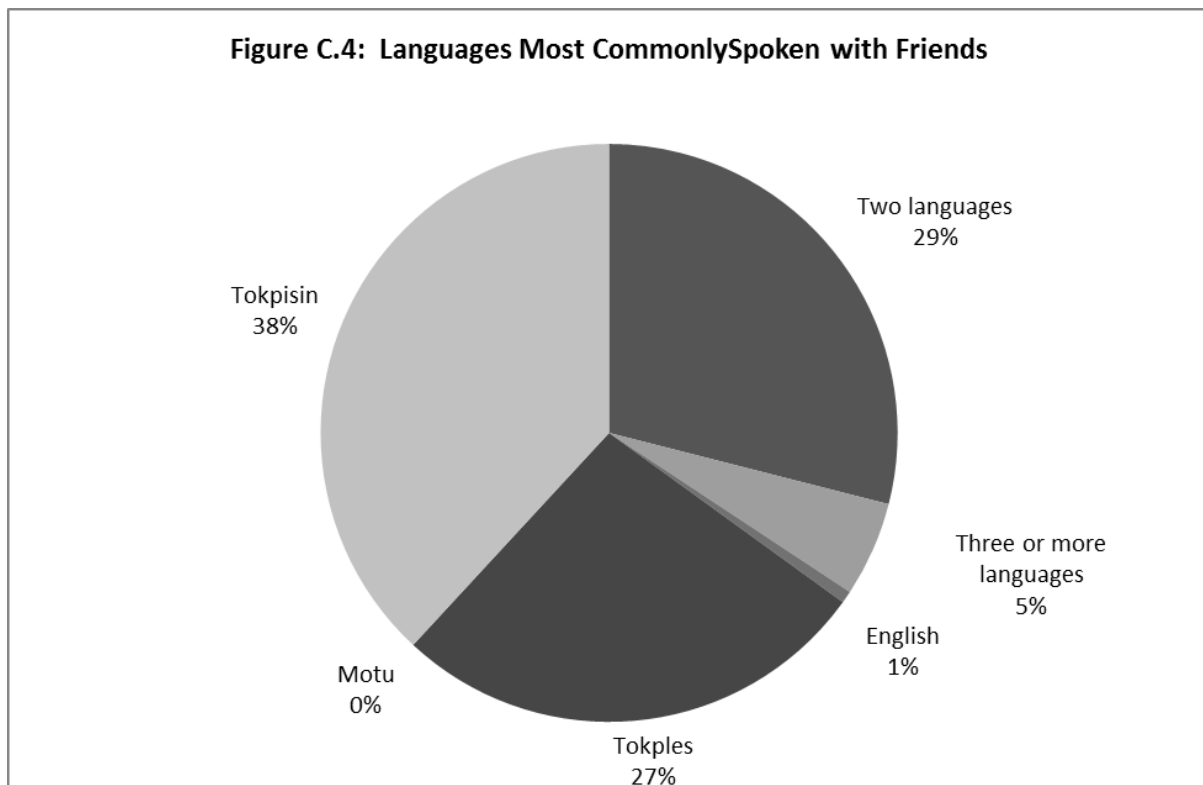


In Chimbu Province 31% of respondents declared they commonly used two languages with equal frequency to communicate within the home, as shown in Figure C.3. The majority of the remaining respondents cited the most common language used to communicate at home as

either Tokples or Tokpisin. Only seven respondents declared that English was the language most commonly spoken at home, less than 0.1% of those surveyed.



A similar finding can be observed with regard to the most common language for communicating with friends, as shown in Figure C.4. Not surprisingly Tokpisin is more commonly used with friends than family.



Written Communication

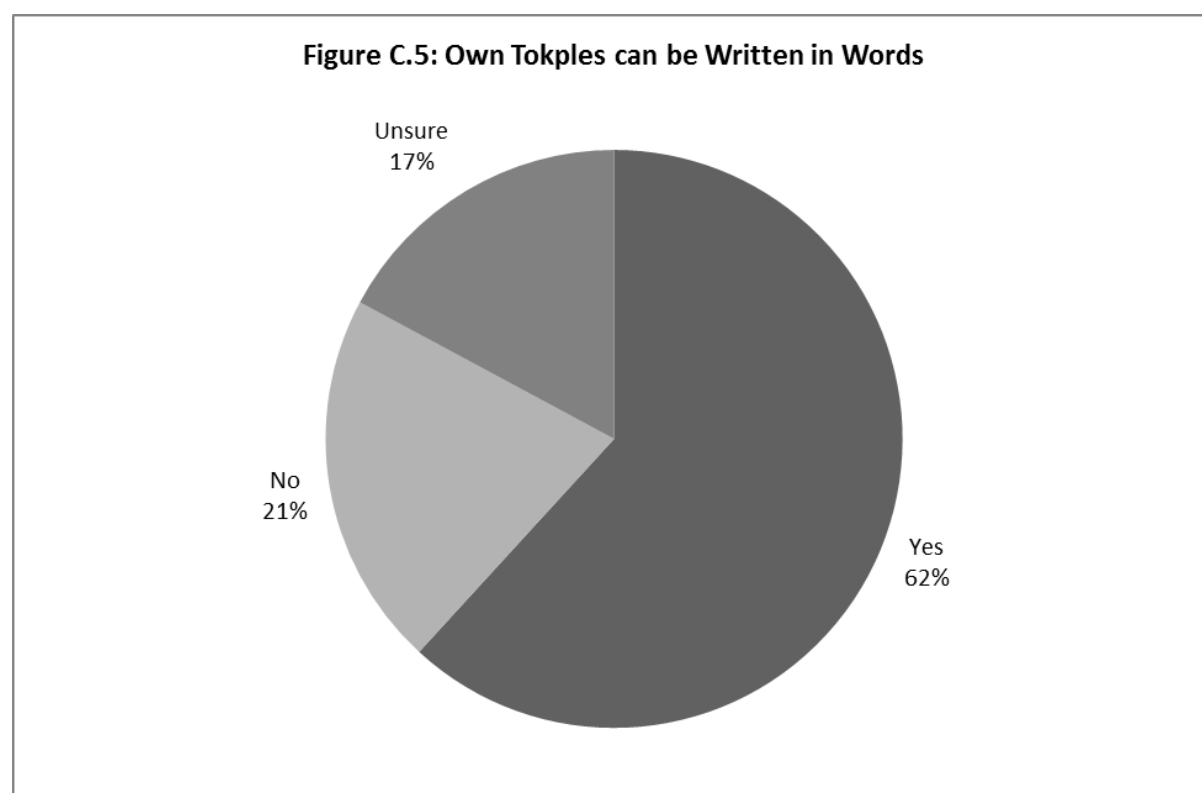
The official literacy statistics in PNG are based on data collected as part of the National Population Census, with a literacy rate of 52.0% reported from the 2000 census⁷. The survey in Chimbu also included a self-declaration question. As can be seen in Table C.18 a massive 95% of respondents declared they could read and write with understanding in Tokpisin while 68.3% stated they could read and write with understanding in English and 47.2% in their Tokples, while only 0.7% declared written understanding of Motu.

Table C.18: Languages that Respondents can Read and Write with Understanding

CHIMBU			
Tokpisin	English	Motu	Tokples
95.0%	68.3%	0.7%	47.2%

Tokples

The following section details respondents' access and confidence using the written form of their local vernacular language. As can be seen in Figure C.5, 62% of the respondents declared their Tokples can be written in words, while 21% declared their Tokples was exclusively oral.



In Chimbu, the majority of those who stated their Tokples could be written in words were confident in their ability to read the written form of their vernacular. As seen in Table C.19, 28.7% said they could not read their Tokples. Further, females were less confident in their ability to read their Tokples, with 37.6% declaring they could not read their vernacular.

⁷ See www.nso.gov.pg for 2000 Census results

Given that the literacy assessment in this survey only assesses Tokpisin, English and Motu, there needs to be further investigation into literacy levels within the vernacular in Chimbu.

Table C.19: Reading Confidence in Tokples, by Gender

DECLARED CONFIDENCE	CHIMBU		
	Male	Female	Overall
Read easily	46.7%	32.2%	40.1%
Read some	31.9%	30.2%	31.1%
Cannot read	21.4%	37.6%	28.7%
Total	100.0%	100.0%	99.9%

Tokpisin, English and Motu

As with previous surveys conducted in PNG, the literacy assessment component was carried out with respondents who declared they could read in Tokpisin, English or Motu. During the survey, individuals were first asked their preferred language that they could read and then their level of confidence in that language. As can be seen in Table C.20, the majority of respondents preferred Tokpisin, with 20.7% preferring English and only 0.1% respondents preferring Motu. In Chimbu, 16.6% of respondents stated that they did not use Tokpisin, English or Motu.

Table C.20: Preferred Official Language

CHIMBU				
Tokpisin	English	Motu	None	Total
62.6%	20.7%	0.1%	16.6%	100.0%

Individuals were then asked about their reading confidence in Tokpisin, English or Motu as shown in Table C.21. In Chimbu Province, the majority of respondents declared that they could read, with 11.3% declaring they could not read any of the three languages. Moreover despite first declaring they could read an official language, 11.3% of respondents changed their opinion upon further questioning about their confidence. More than twice as many females as males declared they could not read in Tokpisin, English or Motu.

Table C.21: Reading Confidence in Tokpisin, Motu or English, by Gender

DECLARED CONFIDENCE	CHIMBU		
	Male	Female	Overall
Read easily	79.4%	70.0%	75.1%
Read some	13.5%	13.6%	13.6%
Cannot read	7.0%	16.4%	11.3%
Total	99.9%	100.0%	100.0%



Analysing confidence in reading by age cohort, it can be seen in Table C.22 that older respondents in Chimbu displayed less confidence in their ability to read, with 23.1% declaring they could not read and 65.8% declaring they could read easily. Respondents between 15 to 29 years of age – the three youngest cohorts - were the most confident in their reading ability, with over 90% in each cohort declaring they could read easily or read some. One issue worth exploring is the extent to which poor eyesight might be a factor in reading levels, especially with older people.

Table C.22: Reading Confidence in Tokpisin, Motu or English, by Age

AGE COHORT	CHIMBU						Overall
	15-19	20-24	25-29	30-39	40-49	50-60	
Read easily	78.8%	80.7%	77.4%	72.1%	70.6%	65.8%	75.0%
Read some	15.5%	11.7%	15.8%	12.1%	14.9%	11.1%	13.7%
Cannot read	5.7%	7.6%	6.8%	15.7%	14.4%	23.1%	11.3%
Total	100.0%	100.0%	100.0%	99.9%	99.9%	100.0%	100.0%

Literacy Assessment

The individual literacy assessment enabled literacy rates to be calculated on the basis of demonstrated ability rather than self-declaration. It should be emphasised that the threshold for determining literacy was not set very high, as can be seen by reviewing the sample questions in Appendix A. As detailed in Appendix C, to be classified as literate the respondent needed to answer all eleven questions correctly. To be classified as semi-literate, the respondent needed to be able to correctly answer a question from each of the reading, writing, numeracy and application questions. Only those participants who declared that they could read at least one of Tokples, English or Motu participated in the literacy assessment. Respondents who declared themselves unable to read were automatically classified as ‘non-literate’ as per the methodology used in previous surveys.

Literacy Rates

The results of the literacy assessment are summarised in Table C.23 and reveal a significant gap between self-declaration and demonstrated ability. It is of great concern to find that in Chimbu Province, only 14.5% of respondents were classified as literate, while 54.6% were classified as semi-literate. This is significantly less than the 88.7% confidence level of respondents that they could read Tokpisin, English or Motu. This clearly highlights the inaccuracy of self-declaration as a measure of literacy.

Table C.23: Literacy Classification, by Gender

GENDER	CHIMBU		
	Non-literate	Semi-literate	Literate
Male	21.3%	62.1%	16.5%
Female	40.9%	46.8%	12.3%
Overall	30.9%	54.6%	14.5%

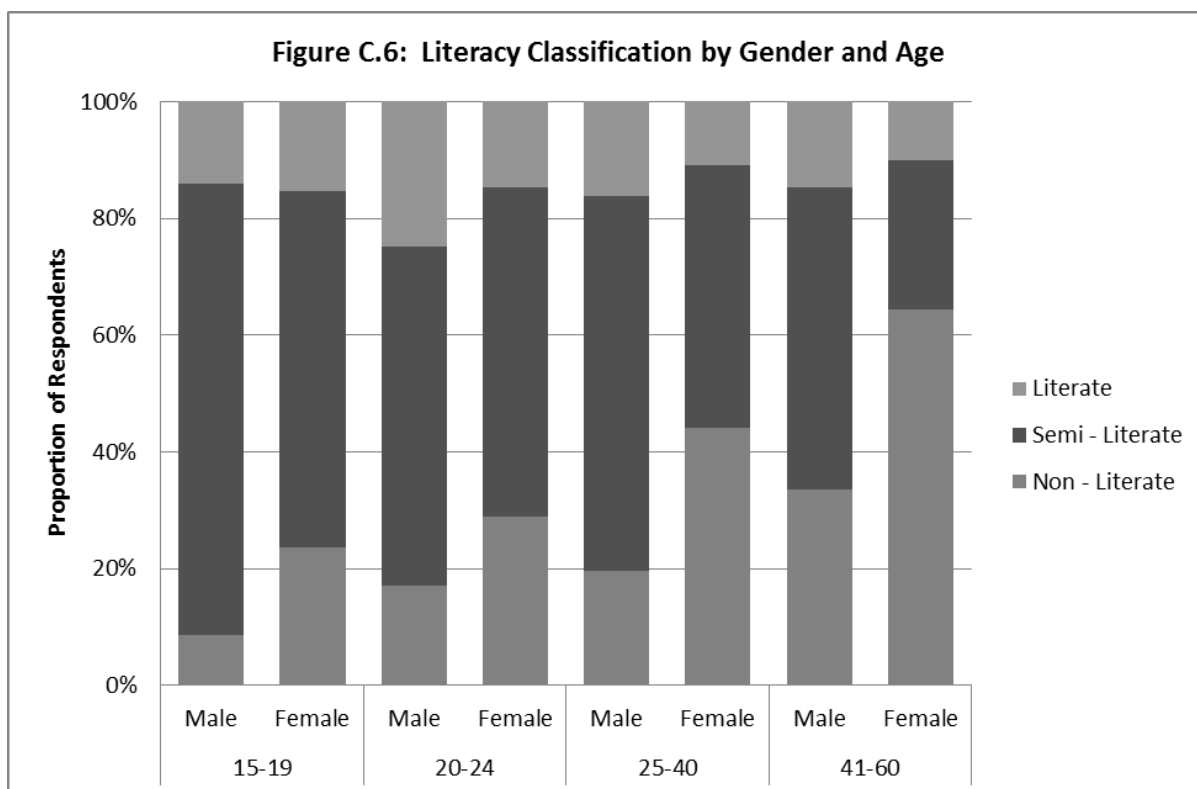
The results call into question the respondents' understanding of literacy. As noted in the respondent profile section on sources of information, the majority of respondents in Chimbu declared that books, magazines and newspapers were an important source of information, but in Table C.23, most were either non-literate or only semi-literate. This has significant implications for communication within and to these provinces, and the popularity of radio as a source of information identified in Table C.2 becomes more understandable.

The literacy assessment also reveals a serious gap in literacy between males and females in Chimbu. Almost twice as many females (40.9%) were classified as non-literate compared to 21.3% of males. Fewer females were literate with 12.3% classified as literate compared to 16.5% of males. The gender gap in the semi-literate category is 15% in favour of males.

In Chimbu Province, the literacy rate is lower in the older age cohorts with 89.0% of respondents over fifty being either semi or non-literate, as shown in Table C.24. The three youngest cohorts had the highest percentages of those assessed as literate although these levels are massively below (over 70 percentage points lower) than the self-declared literacy rate of over 90%, again emphasizing the unreliability of the census methodology.

Table C.24: Literacy Classification, by Age

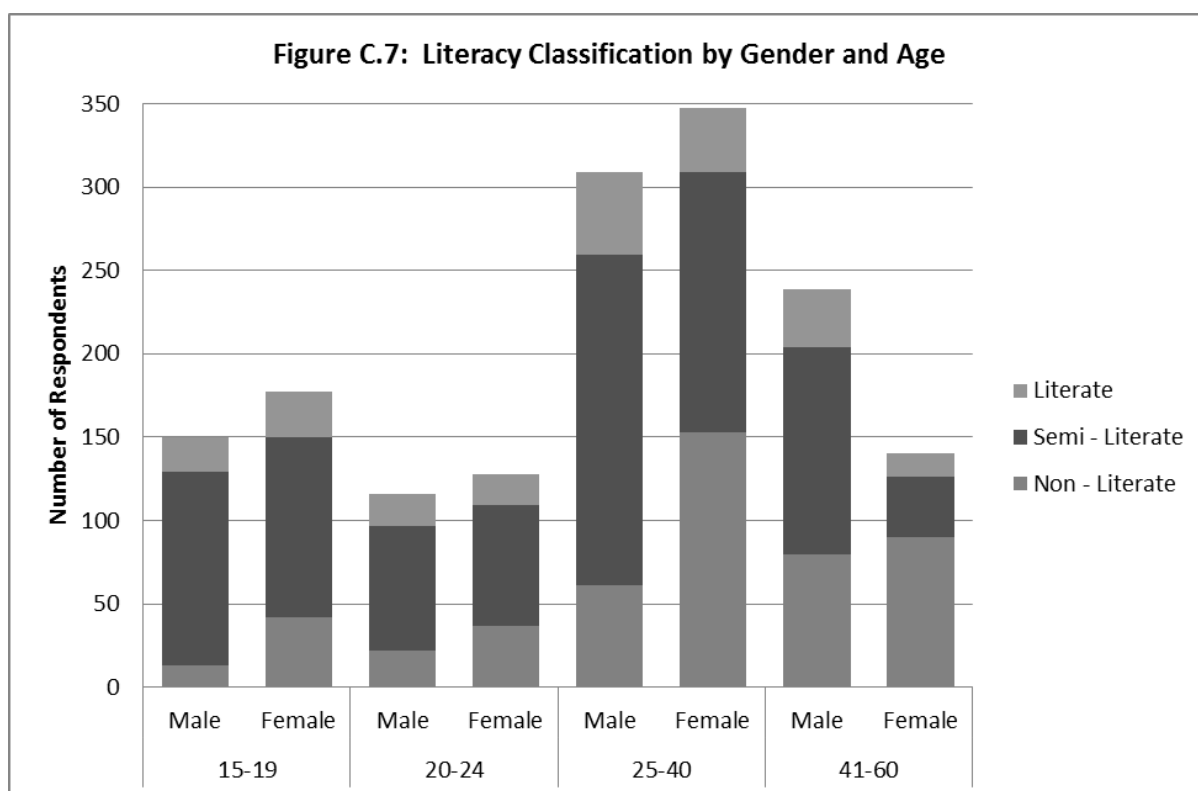
AGE COHORT	CHIMBU		
	Non-literate	Semi-literate	Literate
15-19	16.5%	68.5%	15.0%
20-24	23.0%	57.2%	19.8%
25-29	25.0%	57.7%	17.3%
30-39	36.4%	52.8%	10.8%
40-49	41.0%	45.1%	13.9%
50-60	50.3%	38.7%	11.0%
Overall	30.9%	54.6%	14.5%



As can be seen in Figure C.6 and Table C.25, the findings observed hold true and are in fact magnified for older females (41-60), with 64.30% of the oldest cohort being non-literate. Also noteworthy is the high proportion of males classified as semi-literate.

Table C.25: Literacy Classification, by Gender and Age

AGE COHORT	CHIMBU					
	Male			Female		
	Non-literate	Semi-literate	Literate	Non-literate	Semi-literate	Literate
15-19	8.7%	77.3%	14.0%	23.3%	61.4%	15.3%
20-24	17.1%	58.1%	24.8%	28.9%	56.3%	14.8%
25-29	15.7%	62.7%	21.6%	33.3%	53.0%	13.7%
30-39	21.4%	65.4%	13.2%	50.3%	41.1	8.6%
40-49	29.0%	55.9%	15.2%	54.3%	33.1%	12.6%
50-60	37.6%	49.6%	12.8%	81.8%	11.4%	6.8%
Overall	21.3%	62.1%	16.5%	40.9%	46.8%	12.3%



Literacy and reading confidence

The inadequacy of self-declaration to accurately capture literacy levels is clearly demonstrated by the results in Chimbu, shown in Table C.26. For example, the vast majority of those who declared they could easily read Tokpisin, English or Motu were assessed as semi-literate and only 22.7% respondents classified as literate. Some (3.8%) were even found to be non-literate. Clearly there is significant mismatch between respondents' declared ability and their actual ability.

Table C.26: Literacy Classification and Reading Confidence

DECLARED CONFIDENCE	CHIMBU		
	Non-literate	Semi-literate	Literate
Read easily	3.8%	73.6%	22.7%
Read some	16.5%	79.1%	4.4%
Cannot read	100.0%	0.0%	0.0%

Literacy and Education Experience

Analysis of literacy levels for those respondents who were attending primary or secondary school shows that there is a crisis in school education quality. As shown in Table C.27, in Chimbu only 24.2% of those surveyed that were currently enrolled in school were classified as literate while 73.6% were classified as merely semi-literate. This is a very poor outcome and indicates that literacy is by no means assured for those who attend formal schooling.

Table C.27: Literacy Classification for Youth Currently Attending School, by Gender

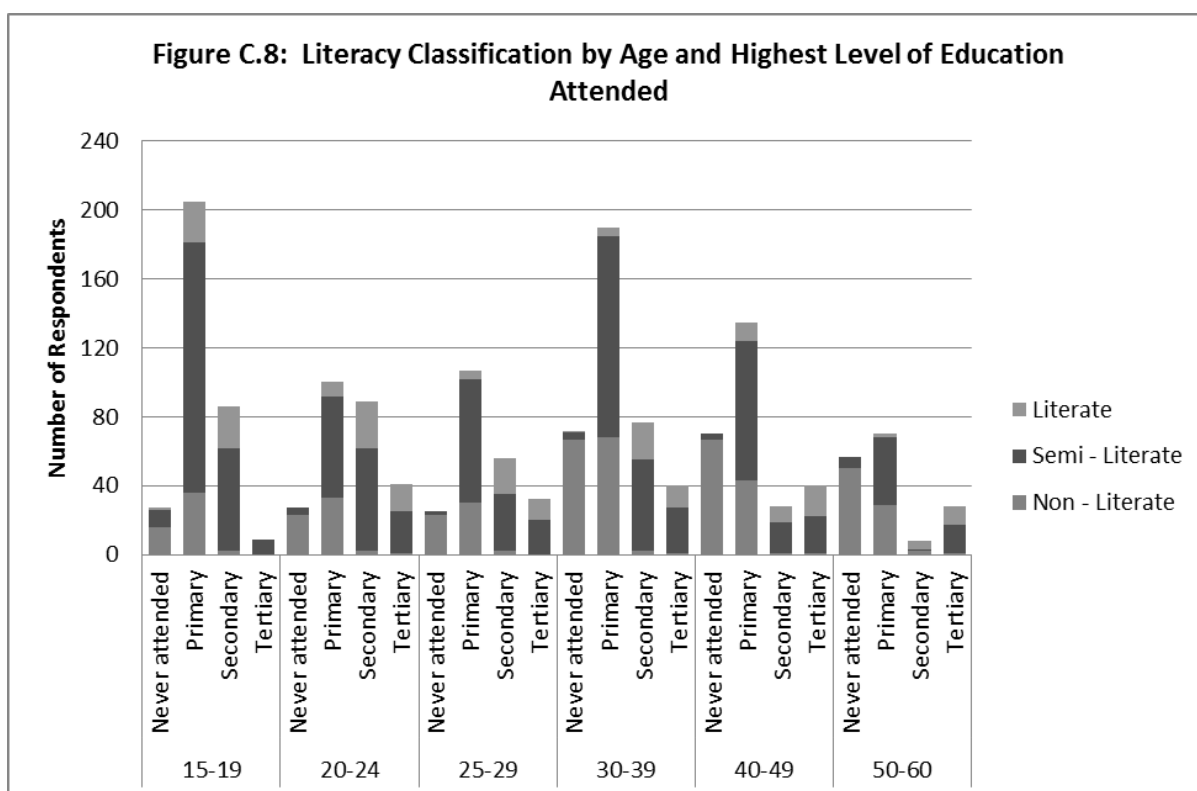
GENDER	CHIMBU		
	Non-literate	Semi-literate	Literate
Male	1.2%	73.3%	25.6%
Female	3.1%	74.0%	22.9%
Overall	2.2%	73.6%	24.2%

Despite these poor outcomes, there is still a clear correlation between schooling and literacy achievements. As can be observed below in Table C.28, the literacy rate increases progressively with level of schooling attended.

**Table C.28: Literacy Classification and Highest Level of Education Attended**

DECLARED HIGHEST LEVEL ATTENDED	CHIMBU			Overall
	Non-literate	Semi-literate	Literate	
Never attended	88.3%	11.0%	0.7%	17.2%
Primary	29.7%	63.5%	6.8%	49.7%
Secondary	3.5%	65.3%	31.2%	21.2%
Tertiary	2.1%	61.5%	36.5%	11.8%
Overall	30.9%	54.6%	14.5%	-

Another noteworthy finding is that in Chimbu Province the literacy rate is 0.7% amongst those respondents who have never attended school. This highlights the lack of post-school or second-chance education opportunities to develop basic literacy skills despite the participation of respondents in community training programs noted in an earlier section. Moreover, this data implies that unless post-school learning opportunities are provided it is likely that adults and youth who do not attend primary school will remain illiterate.



As noted above, the quality of primary education is of particular concern. As can be seen in Table C.29 and C.30, adults and youths who do not progress beyond primary school are most likely to be either semi or non-literate. Moreover, the majority of respondents who completed primary school were classified as merely semi-literate.

Table C.29: Literacy Classification and Highest Level of Education Attended for the 15-24 Years Cohorts

DECLARED HIGHEST LEVEL ATTENDED	15-19			20-24		
	Non-literate	Semi-literate	Literate	Non-literate	Semi-literate	Literate
Never attended	59.3%	37.0%	3.7%	85.2%	14.8%	0.0%
Primary	17.6%	70.7%	11.7%	33.0%	59.0%	8.0%
Secondary	2.3%	69.8%	27.9%	2.2%	67.4%	30.3%
Tertiary	0.0%	100.0%	0.0%	2.4%	58.5%	39.0%

Table C.30: Literacy Classification and Highest Level of Education Attended for those 25 years and over

DECLARED HIGHEST LEVEL	25-39			40-60		
	Non-literate	Semi-literate	Literate	Non-literate	Semi-literate	Literate
Never attended	92.8%	6.2%	1.0%	92.1%	7.9%	0.0%
Primary	33.0%	63.6%	3.4%	35.1%	58.5%	6.3%
Secondary	3.0%	64.7%	32.3%	8.3%	52.8%	38.9%
Tertiary	1.3%	63.9%	34.7%	2.9%	54.4%	42.6%

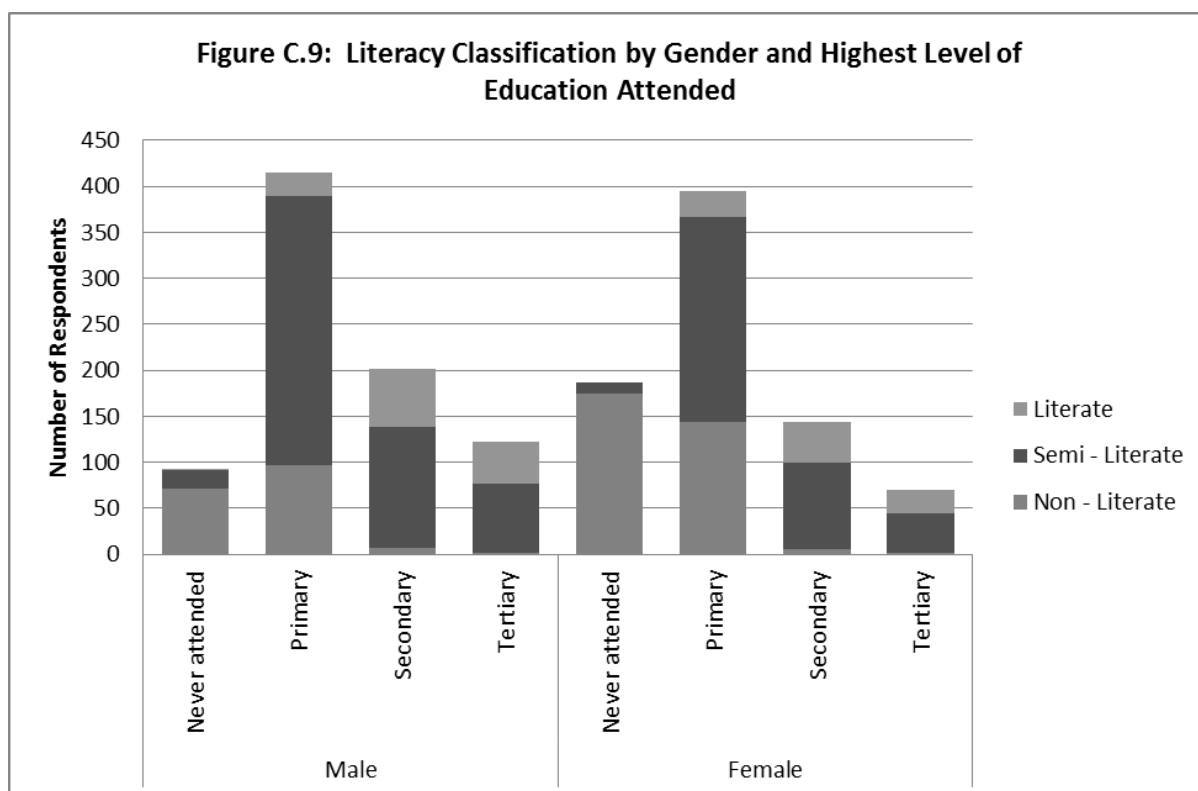


Table C.31: Literacy Classification and Highest Level of Education Attended by Gender

DECLARED HIGHEST LEVEL	MALE			FEMALE		
	Non-literate	Semi-literate	Literate	Non-literate	Semi-literate	Literate
Never attended	77.4%	20.4%	2.2%	93.6%	6.4%	0.0%
Primary	23.4%	70.4%	6.3%	36.5%	56.5%	7.1%
Secondary	3.5%	65.3%	31.2%	3.5%	65.3%	31.3%
Tertiary	1.6%	61.5%	36.9%	2.9%	61.4%	35.7%

The analysis of literacy rates in terms of school attendance highlights some very worrying findings in Chimbu Province. In order to have an opportunity to gain literacy skills, respondents need to attend formal schooling, but the quality of schooling appears quite poor with non-literates amongst those respondents who attended secondary and even tertiary level. Therefore, increasing participation in school alone will not ensure literacy is achieved. Policy responses to the literacy challenge in Chimbu must consider both access and quality issues simultaneously if substantive progress is to be achieved.

Literacy and Income

The relationship between literacy and income is analysed in Table C.32. As noted previously over 90% of the population estimated their annual income to be K5,000 or less. In the lowest income bracket there is a slight overrepresentation of non-literates (32.7%) as compared to overall non-literate rate of 30.9%. The opposite trend is observed for higher income brackets, where there is a significant under-representation of non-literates as compared to the overall rate. The annual income bracket with the highest proportion of literates is the K11,000-

20,000 estimated annual income, with 55.9% of respondents classified as literate. It is noteworthy that 10.2% of those in the highest income bracket were non-literate. It should be noted that those who did not declare their income are not included in the analysis in table C.32.

Table C.32: Literacy Classification and Estimated Annual Income

ANNUAL INCOME	CHIMBU			Overall
	Non-literate	Semi-literate	Literate	
K0 - 5,000	32.7%	54.9%	12.4%	91.3%
K6,000 – 10,000	14.5%	56.5%	29.0%	4.2%
K11,000 – 20,000	0.0%	44.1%	55.9%	2.1%
K21,000 +	10.3%	55.2%	34.5%	1.7%
Overall	30.9%	54.6%	14.5%	-



Clearly much needs to be done to improve literacy levels in Chimbu Province. This includes:

- Better quality education at primary and secondary school, including a more focused effort on achieving literacy;
- Post-school literacy training opportunities for those who never went to school or who did not achieve literacy through it; and
- Special attention to reverse the gender disparity in terms of access to education and the opportunity to achieve literacy.

Sandaun Province

Profile of Survey Respondents

Demographic Profile

Within the province of Sandaun 1371 interviews were conducted, which is substantially above the minimum sample size of 383 people. The survey was undertaken in 15 communities, above the minimum of ten villages anticipated to provide a valid sample. The villages surveyed were located in the four Sandaun districts as follows:

- Nuku district: Yambil, Ori, Sabib and Yangkok Station;
- Vanimo Green district: Baibai / Yetomi, Yaukono, Osol, Fugeri and Dali;
- Telefomin district: Kobrenmin (Telefomin), Ofektaman and Telefolip; and
- Aitape / Lumi district: Sapete, Maui and Paup.

The sample's age profile is similar to the national profile during the 2000 census as seen below in Table S.1, however, a slightly higher proportion of 15 to 19 year olds were sampled and a lower proportion of 50 to 60 year olds sampled.

Table S.1: Survey Respondents for Sandaun Province, by Gender and Age

AGE COHORT	SANDAUN			NATIONAL CENSUS	
	Male	Female	Overall	%	%
15-19	94	93	187	13.6	19.1%
20-24	88	107	195	14.2	16.4%
25-29	86	127	213	15.5	15.4%
30-39	181	182	363	26.5	24.6%
40-49	118	115	233	17.0	15.5%
50-60	103	77	180	13.1	8.9%
Total	670	701	1371	99.9	99.9%

Sources of Information

This section details the different sources of information accessed by respondents in the month prior to being surveyed. The main sources of information were books and radio for just under half of respondents, as seen in Table S.2. 29.5% of respondents also cited newspapers or magazines as sources of information, but only 13.7% cited television as a source of information.

Table S.2: Sources of Information in the Last Month, by Gender

SOURCE	SANDAUN		
	Male	Female	Overall
Radio	49.6%	35.5%	42.4%
Television	15.0%	12.4%	13.7%
Magazine or newspaper	38.2%	21.1%	29.5%
Book	58.7%	36.1%	47.2%

It is worth noting the gender disparity evident in the results, which is very similar to the trend observed in Chimbu province. Significantly fewer females than males had access to any of the four sources of information. The percentage difference was over 12% for books, 17% for magazines and 14% for radio. This finding could indicate that women in Sandaun are less likely to seek information or that they are less able to access information sources.

As can be seen in Table S.3, over 57% of respondents had not attended a meeting in the last month. Only 11% had attended community meetings more than four times in the last month.

Table S.3: Attendance at a Community Meeting in the Last Month

	SANDAUN			
	None	Once	2 – 4 times	More than 4 times
	57.3%	14.6%	16.5%	11.6%

Attitudes to Literacy

As can be seen below in Tables S.4 to S.6 over 72% of respondents in Sandaun believed reading and writing to be very useful or sometimes useful skills in everyday life, while counting was valued even more - by 78% of respondents.

Table S.4: Usefulness of Reading in Everyday Life, by Gender

DECLARED LEVEL OF USEFULNESS	SANDAUN		
	Male	Female	Overall
Very useful	70.4%	53.2%	61.6%
Useful sometimes	11.7%	12.0%	11.9%
Not useful	17.8%	34.8%	26.5%
Total	99.9%	100.0%	100.0%

A greater proportion of women than men believe that reading, writing or counting skills are only sometimes useful or not useful in everyday life. This difference may be explained by the traditional gender roles that exist in Sandaun Province where women take on domestic, household and childcare roles, while men spend more time outside of the home and are more likely to engage in more literacy-demanding tasks such as leadership roles and paid work. There is a need, however, for further research within Sandaun on the correlation between education perceptions and employment.

Table S.5: Usefulness of Writing in Everyday Life, by Gender

DECLARED LEVEL OF USEFULNESS	SANDAUN		
	Male	Female	Overall
Very useful	68.8%	51.1%	59.8%
Useful sometimes	11.9%	13.3%	12.6%
Not useful	19.3%	35.6%	27.7%
Total	100.0%	100.0%	100.1%

Table S.6: Usefulness of Counting in Everyday Life, by Gender

DECLARED LEVEL OF USEFULNESS	SANDAUN		
	Male	Female	Overall
Very useful	72.8%	57.1%	64.8%
Useful sometimes	12.0%	16.0%	14.0%
Not useful	15.1%	27.0%	21.1%
Total	99.9%	100.1%	99.9%

Attitudes to Education

In Sandaun Province, there was near universal support for the proposition that it is very important for all children to go to school, as shown in Table S.7 below. Less than 2% of respondents stated that it is not important for children to go to school.

Table S.7: How Important is it for Children to go to School, by Gender

DECLARED LEVEL OF USEFULNESS	SANDAUN		
	Male	Female	Overall
Very important for all	98.5%	97.9%	98.2%
Important for some	0.3%	0.4%	0.4%
Not important	1.2%	1.7%	1.4%
Total	100.0%	100.0%	100.0%



Those respondents who declared that school is important to all or some children were then asked an additional question to ascertain why it is important for children to go to school. As shown below in Table S.8, school was seen by almost all respondents (over 96%) as important for learning to read, write and think, for development of skills for work, for learning about traditional practices, and for learning about country and the world. There is little difference between frequency of responses by males and females.

Table S.8: Importance of School, by Gender

IMPORTANCE OF SCHOOL	SANDAUN		
	Male	Female	Overall
Read, write & think	98.1%	96.7%	97.4%
Traditional culture and values	96.6%	96.3%	96.4%
Skills for work	97.8%	96.7%	97.2%
About country and world	96.7%	94.9%	95.8%

Income

In Sandaun Province, less than 5% of respondents declared earning an income higher than K6,000 per annum, as shown in Table S.9. A higher proportion of males (5.1%) than females (2.2%) earned greater than K6,000 per annum, with only 0.1% of females earning above K21,000 per annum.

Table S.9: Estimated Annual Income, by Gender

ANNUAL INCOME	SANDAUN		
	Male	Female	Overall
K0 - 5,000	94.4%	96.7%	95.6%
K6,000 – 10,000	2.1%	1.1%	1.6%
K11,000 – 20,000	1.5%	1.0%	1.2%
K21,000 +	1.5%	0.1%	0.8%
Not declared	0.6%	1.0%	0.8%
Total	100.1%	99.9%	100.0%

Educational Experience

Education Attendance

As would be expected current participation in schooling at the time of the survey was substantially higher amongst the 15 to 19 year old age cohort with 70.5% compared to the 20 to 24 cohort, with 24.1%, as can be seen in Table S.10. In both age cohorts, a greater proportion of males than females were attending school.

Table S.10: Currently Attending School for Youth, by Gender

AGE COHORT	SANDAUN		
	Male	Female	Overall
15-19	79.5%	61.6%	70.5%
20-24	34.0%	12.5%	24.1%

All respondents were then asked a series of questions about their past education experience. In Sandaun Province, as outlined in Table S.11 below, a sizeable 36.3% had never attended school and only 17.5% had attended secondary school. Gender disparities are of serious concern. A very high 47.9% of female respondents declared they had never attended formal schooling, compared to 24.2% for males. The gender gap in primary school or higher is 12%.

Also, only 12% of females reached secondary school. The poor transition from primary to secondary school for both sexes is also noteworthy.

Table S.11: Highest Level of Education Attended by Gender

DECLARED HIGHEST LEVEL ATTENDED	SANDAUN		
	Male	Female	Overall
Never attended	24.2%	47.9%	36.3%
Primary	52.5%	40.1%	46.1%
Secondary	10.0%	8.3%	9.1%
Tertiary	13.4%	3.7%	8.4%
Total	100.1%	100.0%	99.9%

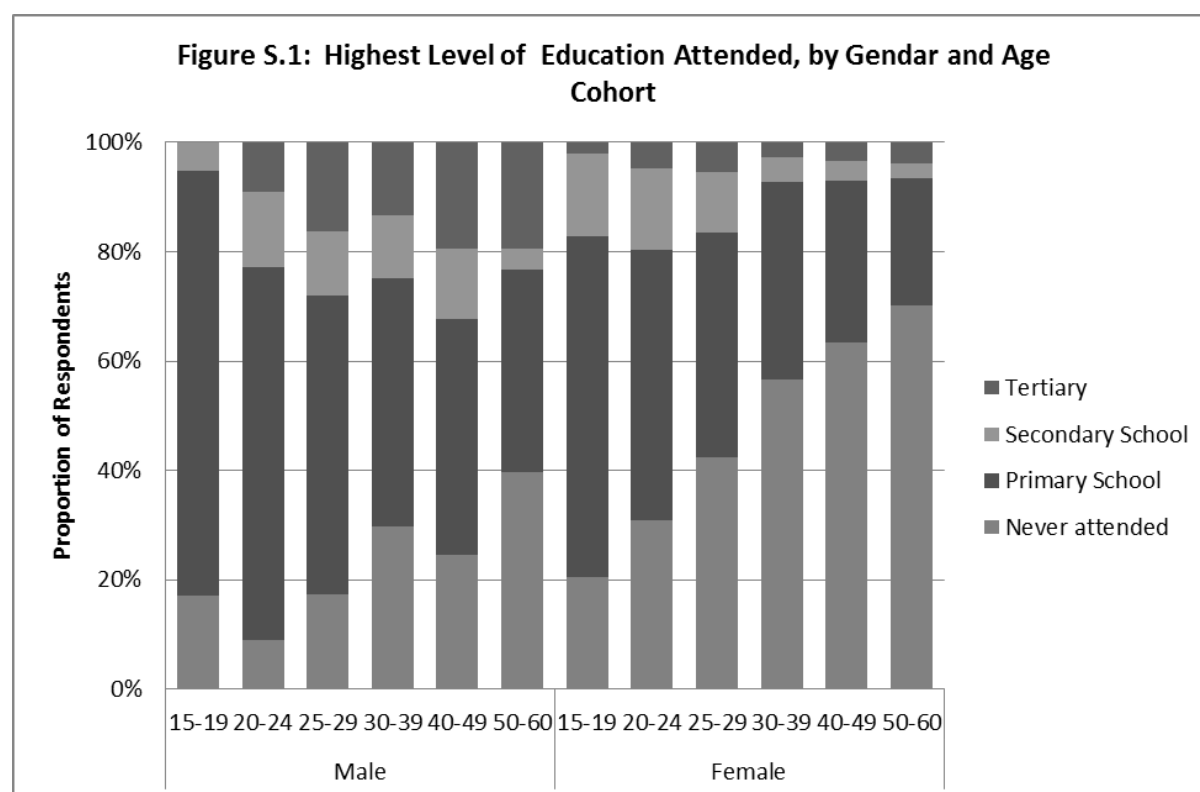
The highest levels of education attended are further disaggregated by age cohort, as shown in Table S.12. It is pleasing to note that participation in primary school has been increasing with a significantly higher attendance amongst younger cohorts. Accordingly, the percentage of those who have never attended is dropping. However it is of some concern that only 11% of 15-19 years olds attended secondary or tertiary level, which may be due to overage enrolment at primary school and late transition to secondary school. Clearly much needs to be done to encourage children to continue on to secondary school and tertiary studies.

Table S.12: Highest Level of Education Attended by Age

DECLARED HIGHEST LEVEL ATTENDED	SANDAUN						Overall
	15-19	20-24	25-29	30-39	40-49	50-60	
Never attended	18.7%	21.0%	32.4%	43.3%	43.8%	52.8%	36.3%
Primary	70.1%	57.9%	46.5%	40.8%	36.5%	31.1%	46.1%
Secondary	10.2%	14.4%	11.3%	8.0%	8.2%	3.3%	9.1%
Tertiary	1.1%	6.7%	9.9%	8.0%	11.6%	12.8%	8.4%
Total	100.1%	100.0%	100.1%	100.1%	100.1%	100.0%	99.9%



The results are further disaggregated to permit analysis of trends relating to different age cohorts amongst males and females separately, as per Figure S.1. A positive trend towards greater participation of females in primary school amongst younger cohorts can be easily observed. There has also been an improved proportion of females transitioning to secondary school; however, this is in the context of the majority still missing out. Female participation at tertiary level is low across all cohorts.



The trends across different age cohorts are less consistent for males, although as with females, the proportion of males who have never attended school has decreased with the exception of the youngest cohort. The proportion of adult male respondents who have reached secondary and tertiary level has remained fairly constant over time. Moreover, despite significant expansion of male participation in primary school there has been little change in male participation levels at secondary and tertiary levels, with the vast majority still missing out.

Primary and Secondary School

For those respondents who did not enrol in or complete primary or secondary school, cost factors, parental expectations and poor access were the most common reasons cited, as is shown in Table S.13. Almost half of the respondents noted the absence of a school in their village as a reason they did not complete or enrol in primary or secondary school. The most commonly cited reason was school fees (56.1%), but other costs, such as transport, was a reason 33.9% of respondents gave for not attending. Finally, many respondents cited parental expectations to assist at home (49.9%) or take up employment (43.0%) as factors associated with their exclusion from formal education.

Table S.13: Reasons for Primary and Secondary School Non-Completion, by Gender

DECLARED REASON(S)	SANDAUN		
	Male	Female	Overall
No school in village	47.7%	47.8%	47.8%
School fees	57.6%	54.6%	56.1%
Other costs	34.3%	33.5%	33.9%
Not safe	29.9%	26.9%	28.3%
Not enough desks, books	24.4%	21.5%	22.9%
No toilet	21.8%	19.6%	20.7%
Not interested	25.7%	30.6%	28.2%
Parent want help at home	45.5%	53.9%	49.9%
Parent want me to work	46.1%	40.0%	43.0%
Not selected	38.0%	28.3%	33.0%

The gender-disaggregated results highlight that some factors have a gender bias, but cost factors, safety and infrastructure such as toilets are gender neutral reasons. More females cite the reasons of disinterest in school and domestic responsibilities, whereas more males list ineligibility and expectations to seek work. The results in Table S.13 again highlight the complexity of school participation and reaffirm that any interventions that aim to address low enrolments and poor transition to secondary schooling and beyond must be holistic and extend beyond supply side only solutions, such as building new class rooms only.

Tertiary Education

As summarised in Table S.14, only 8.4% of respondents in Sandaun declared they had participated in university level education, with a significant gender disparity across age cohorts. Cost factors and parental expectations were reasons commonly cited for not participating in tertiary education, with 74.1% of females citing domestic responsibilities. Most respondents felt that there were suitable courses available, but 61.2% were ineligible to participate due to the entry criteria being too high, with more males than females suggesting poor academic performance as a factor.

Table S.14: Barriers to Attending and Completing University, by Gender

DECLARED REASON(S)	SANDAUN		
	Male	Female	Overall
University fees	57.7%	50.4%	53.7%
Other costs	48.6%	45.9%	47.2%
Not enough places	40.5%	41.5%	41.1%
Entry criteria too high	64.0%	57.0%	61.2%
No courses	26.1%	24.4%	25.2%
Parent want help at home	66.7%	74.1%	70.7%
Parent want me to work	70.3%	63.7%	66.7%

Community Education Programs

All respondents not currently attending primary or secondary school were asked if they had attended a training or education program run by a community organisation in the past three years. Their responses are detailed in Table S.15 by gender and age.

Table S.15: Participation in Community Education in Last 3 Years, by Gender and Age

AGE COHORT	SANDAUN		
	Male	Female	Overall
15-19	1.1%	2.2%	1.6%
20-24	18.2%	20.6%	19.5%
25-29	26.7%	18.1%	21.6%
30-39	30.4%	17.0%	23.7%
40-49	44.1%	14.8%	29.6%
50-60	36.9%	19.5%	29.4%
Overall	27.9%	15.7%	21.5%

Only 21.5% of respondents had attended a training or education program run by a community organisation in the past 3 years. Participation was substantially lower amongst out-of-school youth (15 to 19 year olds). This may highlight poor post-school or second-chance opportunities for youth in Sandaun, an aspect that deserves further investigation in terms of availability, accessibility and relevance. It is also worth noting that a greater proportion of adult males than females from older cohorts participated in community education courses, however, younger cohorts declared similar levels of male and female participation.

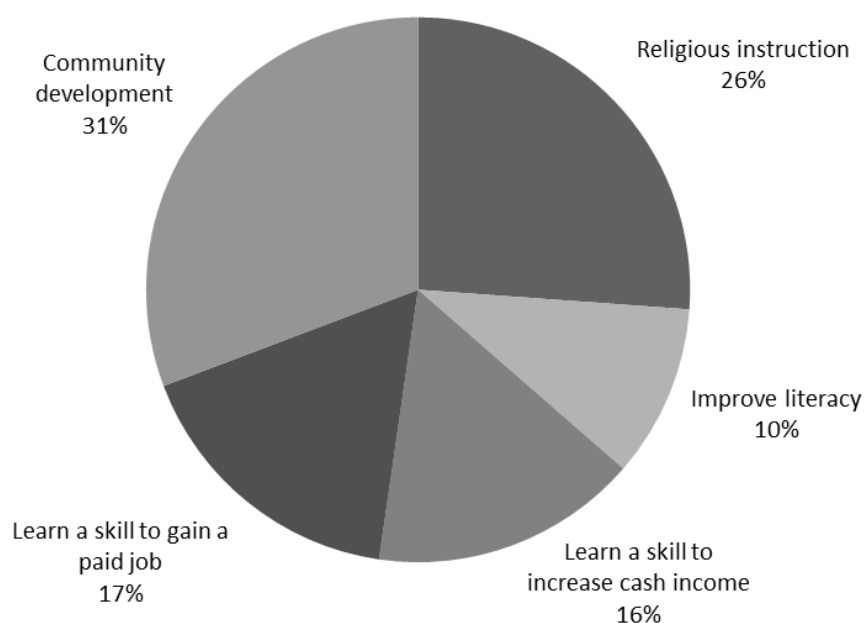
As with other education levels, cost factors and parental expectations are significant barriers to completing and not attending community education courses. The most significant barrier listed in Table S.16 is that community providers do not offer suitable training opportunities, with 61.7% of males and 58.4% of females having cited this reason.

Table S.16: Barriers to Attending and Completing Community Courses, by Gender

DECLARED REASON(S)	SANDAUN		
	Male	Female	Overall
No suitable training	61.7%	58.4%	59.8%
Fees	35.4%	30.9%	32.8%
Other costs	30.0%	41.5%	41.1%
Not enough places	27.6%	21.7%	24.2%
Courses not interesting	37.0%	32.4%	34.4%
Parent want help at home	53.9%	56.3%	55.3%
Parent want me to work	49.4%	44.6%	46.7%

The types of courses undertaken are summarised in Figure S.2, with community education programs focusing on health, human rights and environment the most popular courses. Over a quarter of respondents have undertaken a religious course, with work and income related courses also commonly taken. Only 1 in 10 respondents had undertaken community education programs to improve literacy.

Figure S.2: Type of Community Education Program Undertaken in the Last Month



Education and Income

This section briefly analyses the relationship between the highest level of schooling and the respondent's estimated annual income. The overwhelming majority (95.6%) of respondents estimated their income to be below K5,000. Amongst respondents who had never attended school there is an over-representation of respondents from the lowest income bracket, as shown in Table S.17. Conversely, amongst respondents who attended tertiary studies, there is underrepresentation (74.1%) from the lowest income bracket (compared to overall of 95.6%) and an overrepresentation from higher income brackets.

Table S.17: Highest Level of Education Attended and Estimated Annual Income (K)

DECLARED HIGHEST LEVEL ATTENDED	SANDAUN					Overall
	0 – 5,000	6,000 – 10,000	11,000 – 20,000	21,000 +	Not declared	
Never attended	98.2%	0.4%	0.2%	0.2%	1.0%	36.3%
Primary	97.5%	0.6%	0.8%	0.3%	0.8%	46.1%
Secondary	95.2%	2.4%	0.0%	2.4%	0.0%	9.1%
Tertiary	74.1%	11.2%	9.5%	4.3%	0.9%	8.4%
Overall	95.6%	1.6%	1.2%	0.8%	0.8%	-

Language Experience

The following section provides analysis of findings relating to language usage patterns and literacy confidence.

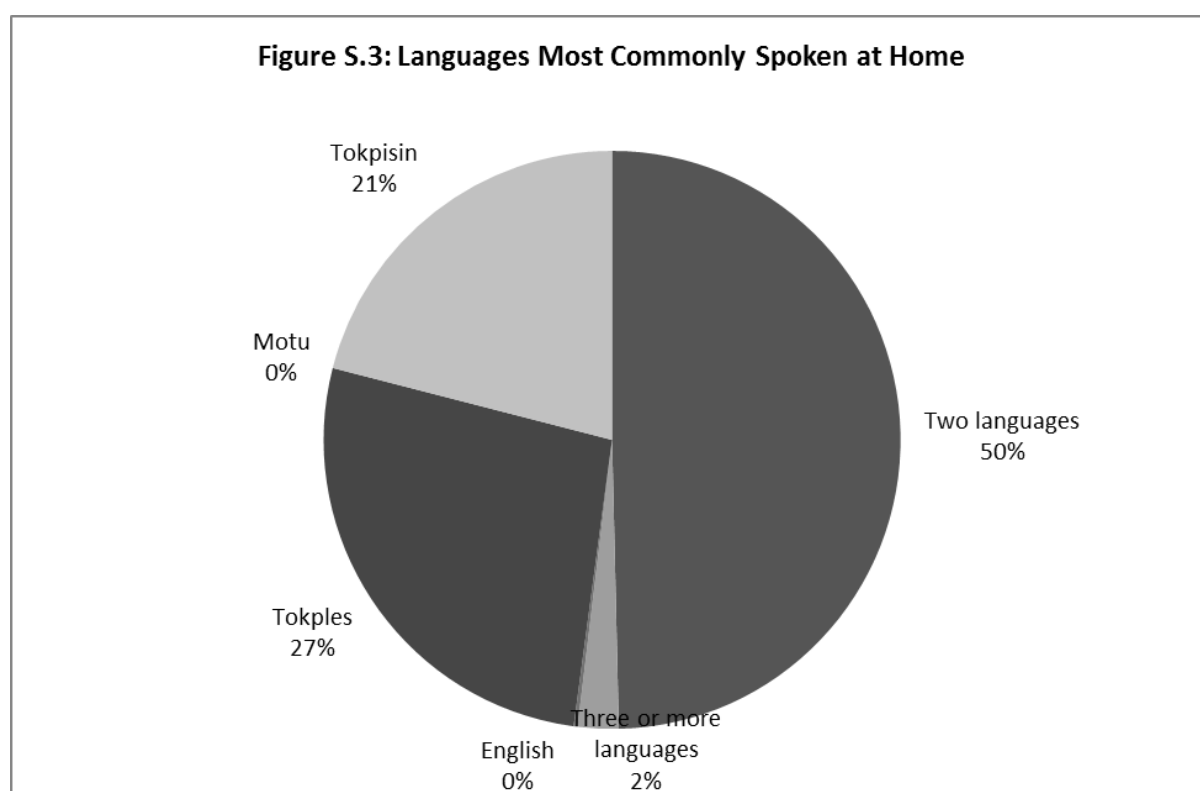
Oral Communication

In Sandaun Province over 90% of respondents answered that they speak both Tokples (local vernacular language) and Tokpisin at home, as shown in Table S.18. English is spoken at home by 12.1% of respondents, and no respondents declared using Motu in the home. Non-PNG languages are seldom spoken in the home. Similar findings are also observed for all language groups with regard to the languages spoken with friends, with the use of Tokpisin being slightly higher and Tokples.

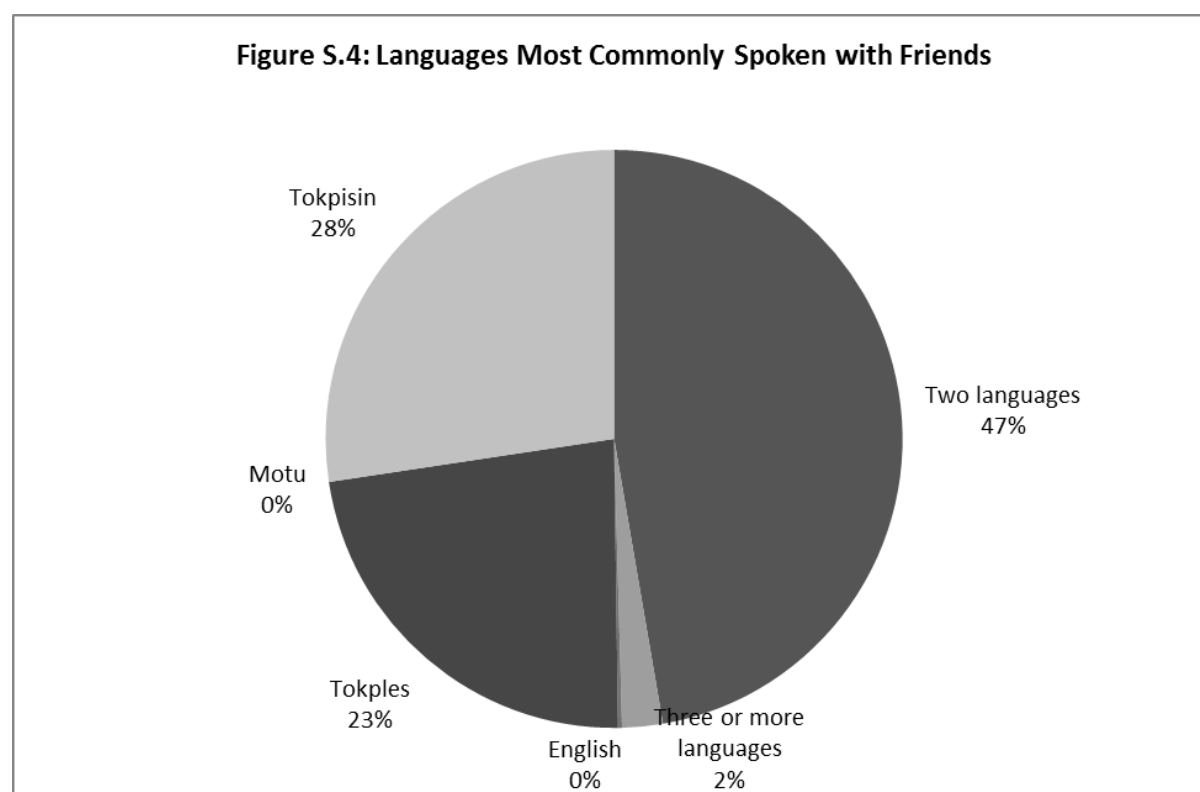
Table S.18: Language Spoken at Home and with Friends

LANGUAGE(S)	SANDAUN	
	Home	Friends
Tokples	91.8%	84.6%
Tokpisin	92.6%	95.1%
Motu	0.0%	0.0%
English	12.1%	11.8%
Other	1.8%	1.4%

In Sandaun Province 50% of respondents declared they commonly used two languages with equal frequency to communicate within the home, as per Figure S.3. The majority of the remaining respondents cited the most common language used to communicate at home as either Tokples or Tokpisin. Only three respondents (0.2%) declared that English was the language most commonly spoken at home.



In Sandaun Province, a similar finding can be observed with regard to the most common language for communicating with friends, as in Figure S.4. Not surprisingly Tokpisin is more commonly used with friends than family.



Written Communication

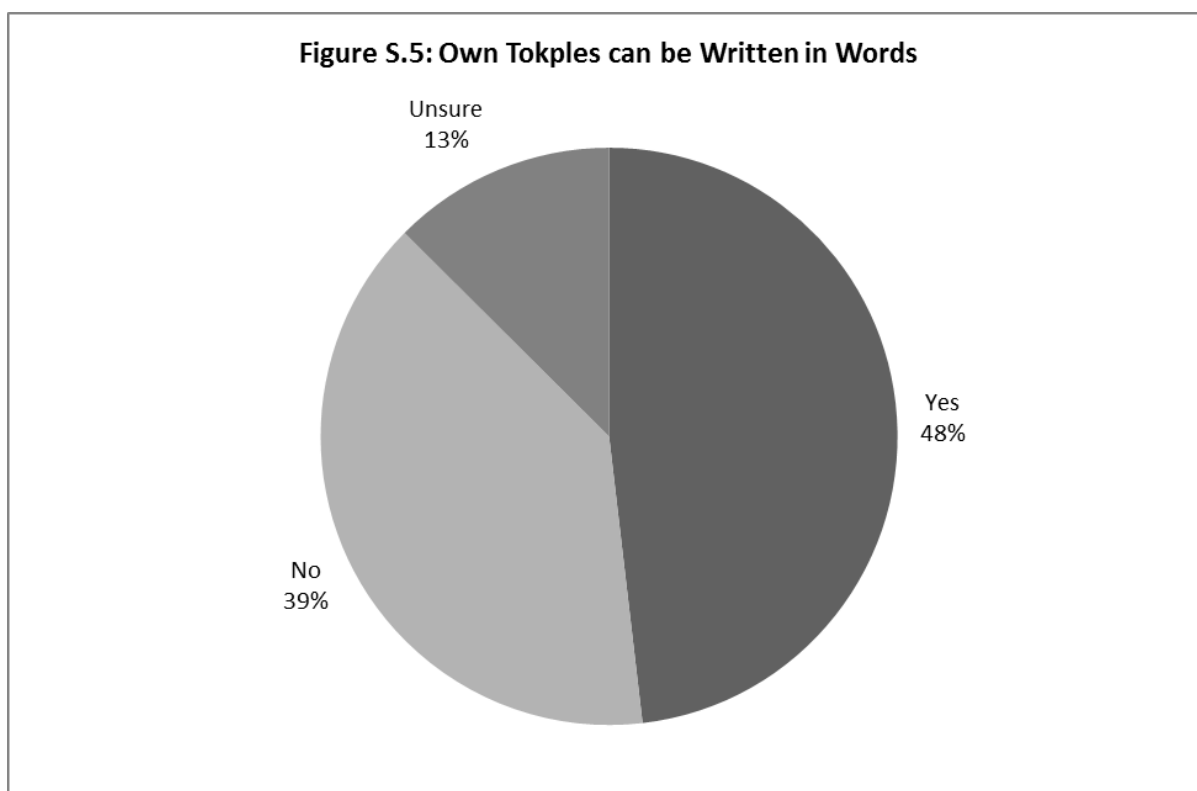
The survey in Sandaun included a self-declaration question regarding literacy. As can be seen in Table S.19, 98.1% of respondents declared that they could read and write with understanding in Tokpisin, while 54.6% made the claim for their Tokples and 49.8% for English. Only 0.4% declared written understanding of Motu.

Table S.19: Languages that Respondents can Read and Write with Understanding

SANDAUN			
Tokpisin	English	Motu	Tokples
98.1%	49.8%	0.4%	54.6%

Tokples

As can be seen in Figure S.5, just over under half (54.6%) of the respondents declared their own Tokples can be written in words and 39% declared their Tokples was exclusively oral.



Under half of those who stated their Tokples could be written in words were confident in their ability to read the written form of their vernacular. As seen below in Table S.20, 38.5% said they could not read their Tokples. Further, females were less confident in their ability to read their Tokples, with 52.5% declaring they could not read their vernacular. Given that the literacy assessment in this survey only assessed Tokpisin, English and Motu, there needs to be further investigation into which vernacular languages can be written, to what extent, and the literacy levels within the vernacular in Sandaun.

Table S.20: Reading Confidence in Tokples, by Gender

DECLARED CONFIDENCE	SANDAUN		
	Male	Female	Overall
Read easily	49.0%	28.9%	39.5%
Read some	25.1%	18.6%	22.0%
Cannot read	26.0%	52.5%	38.5%
Total	100.1%	100.0%	100.0%

Tokpisin, English and Motu

As with previous surveys conducted in PNG, the literacy assessment component was carried out with respondents who declared they could read in Tokpisin, English or Motu. During the survey, individuals were first asked their preferred language and if they could read that language. As can be seen below in Table S.21, the majority of respondents preferred Tokpisin, with 5.4% preferring English and no respondents preferring Motu. In Sandaun, a significant number of respondents (21.9%) stated that they could not use any of the broader spoken or national languages of Tokpisin, English or Motu in written form.

Table S.21: Preferred Official Language

Tokpisin	SANDAUN			Total
	English	Motu	None	
72.7%	5.4%	0.0%	21.9%	100.0%

The reading confidence of respondents is shown in Table S.22. The majority of respondents declared that they could read. Only 23.2% declared they could not read any of the three languages. Females were less confident in their reading ability and 32.2% said they could not read at all, compared to 15.5% for males.

Table S.22: Reading Confidence in Tokpisin, Motu or English, by Gender

DECLARED CONFIDENCE	SANDAUN		
	Male	Female	Overall
Read easily	73.5%	52.7%	63.8%
Read some	11.1%	15.1%	13.0%
Cannot read	15.5%	32.2%	23.2%
Total	100.1%	100.0%	100.0%

As can be seen in Table S.23 older respondents in Sandaun displayed less confidence in their ability to read, with 35.7% declaring they could not read and 53.5% declaring they could read easily. Respondents between 15 to 29 years of age were the most confident in their reading ability with over 80% declaring they could read easily or read some. One issue worth exploring is the extent to which poor eyesight might be a factor in reading levels, especially with older people.

Table S.23: Reading Confidence in Tokpisin, Motu or English, by Age

AGE COHORT	SANDAUN						Overall
	15-19	20-24	25-29	30-39	40-49	50-60	
Read easily	71.0%	72.7%	70.2%	57.2%	60.8%	53.5%	63.8%
Read some	13.0%	14.9%	10.6%	14.4%	12.9%	10.9%	13.0%
Cannot read	16.0%	12.4%	19.3%	28.4%	26.3%	35.7%	23.2%
Total	100.0%	100.0%	100.1%	100.0%	100.0%	100.1%	100.0%

Literacy Assessment

The individual literacy assessment enabled literacy rates to be calculated on the basis of demonstrated ability rather than self-declaration. Only those participants who declared that they could read at least one of Tokples, English or Motu participated in the literacy assessment, with those respondents who declared themselves unable to read, automatically classified as 'non-literate' as per the methodology used in previous surveys.

Literacy Rates

The results of the literacy assessment are summarised below in Table S.24 and reveal a significant gap between self-declaration and demonstrated ability. It is of great concern to find that in Sandaun Province only 11.4% of respondents were classified as literate while 41.5% were classified as semi-literate. This is significantly less than the majority of

individuals (76.8%) that were confident they could read Tokpisin, English or Motu. This clearly highlights the inaccuracy of self-declaration as a measure of literacy.

Table S.24: Literacy Classification, by Gender

GENDER	SANDAUN		
	Non-literate	Semi-literate	Literate
Male	34.6%	51.4%	14.0%
Female	59.1%	32.0%	9.0%
Overall	47.1%	41.5%	11.4%

The literacy assessment also reveals a serious gap in literacy levels between males and females, as seen in Table S.24. In Sandaun a worryingly high 59.1% of females are classified as non-literate as compared to 34.6% of males. This is a gap of 25%. Less females were assessed as literate (9%) compared to 14% for males.



Table S.25: Literacy Classification, by Age

AGE COHORT	SANDAUN		
	Non-literate	Semi-literate	Literate
15-19	31.0%	55.6%	13.4%
20-24	30.3%	56.9%	12.8%
25-29	44.6%	42.3%	13.1%
30-39	54.3%	36.6%	9.1%
40-49	53.6%	33.0%	13.3%
50-60	62.2%	29.4%	8.3%
Overall	47.1%	41.5%	11.4%

In Sandaun Province, as shown in Table S.25, the overwhelming majority of respondents are classified as either semi-literate or non-literate across all age cohorts. The younger cohorts were assessed to have the highest literacy skills, with 13.4%, 12.8% and 13.1% of the cohort classified as literate, although these are significantly below the self-declared literacy rate of over 80% (see Table S.23). This again emphasises the unreliability of the census self-declaration methodology.

As can be seen below in Figure S.6 and Table S.26, the literacy level of young males 15-19 years is worse than older males. This is a cause for concern and further inquiry. The opposite trend is true for young females. Also noteworthy is that a greater proportion of younger males and females are in the semi-literate category compared to older cohorts.

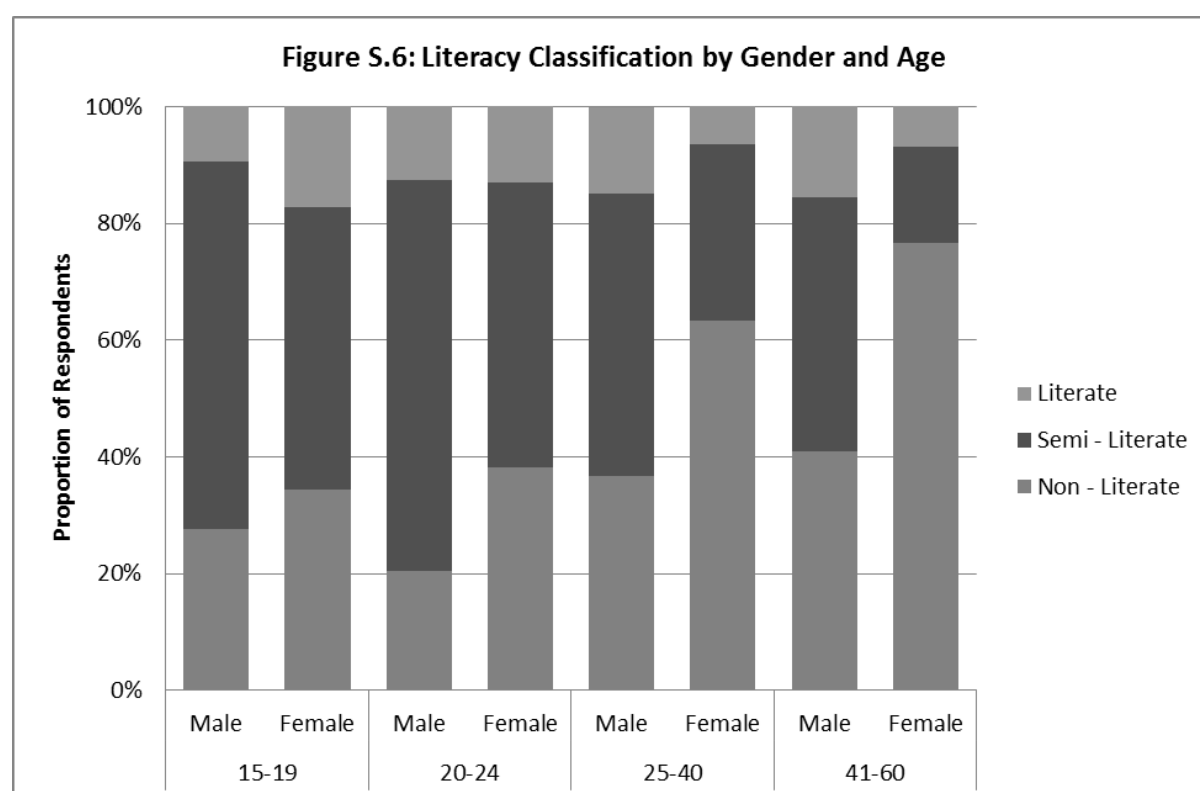


Table S.26: Literacy Classification, by Gender and Age

AGE COHORT	SANDAUN					
	Male			Female		
	Non-literate	Semi-literate	Literate	Non-literate	Semi-literate	Literate
15-19	27.7%	62.8%	9.6%	34.4%	48.4%	17.2%
20-24	20.5%	67.0%	12.5%	38.3%	48.4%	14.8%
25-40	36.7%	48.4%	14.8%	63.4%	30.2%	6.5%
41-60	41.0%	43.4%	15.6%	76.7%	16.5%	6.8%
Overall	34.6%	51.4%	14.0%	59.1%	32.0%	9.0%

Literacy and Reading Confidence

The inadequacy of self-declaration to accurately capture literacy levels is clearly demonstrated by the results in Sandaun, shown in Table S.27. For example, of those who declared they could easily read Tokpisin, English or Motu, the vast majority (71.4%) were assessed as semi-literate and only 22.0% classified as literate. Interestingly, 6.5% of those who declared they could read easily did not even make it to the semi-literate category, and were assessed as non-literate. Clearly there is significant mismatch between respondents' declared ability and their actual ability.

Table S.27: Literacy Classification and Reading Confidence

DECLARED CONFIDENCE	SANDAUN		
	Non-literate	Semi-literate	Literate
Read easily	6.5%	71.4%	22.0%
Read mostly	27.2%	66.2%	6.6%
Read some	100.0%	0.0%	0.0%
Cannot read	100.0%	0.0%	0.0%
Overall	47.1%	41.5%	11.4%

Literacy and Education Experience

Analysis of literacy levels for those respondents who were attending primary or secondary school shows that there is a crisis in school education quality. In Sandaun Province, of those currently enrolled in school only a low 20.7% were classified as literate, while 71.2% were classified as semi-literate as shown in Table S.28. This is a poor outcome and indicates that attendance at school gives no guarantee of achieving literacy.

Table S.28: Literacy Classification for Those Currently Attending School (15-19 years)

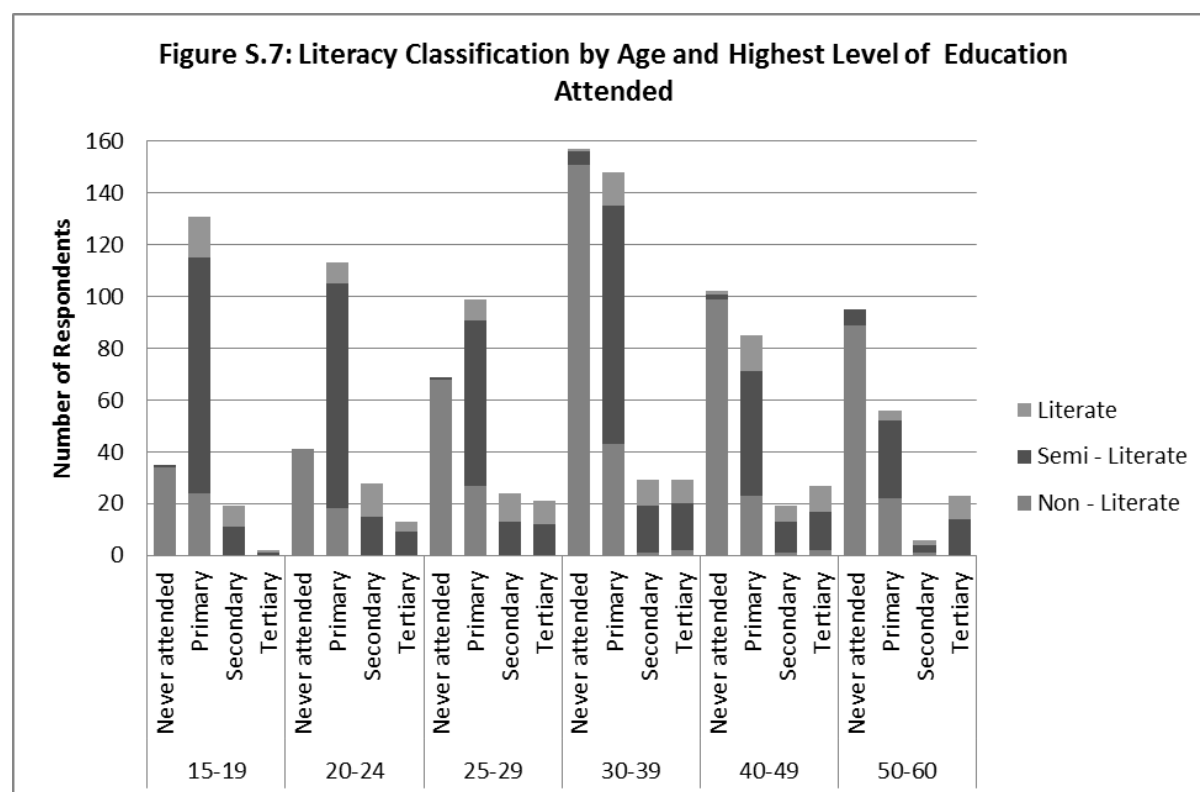
Non-literate	Semi-literate	Literate
8.1%	71.2%	20.7%

Despite these poor outcomes, there is still a clear correlation between schooling and literacy achievements. As can be observed in Table S.29, the literacy rate increases progressively with level of schooling attended. Respondents who reached secondary school were mostly classified as semi-literate. Disappointingly, only 40.0% and 36.2% of secondary and tertiary attendees were classified as literate. Remembering that the literacy assessment was not a difficult test, this is a very poor reflection on the quality of formal education.

Table S.29: Literacy Classification and Highest Level of Education Attended

DECLARED HIGHEST LEVEL ATTENDED	SANDAUN			Overall
	Non-literate	Semi-literate	Literate	
Never attended	96.6%	3.0%	0.4%	36.3%
Primary	24.9%	65.1%	9.9%	46.1%
Secondary	2.4%	57.6%	40.0%	9.1%
Tertiary	3.4%	60.3%	36.2%	8.4%
Overall	47.1%	41.5%	11.4%	-

Another noteworthy finding in Sandaun Province is the almost non-existent literacy rate (0.4%) amongst those respondents who have never attended school. This highlights the lack of post school education opportunities to develop basic literacy skills despite the high participation of respondents in community training programs noted in an earlier section. Moreover, this data implies that unless post school opportunities are provided it is likely that adults and youths who do not attend primary school will remain illiterate throughout their lives.



The quality of schooling is an issue that can be observed across age cohorts in Figure S.7. Across all age cohorts primary school education overwhelmingly produces semi-literates, with only a small minority literate. Similarly across all age cohorts, secondary school predominately produces semi-literates. Therefore, despite there being a huge expansion in participation in primary school, literacy levels remain low.

Table S.30: Literacy Classification and Highest Level of Education Attended for the 15-24 Years Cohorts

DECLARED HIGHEST LEVEL ATTENDED	15-19			20-24		
	Non-literate	Semi-literate	Literate	Non-literate	Semi-literate	Literate
Never attended	97.1%	2.9%	0.0%	100.0%	0.0%	0.0%
Primary	18.3%	69.5%	12.2%	15.9%	77.0%	7.1%
Secondary	0.0%	57.9%	42.1%	0.0%	53.6%	46.4%
Tertiary	0.0%	50.0%	50.0%	0.0%	69.2%	30.8%

Table S.31: Literacy Classification and Highest Level of Education Attended for those 25 years and over

DECLARED HIGHEST LEVEL ATTENDED	25-39			40-60		
	Non-literate	Semi-literate	Literate	Non-literate	Semi-literate	Literate
Never attended	96.9%	2.6%	0.4%	95.4%	4.1%	0.5%
Primary	28.3%	63.2%	8.5%	31.9%	55.3%	12.8%
Secondary	1.9%	58.5%	39.6%	8.0%	60.0%	32.0%
Tertiary	4.0%	60.0%	36.0%	4.0%	58.0%	38.0%

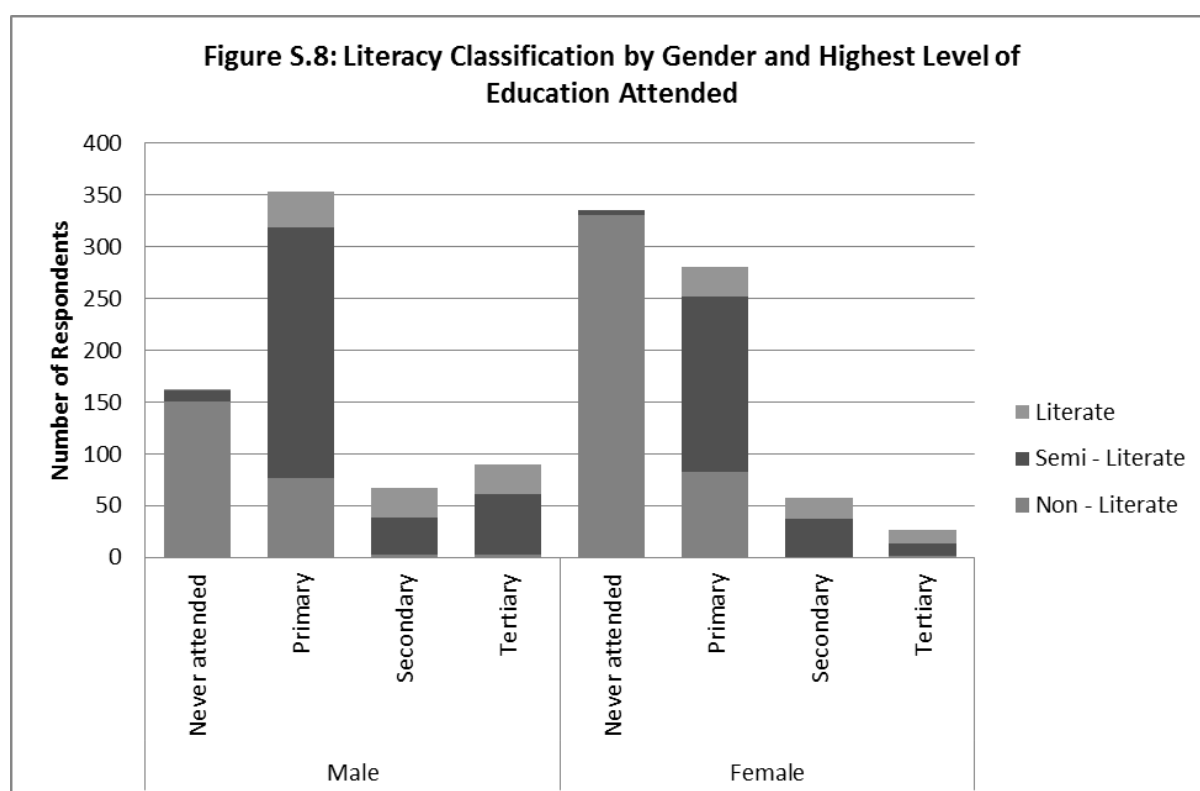
As noted above, the quality of primary education is of particular concern. As can be seen in Tables S.30 and 31, those who do not progress beyond primary school are most likely to be either semi or non-literate. Moreover, the majority of respondents who attended primary school were classified as merely semi-literate.

The analysis of literacy rates in terms of school attendance confirms worrying findings in Sandaun Province, mentioned earlier and as seen in Table S.32 and Figure S.8. In order to have an opportunity to gain literacy skills, respondents need to attend formal schooling, however the quality of schooling appears quite poor with non-literates amongst those respondents who attended secondary and even tertiary level. Females experience significant disadvantage due to lower intake into formal schooling and higher levels of illiteracy at primary school. Although females who reach tertiary studies are more literate than males, it must be remembered that males are around three times more likely to reach university level.



Table S.32: Literacy Classification and Highest Level of Education Attended, by Gender

DECLARED HIGHEST LEVEL ATTENDED	MALE			FEMALE		
	Non-literate	Semi-literate	Literate	Non-literate	Semi-literate	Literate
Never attended	92.6%	6.1%	1.2%	98.5%	1.5%	0.0%
Primary	21.5%	68.8%	9.6%	29.2%	60.5%	10.3%
Secondary	4.5%	52.2%	43.3%	0.0%	63.8%	36.2%
Tertiary	3.3%	64.4%	32.2%	3.8%	46.2%	50.0%



Literacy and Income

The relationship between literacy and income is analysed in Table S.33. As noted previously 95.6% of the population estimated their annual income to be K5,000 or less. In the lowest income bracket there is a slight overrepresentation of non-literates (48.7%) as compared to the overall non-literate rate of 47.2%. The opposite trend is observed for higher income brackets, where there is a significant under-representation of non-literates as compared to the overall rate. The annual income bracket with the highest proportion of literates is the K11,000-20,000 per annum income, with 52.9% of respondents classified as literate.

Table S.33: Literacy Classification and Estimated Annual Income

ANNUAL INCOME	SANDAUN			
	Non-literate	Semi-literate	Literate	Overall
K0 - 5,000	48.7%	40.9%	10.4%	95.6%
K6,000 – 10,000	4.5%	63.6%	31.8%	1.6%
K11,000 – 20,000	5.9%	41.2%	52.9%	1.2%
K21,000 +	9.1%	63.6%	27.3%	0.8%
Overall	47.2%	41.5%	11.4%	-

Clearly much needs to be done to improve literacy levels in Sandaun Province. This includes:

- Better quality education at primary and secondary school, including a more focused effort on achieving literacy;
- Post-school literacy training opportunities for those who never went to school or who did not achieve literacy through it; and
- Special attention to reverse the gender disparity in terms of access to education and the opportunity to achieve literacy.



Gulf Province

Profile of Survey Respondents

Demographic Profile

In late 2010 1440 people were interviewed in Gulf Province, which is substantially above the minimum sample size of 383 people. As per the established methodology the sample contained only those aged between 15 and 60 years of age. The survey was undertaken in 15 communities, well above the minimum of ten villages anticipated to provide a valid sample.

The villages surveyed were located across eight Local Level Government (LLG) areas within the two districts of Kikori and Kerema as follows:

- Kikori: Aurai, Gibi, Aumu, Kaiam Village 1 & 2, Kopi, Lakoro & Aro; and
- Kerema: Mura, Mamuro, Didimawa, Lalapipi, Kuvala Settlement, Sangare & Imendu.

The profile of survey respondents is summarised in Table G.1 and it can be observed that the provincial sample is similar to the national age profile from the 2000 national census. The breakdown of the survey sample by gender indicates that slightly more males (51.0%) participated compared to females (49.0%). The higher participation is in line with census gender-disaggregation, with the 2000 Gulf Census results highlighting higher male population (51.9%) compared to females (48.1%).

Table G.1: Survey Respondents for Sandaun Province, by Gender and Age

AGE COHORT	GULF			NATIONAL CENSUS	
	Male	Female	Overall	%	%
15-19	120	113	233	16.2%	19.1%
20-24	102	116	218	15.1%	16.4%
25-29	110	128	238	16.5%	15.4%
30-39	182	181	363	25.2%	24.6%
40-49	131	110	241	16.7%	15.5%
50-60	89	58	147	10.2%	8.9%
Total	734	706	1440	99.9%	99.9%

Language of Interview

Respondents were asked to declare the preferred language for the interview to be conducted selecting from English, Tokpisin or Motu, and the vast majority of respondents chose Tokpisin or English. However, 25.7% of respondents declared that they could only speak Tokples (their vernacular or mother-tongue). It is noteworthy that this is the highest proportion of respondents restricted to Tokples of any of the 5 provinces surveyed in PNG since 2006. For example in the Sandaun Province only 2.8% of the sample spoke only Tokples. For this quarter of the respondents the survey interview did not continue and hence their individual profile and education experience are not contained in the analysis that follows. The implication of this large Tokples only segment of the sample will be discussed in each section.

With regard to this section of the Gulf report on individual profile, Tokples only speakers did not answer questions about sources of information, attitudes to education and income. Surveyors however, were able to obtain information about the individual's age and gender, and hence this information is contained in Table G.1.

Sources of Information

This section details the different sources of information accessed by respondents in the month prior to being surveyed. As noted above, Tokples only speakers did not answer questions related to sources of information, and hence percentages accessing each source were calculated using the total number of respondents who actually answered the question.

In Gulf Province, the main source of information was radio as seen in Table G.2, with 67.2% of respondents. Almost half of the respondents in Gulf cited newspapers or magazines and books as sources of information. An interesting further inquiry here, in terms of books, would be to ascertain the type books read and whether the bible is dominate source. 32.9% of respondents cited television as a source of information.

Table G.2: Sources of Information in the Last Month, by Gender and Age

SOURCE	GULF		
	Male	Female	Overall
Radio	71.9%	60.4%	67.2%
Television	35.5%	29.2%	32.9%
Magazine or newspaper	49.4%	32.4%	42.3%
Book	50.2%	45.9%	48.4%

It is worth noting the gender disparity evident in the results. Significantly less females than males cited using each source in the last month. This finding could indicate that women in Gulf are less likely to seek information or that they are less able to access information sources.

Another possible source of information for respondents was through attending community meetings. As can be seen in Table G.3, 55.2% of respondents had not attended a meeting in the last month. Only 9.2% attended community meetings more than four times in the last month.

Table G.3: Attendance at a Community Meeting in the Last Month

None	Once	GULF	
		2 – 4 times	More than 4 times
55.2%	20.6%	15.1%	9.2%

Attitudes to Literacy

As can be seen in Table G.4 the vast majority of respondents in Gulf Province believed reading, writing and counting to be very useful or sometimes useful skills in everyday life. Counting is valued even higher as useful or sometimes useful by 95% of respondents.

Table G.4: Usefulness of Literacy Skills in Everyday Life

DECLARED LEVEL OF USEFULNESS	GULF		
	Reading	Writing	Counting
Very useful	65.0%	65.1%	83.1%
Useful sometimes	19.2%	17.6%	12.1%
Not useful	15.8%	17.3%	4.8%
Total	100.0%	100.0%	100.0%

Attitudes to Education

In Gulf Province, a massive 96.9% of respondents declared it to be very important for all children to go to school, as shown in Table G.5 below. Less than 2% of respondents stated that it is not important for children to go to school.

Table G.5: How Important is it for Children to go to School

GULF			
Very important for all	Important for some	Not important	Overall
96.9%	1.4%	1.7%	100.0%

Those respondents, who declared that school was important to all or some children, were then asked an additional question to ascertain why they think it is important for children to go to school. As shown below in Table G.6, school was seen as important for learning to read, write and think, by 96.1% of respondents. Learning skills for work (90.1%), traditional culture and practices (87.3%), and learning about the country and the world (87.1%) all rated very highly as important reasons why children should to go to school. As can be seen below, there is little difference between frequency of responses by males and females.

Table G.6: Importance of School, by Gender

IMPORTANCE OF SCHOOL	GULF		Overall
	Male	Female	
Read, write & think	96.2%	95.9%	96.1%
Traditional culture and values	86.0%	89.1%	87.3%
Skills for work	88.5%	92.3%	90.1%
About country and world	86.4%	88.0%	87.1%

Income

In Gulf Province, only 2.0% declared earning an estimated income higher than K6,000 per annum, as shown in Table G.7. The gender-disaggregated results show that a higher proportion of males (2.5%) than females (1.1%) earn greater than K6,000 per annum.

Table G.7: Estimated Annual Income, by Gender

ANNUAL INCOME	GULF		Overall
	Male	Female	
K0 - 5,000	97.5%	98.9%	98.0%
K6,000 +	2.5%	1.1%	2.0%
Total	100.0%	100.0%	100.0%

Educational Experience

It is important to note that individuals who could only speak Tokples did not complete questions related to education experience and are therefore not included in the analysis that follows. Percentages within each table refer only to those who answered the questions.

Education Attendance

As would be expected, participation in schooling at the time of the survey was higher amongst the 15 to 19 year old cohort (43.7%) compared to the 20 to 24 cohort (5.1%). As seen in Table G.8 in both youth age cohorts females were slightly less likely to be attending school.

Table G.8: Currently Attending School for Youth, by Gender

AGE COHORT	GULF		Overall
	Male	Female	
15-19	46.7%	40.0%	43.7%
20-24	5.4%	4.8%	5.1%



All respondents, youth and adults, were then asked a series of questions about their past education attendance. As seen in Table G.9, 9.2% of respondents had never attended school, while only 19.9% had attended secondary school. Gender disparities are evident, with 11.3% of female respondents having never attended school compared to 7.7% of males. Only 16.0% of females reached secondary or tertiary level, which is 6.6% lower than males. The figures

indicate a very poor transition rate from primary to secondary school for both males and females.

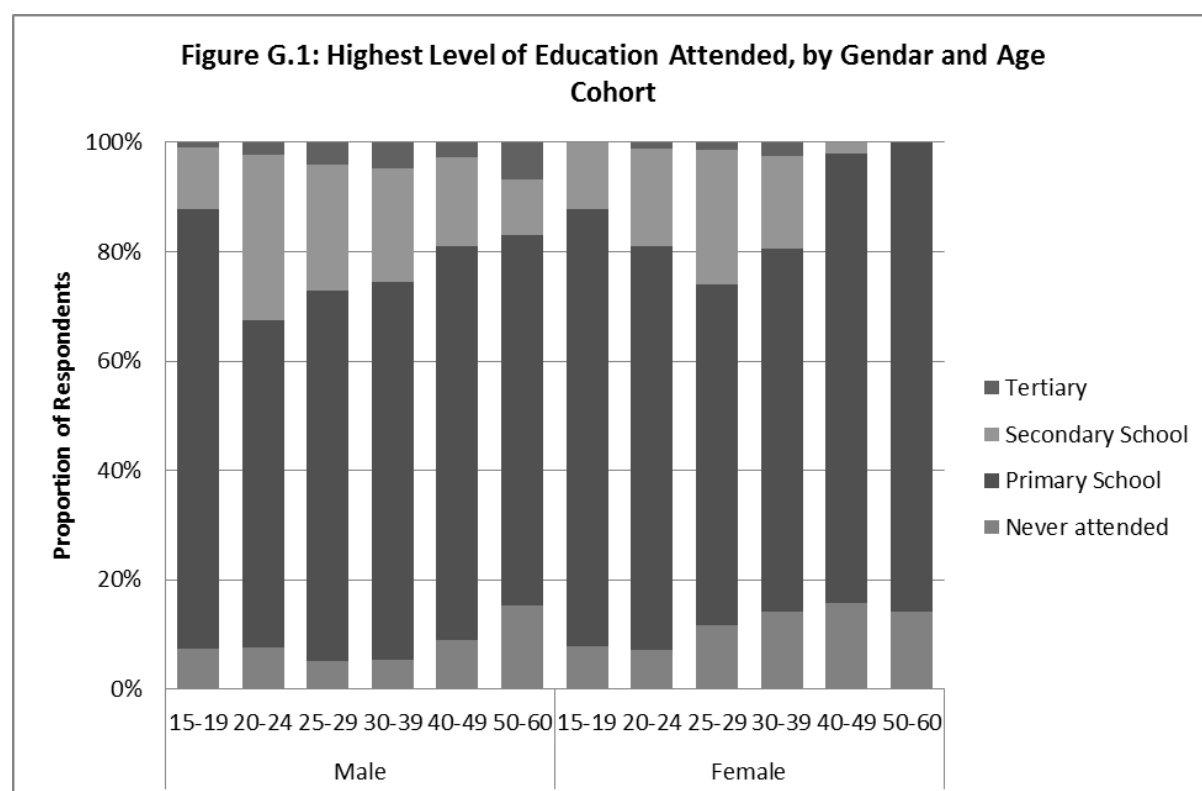
Table G.9: Highest Level of Education Attended, by Gender

DECLARED HIGHEST LEVEL ATTENDED	Male	GULF Female	Overall
Never attended	7.7%	11.3%	9.2%
Primary	69.7%	72.6%	70.9%
Secondary	19.1%	14.9%	17.4%
Tertiary	3.5%	1.1%	2.5%
Total	100.0%	99.9%	100.0%

Both Table G.10 and Figure G.1 show that from the oldest age cohort there has been a gradual drop in the percentage of respondents that have never been to school. Additionally the youngest cohort has this highest attendance at primary school.

Table G.10: Highest Level of Education Attended, by Age

DECLARED HIGHEST LEVEL ATTENDED	15-19	20-24	25-29	GULF 30-39	40-49	50-60	Overall
Never attended	7.6%	7.4%	8.1%	9.1%	11.1%	15.0%	9.2%
Primary	80.2%	66.5%	65.3%	67.9%	75.3%	72.5%	70.9%
Secondary	11.7%	24.4%	23.7%	19.2%	11.7%	7.5%	17.4%
Tertiary	0.5%	1.7%	2.9%	3.8%	1.9%	5.0%	2.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%



Further, Figure G.1 also shows a positive trend towards greater participation in primary and secondary school amongst younger cohorts, including improved transition from primary to secondary school as compared to the two oldest cohorts. Since some of those interviewed were still in primary school, the lower figures for the youngest cohort regarding highest level achieved are understandable. However, female participation at tertiary level is still lower than males across all cohorts. The proportion of adult male respondents who have reached secondary has also grown, with the exception of the youngest cohort.

Primary and Secondary School

For those respondents who did not complete or enrol in primary or secondary school, cost factors, absence of local school and parental expectations were the most commonly cited reasons as shown in Table G.11. By far the most commonly cited reason was school fees (70.9%), but other costs such as transport (27.1%) parental expectations to assist at home (31.8%) or take up employment (22.4%) as factors for not attending or completing primary or secondary school.

Table G.11: Reasons for Primary and Secondary School Non-Completion, by Gender

DECLARED REASON(S)	GULF		
	Male	Female	Overall
No school in village	23.3%	21.8%	22.7%
School fees	72.5%	68.5%	70.9%
Other costs	27.0%	27.3%	27.1%
Not safe	11.6%	11.8%	11.7%
Not enough desks, books	6.3%	11.3%	8.3%
No toilet	6.1%	11.3%	8.1%
Not interested	15.9%	18.5%	16.9%
Parent want help at home	23.5%	45.0%	31.8%
Parent want me to work	22.0%	23.1%	22.4%
Other reasons	3.2%	0.4%	2.1%

The gender-disaggregated results parental expectations to assist at home are a more significant factor for females (45.0%) than males (23.5%). Also 5% more females cited not enough desks and toilets as reasons.

Tertiary Education

As discussed earlier only 2.5% of respondents in Gulf declared they had participated in university level education, with a significant gender disparity favouring males across all age cohorts. As with primary and secondary education, cost factors such university fees (48.0%) and other costs (18.0%) were commonly cited reasons for not participating in tertiary education. For females a massive 66.7% cited parents wanting them to help at home as a barrier to participation, compared to 34.4% of males citing this reason.

Table G.12: Barriers to Attending and Completing University, by Gender

DECLARED REASON(S)	GILF		
	Male	Female	Overall
University fees	53.1%	38.9%	48.0%
Other costs	12.5%	27.8%	18.0%
Not enough places	3.1%	11.1%	6.0%
Entry criteria too high	15.6%	38.9%	24.0%
No courses	12.5%	16.7%	14.0%
Parent want help at home	34.4%	66.7%	46.0%
Parent want me to work	12.5%	16.7%	14.0%

Community Education Programs

Respondents not currently attending primary or secondary school were asked if they had attended a training or education program run by a community organisation in the past three years.

Table G.13: Participation in Community Education in Last 3 Years

	GULF			
	None	Once	2 – 4 times	More than 4 times
	79.4%	9.8%	6.7%	4.0%

As seen in Table G.13, almost 80% had not participated in any community education in the past three years. Of those who had participated, the course was more often undertaken on a part-time basis (57.2% compared to 42.8% for full time) as shown in Table G.14. Part-time courses were usually short in duration, with only 7.4% having undertaken a course that lasted more than a year. The most attended type of course was part-time and less than two weeks (34.6%).

Table G.14: Length of Longest Community Education Undertaken

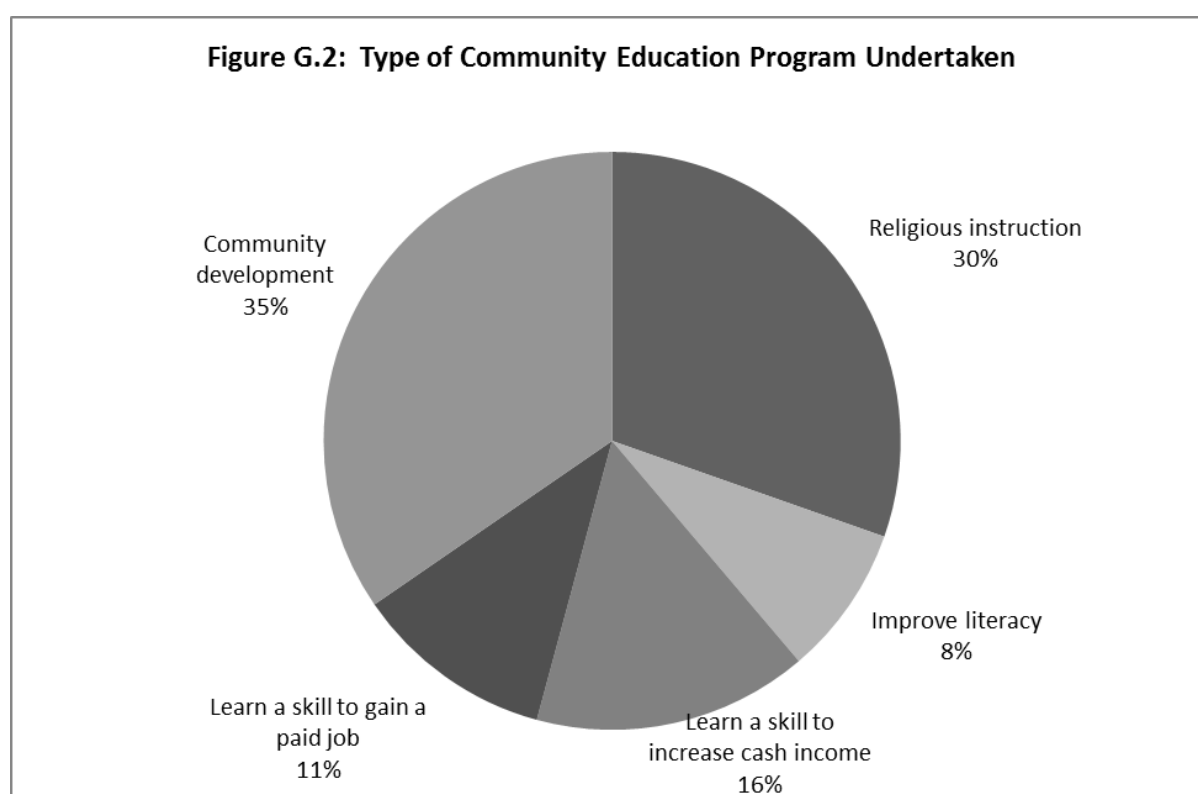
GULF							
PART –TIME				FULL - TIME			
Less than 2 weeks	Less than 3 months	Less than a year	More than a year	Less than 2 weeks	Less than 3 months	Less than a year	More than a year
34.6%	10.6%	4.6%	7.4%	11.5%	5.5%	7.8%	18.0%

As with other education levels, significant barriers to attending or completing community education courses include fees and other costs (totalling 37.1%) and parental expectations (44.9%), as shown in Table G.15. However, the most significant barrier to participation was that community providers do not offer suitable training opportunities, with 67.1% of males and 52.81% of females citing this reason. Again there is a significant gender disparity with 59.0% of females indicating parents wanted them to help at home, compared to 34.1% of males.

Table G.15: Barriers to Attending and Completing Community Courses, by Gender

DECLARED REASON(S)	GULF		
	Male	Female	Overall
No suitable training	67.1%	52.8%	60.9%
Fees	21.6%	24.1%	22.7%
Other costs	12.5%	16.9%	14.4%
Not enough places	9.8%	10.8%	10.2%
Courses not interesting	16.1%	24.6%	19.8%
Parent want help at home	34.1%	59.0%	44.9%
Parent want me to work	23.5%	25.6%	24.4%

The types of courses undertaken are summarised in the Figure G.2, with community development programs focusing on health, human rights and environment the most popular courses. Thirty percent of respondents had undertaken a religious course, while 27% cited work and income related courses. A significant finding is that despite, low school completion rates only 8% had undertaken community education programs to improve literacy.



Education and Income

As noted in an earlier section, the overwhelming majority (98.0%) of respondents estimated their income to be below the K5,000 level. There is a clear relationship between higher income and completion of secondary and tertiary levels for both males and females. There is

however, little difference in income between those who have never attended school and those who attended primary school.

Table G.16: Highest Level of Education Attended and Estimated Annual Income (K)

DECLARED HIGHEST LEVEL ATTENDED	GULF					
	MALE		FEMALE		OVERALL	
	0 - 5,000	6,000+	0 - 5,000	6,000+	0 - 5,000	6,000+
Never attended	100.0%	0.0%	98.0%	2.0%	99.0%	1.0%
Primary	99.1%	0.9%	99.4%	0.6%	99.2%	0.8%
Secondary	94.2%	5.8%	98.5%	1.5%	95.7%	4.3%
Tertiary	76.2%	23.8%	80.0%	20.0%	76.9%	23.1%
Overall	97.5%	2.5%	98.9%	1.1%	98.0%	2.0%

Language Experience

The following section provides analysis of findings relating to language usage patterns and literacy confidence. Although Tokples only speakers were not asked questions about their language experience, their ability to only speak the vernacular(s) is included in the analysis regarding oral communication. The Tokples only speakers are not included in any other sub-sections of the language experience analysis.

Oral Communication

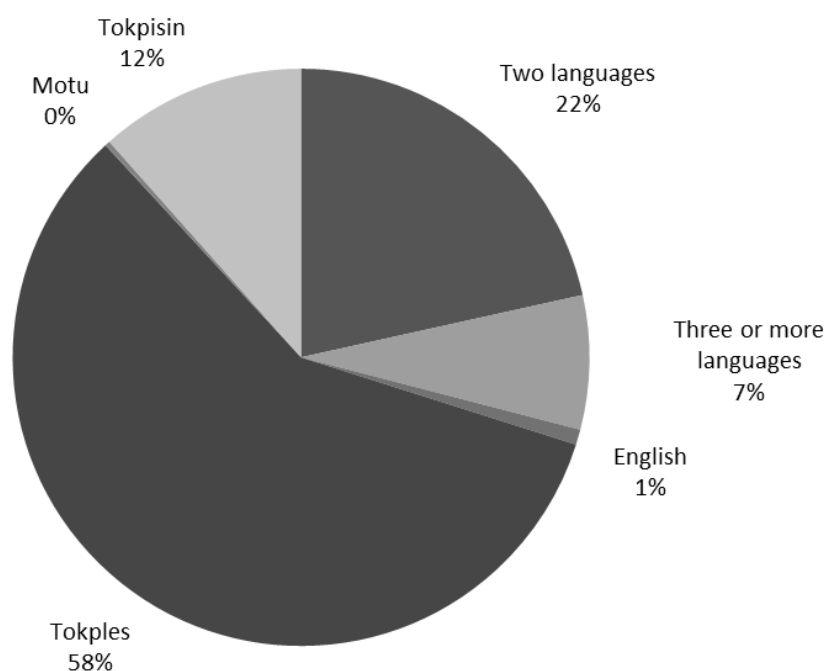
Within Gulf province an overwhelming 94.1% of respondents communicate in their homes in Tokples, as shown in Table G.17. Tokpisin is also spoken at home by 58.5%, English is spoken at home by 26.8%, and only 14.3% declared using Motu in the home. According to respondents, it is unusual for other languages, including non-PNG languages, to be spoken in the home. Similar findings are also observed for all languages with regard to the languages spoken with friends, however the use of Tokpisin more commonly spoken with friends (78.1%) than with family (58.5%).

Table G.17: Language Spoken at Home and with Friends

LANGUAGE(S)	GULF	
	Home	Friends
Tokples	94.1%	78.4%
Tokpisin	58.5%	78.1%
Motu	14.3%	19.4%
English	26.8%	35.2%
Other	0.3%	0.5%

As can be seen in Chart G.3, 22% of respondents declared two languages were used within the home equally and 7% declared three or more languages were used equally in the home. Only nine respondents declared that English was the language most commonly spoken at home and only three declared Motu as the most common at home.

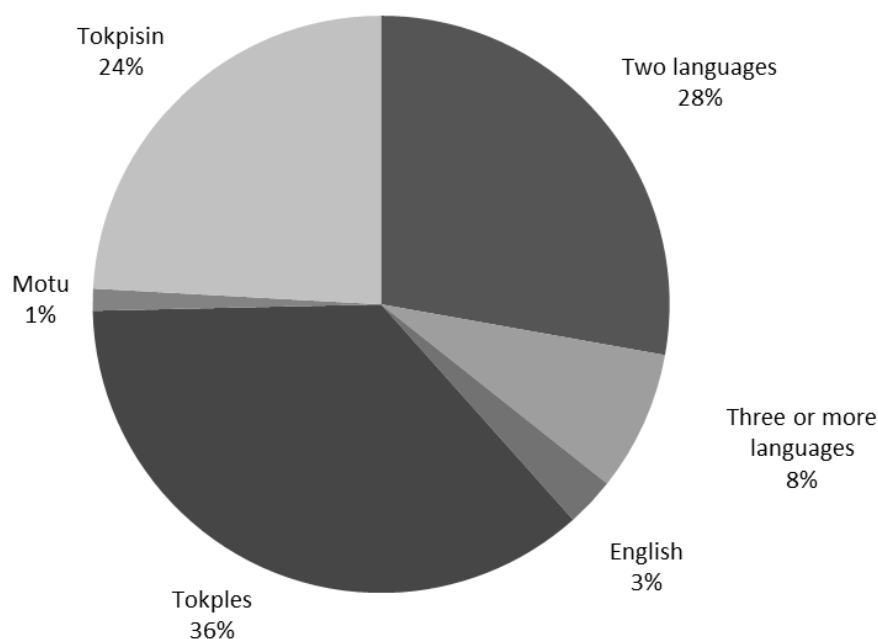
Figure G.3: Languages Most Commonly Spoken at Home



Different findings can be observed for the languages most commonly spoken with friends. Although Tokples is still the most common (36%) language with friends, Tokpisin is more common language with friends (24%) as compared to with family (12%). Just over a quarter of respondents use two languages equally in their communication with friends and only 3% use predominately English.



Figure G.4: Languages Most Commonly Spoken with Friends



Written Communication

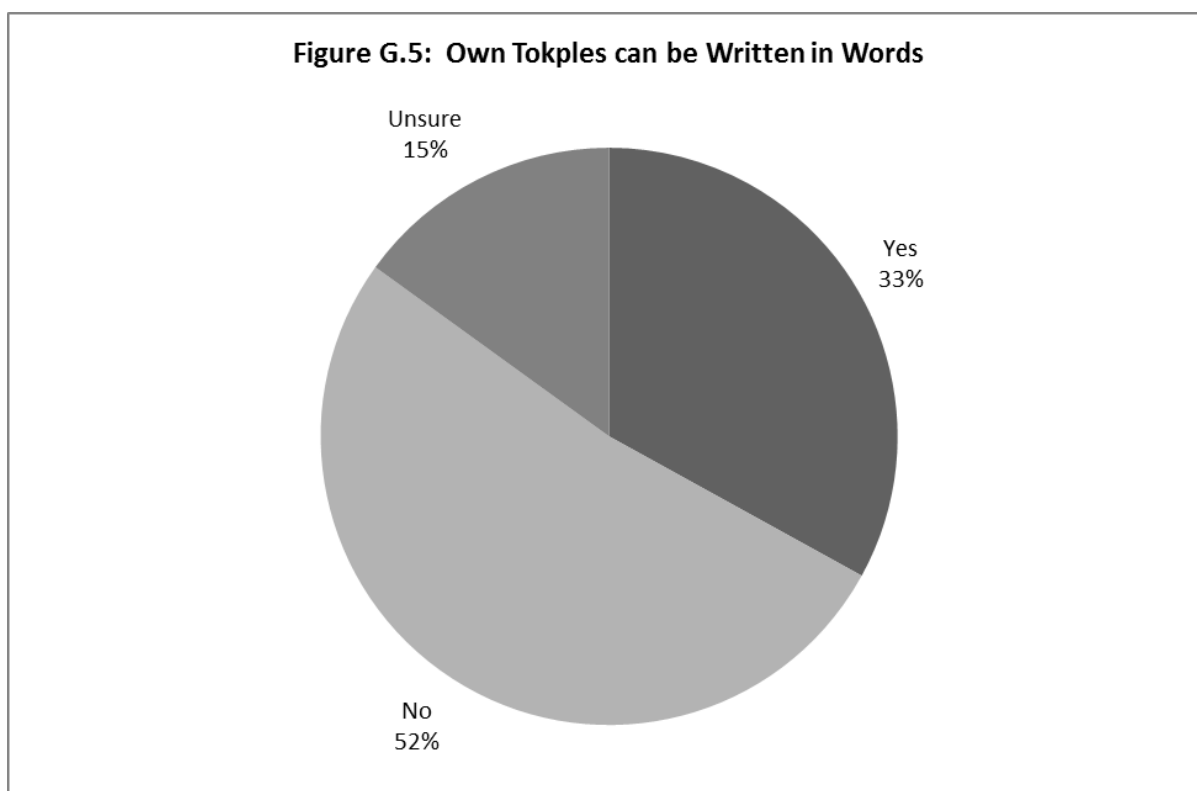
The following section about written communication does not include respondents who can only speak Tokples. The survey in Gulf included a self-declaration question. As can be seen in Table G.18, 64% of respondents declared they could read and write with understanding in Tokpisin. Interestingly, a higher percentage (72.6%) stated they could read and write with understanding in English while 38.3% declared for Tokples, and only 13.3% declaring a written understanding of Motu.

Table G.18: Languages that Respondents can Read and Write with Understanding

GULF			
Tokpisin	English	Motu	Tokples
64.0%	72.6%	13.3%	38.3%

Tokples

As can be seen in Figure G.5, 33% of the respondents declared their own Tokples could be written in words and 52% declared their Tokples was exclusively oral. It is important to note that respondents who could only speak Tokples were not asked questions relating to their ability to write in Tokples.



In Gulf, the majority of those who stated their Tokples could be written in words were confident in their ability to read the written form of their vernacular. As seen in Table G.19, 25.7% said they could not read their Tokples. Further, females were less confident in their ability to read their Tokples, and a higher percentage than males declared they could not read their Tokples. Given that the literacy assessment in this survey only assessed Tokpisin, English and Motu, there needs to be further investigation into literacy levels within certain Tokples languages in Gulf, especially given the high proportion of those surveyed who could only speak Tokples.

Table G.19: Reading Confidence in Tokples, by Gender

DECLARED CONFIDENCE	GULF		Overall
	Male	Female	
Read easily	57.8%	54.7%	56.6%
Read some	19.6%	15.1%	17.8%
Cannot read	22.5%	30.2%	25.7%
Total	99.9%	100.0%	100.1%

Tokpisin, English and Motu

As with previous surveys conducted in PNG, the literacy assessment component was carried out with only those respondents who declared they could read in Tokpisin, English or Motu. During the survey, individuals were first asked their preferred language of the three that they read and write in the most. As can be seen in Table G.20, 40.7% of respondents preferred English, with 31.1% preferring Tokpisin and only 2.3% of respondents preferring Motu.

Table G.20: Preferred Official Language

Tokpisin	English	GULF		Total
		Motu	None	
31.1%	40.7%	2.3%	25.9%	100.0%

The reading confidence of respondents by gender is shown in Table G.21 In Gulf province, the 64.4% of respondents declared that they could read easily. Females were less confident in their reading ability and a higher percentage indicated that they could not read. It is noteworthy that 16.8% of respondents declared they could not read despite declaring in the previous question they could read and write an official language. This further highlights the inaccuracy of the self-declaration method to determine literacy, with 131 respondents initially declaring they could read, but on further questioning admitting they could not.

Table G.21: Reading Confidence in Tokpisin, Motu or English, by Gender

DECLARED CONFIDENCE	GULF		
	Male	Female	Overall
Read easily	67.4%	59.7%	64.4%
Read some	17.6%	20.7%	18.8%
Cannot read	14.9%	19.7%	16.8%
Total	99.9%	100.1%	100.0%

As can be seen in Table G.22, the oldest respondents in Gulf displayed less confidence in their ability to read, with 24.5% declaring they could not read. Respondents between 15 to 29 years of age were the most confident in their reading ability with 87.7% declaring they could read easily or read some. Again, as noted above respondents across all age cohorts changed their literacy status on further questioning. For example within the oldest cohort 13 respondents changed their mind about their ability to read Tokpisin, Motu or English and 26 respondents in 25-29 year old category.

Table G.22: Reading Confidence in Tokpisin, Motu or English, by Age

AGE COHORT	GULF						Overall
	15-19	20-24	25-29	30-39	40-49	50-60	
Read easily	60.6%	69.5%	61.6%	61.3%	72.2%	66.0%	64.4%
Read some	27.1%	16.4%	17.6%	20.8%	12.0%	9.4%	18.8%
Cannot read	12.3%	14.1%	20.8%	17.9%	15.7%	24.5%	16.8%
Total	100.0%	100.0%	100.0%	100.0%	99.9%	99.9%	100.0%

Literacy Assessment

The final section of the survey questionnaire was the individual literacy assessment. This enabled literacy rates to be calculated on the basis of demonstrated ability rather than self-declaration. Only those participants who declared that they could read at least one of Tokpisin, English or Motu participated in the literacy assessment, with those respondents who declared themselves to unable to read, automatically classified as ‘non-literate’ as per the methodology used in previous surveys. The 336 respondents who did not complete the questionnaire because they used Tokples only are likewise automatically classified as non-

literate. In later sub-sections literacy will be compared with education experience and income, and in this case Tokples only speakers cannot be considered in the analysis.

Literacy Rates

The results of the literacy assessment as summarised below in Table G.23 reveal extremely low literacy levels within Gulf Province, with only 4.4% of respondents classified as literate and 36.7% as semi-literate. This is significantly less than the percentage of respondents that expressed confidence when asked if they could read Tokpisin (64%), English (72.6%) or Motu (13.3%), clearly exposing the inaccuracy of self-declaration as a measure of literacy. Bearing in mind that the literacy assessment was not a difficult test to pass, this is an alarming finding.

Table G.23: Literacy Classification, by Gender

GENDER	GULF		
	Non-literate	Semi-literate	Literate
Male	48.9%	44.8%	6.3%
Female	69.2%	28.3%	2.5%
Overall	58.8%	36.7%	4.4%

Further, Table G.23 reveals that a greater proportion of females, (69.2%) are classified as non-literate as compared to 48.9% of males. Moreover, 51.1% of males are classified as literate or semi-literate, whereas 30.8% of females are semi or fully literate and consequently there is an enormous gender gap of 20%.



While the literacy rate is slightly higher for younger cohorts, as shown in Table G.24, this is no cause for comfort because all age cohorts scored so lowly. The over whelming majority of respondents (93.6%) are classified as either semi-literate or non-literate across all age cohorts. Over time there has been a shift towards semi-literacy, but no significant increase in the proportion that are fully literate.

Table G.24: Literacy Classification, by Age

AGE COHORT	GULF		
	Non-literate	Semi-literate	Literate
15-19	46.8%	48.5%	4.7%
20-24	52.3%	41.7%	6.0%
25-29	61.3%	33.6%	5.0%
30-39	56.7%	39.1%	4.1%
40-49	65.6%	30.7%	3.7%
50-60	76.9%	20.4%	2.7%
Overall	58.8%	36.7%	4.4%

Literacy and Reading Confidence

The inadequacy of self-declaration to accurately capture literacy levels is clearly demonstrated by the results shown in Table G.25. For example, of those who declared they could easily read Tokpisin, English or Motu the majority were assessed as semi-literate and only 11.5% of respondents classified as literate. Clearly there is significant mismatch between respondents' declared ability and their actual ability.

Table G.25: Literacy Classification and Reading Confidence

DECLARED CONFIDENCE	GULF		
	Non-literate	Semi-literate	Literate
Read easily	7.4%	81.1%	11.5%
Read some	13.6%	82.3%	4.1%
Cannot read or Tokples only speaker	100.0%	0.0%	0.0%

Literacy and Education Experience

In Gulf Province, 71.6% of those currently enrolled in school are classified as merely semi-literate and only 5.3% had composite scores that put them in the literate category as shown below in Table G.26. Almost a quarter of the youth currently attending school were classified as non-literate. It is clear that literacy is by no means ensured for those who attend formal schooling, and suggests there is a crisis in education quality.

Table G.26: Literacy Classification for Youth Currently Attending School, by Gender

GENDER	GULF		
	Non-literate	Semi-literate	Literate
Male	21.8%	74.5%	3.6%
Female	25.0%	67.5%	7.5%
Overall	23.2%	71.6%	5.3%

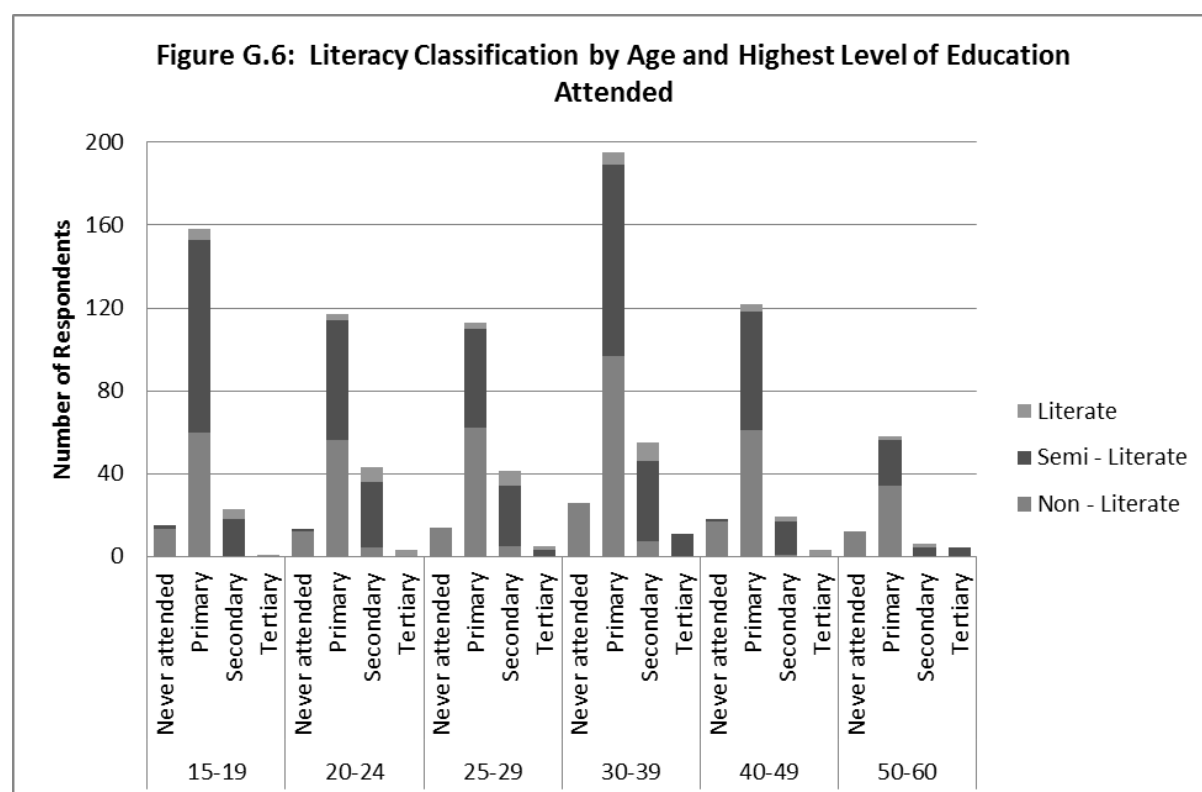
Despite weaker than expected rates of literacy for those currently attending primary or secondary school, there is nonetheless a clear correlation between schooling and literacy achievement. As can be observed below in Table G.27, the literacy rate increases progressively with each level of education attended. However, the education system produces

mostly semi-literates. Respondents who only attended primary school and did not reach secondary school were mostly classified as non or semi-literate. Remarkably, even the majority of respondents who reached tertiary studies were classified as semi-literate, with only 33.3% classified as literate. For those respondents who declared having never attended school, 96% were classified as non-literate, which indicates that those who do not attend formal schooling are currently highly unlikely to ever become literate.

Table G.27: Literacy Classification and Highest Level of Education Attended

DECLARED HIGHEST LEVEL ATTENDED	GULF			Overall
	Non-literate	Semi-literate	Literate	
Never attended	96.0%	4.0%	0.0%	9.2%
Primary	48.5%	48.5%	3.0%	70.9%
Secondary	9.1%	73.8%	17.1%	17.4%
Tertiary	0.0%	66.7%	33.3%	2.5%
Not declared (Tokples only speaker)	100.0%	0.0%	0.0%	-
Overall	58.8%	36.7%	4.4%	-

The output of semi-literates and non-literates from primary school is particularly important to note, as this is the highest level of schooling for 70.9% of respondents who declared their education level. As can be clearly seen in Figure G.6, across all age cohorts the proportion of semi-literates and non-literates is very substantial compared to the number of literates.



The dominance of semi-literacy in Gulf Province can be further observed through the analysis presented in Tables G.28 and G.29. Over time, there has been no consistent improvement in literacy rates for those who reach primary school, with the literate rate amongst 40-60 year olds of 3.3% being almost identical to that of 15-19 year olds of 3.2%.

There has been a discernible decrease in the proportion of non-literates in younger cohorts, but as noted there has been no shift in the proportion that is literate. Similarly the literacy rates at secondary school hovered around 16% in most age cohorts, with only a small increase in the youngest cohort of 21.7%.

Table G.28: Literacy Classification and Highest Level of Education Attended for the 15-24 Years Cohorts

DECLARED HIGHEST LEVEL	15-19			20-24		
	Non-literate	Semi-literate	Literate	Non-literate	Semi-literate	Literate
Never attended	86.7%	13.3%	0.0%	92.3%	7.7%	0.0%
Primary	38.0%	58.9%	3.2%	47.9%	49.6%	2.6%
Secondary	0.0%	78.3%	21.7%	9.3%	74.4%	16.3%
Tertiary	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%

Table G.29: Literacy Classification and Highest Level of Education Attended for those 25 years and over

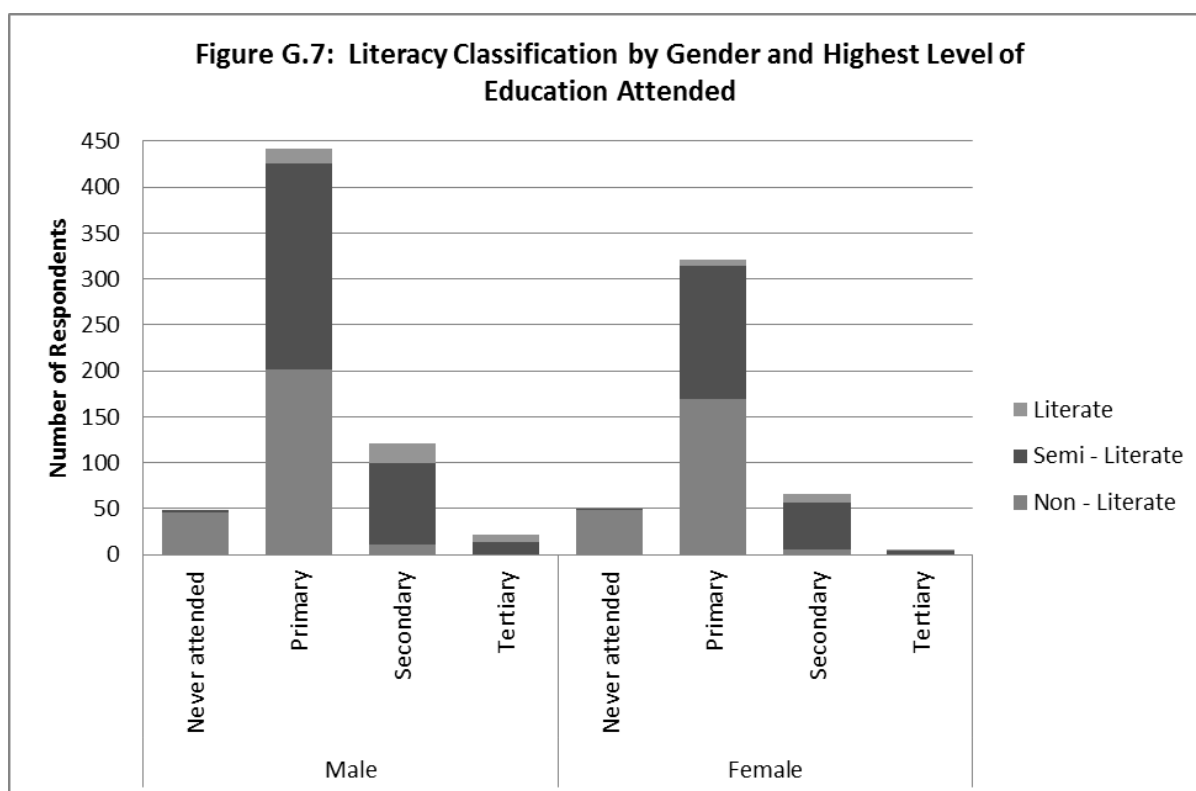
DECLARED HIGHEST LEVEL	25-39			40-60		
	Non-literate	Semi-literate	Literate	Non-literate	Semi-literate	Literate
Never attended	100.0%	0.0%	0.0%	96.7%	3.3%	0.0%
Primary	51.6%	45.5%	2.9%	52.8%	43.9%	3.3%
Secondary	12.5%	70.8%	16.7%	4.0%	80.0%	16.0%
Tertiary	0.0%	87.5%	12.5%	0.0%	57.1%	42.9%

As can be observed in Figure G.7 and Table G.30, female respondents who reach primary school were more likely than their male counterparts to be non-literate and less likely to be literate. Again it is worth noting that Tokples only speakers (336 respondents) are not included in this analysis, the majority of which are female.

Table G.30: Literacy Classification and Highest Level of Education Attended, by Gender

DECLARED HIGHEST LEVEL	MALE			FEMALE		
	Non-literate	Semi-literate	Literate	Non-literate	Semi-literate	Literate
Never attended	93.9%	6.1%	0.0%	98.0%	2.0%	0.0%
Primary	45.5%	50.9%	3.6%	52.6%	45.2%	2.2%
Secondary	9.1%	72.7%	18.2%	9.1%	75.8%	15.2%
Tertiary	0.0%	63.6%	36.4%	0.0%	80.0%	20.0%

The analysis of literacy rates in terms of education attendance indicates that the quality of schooling is poor with non-literates amongst those respondents who attended secondary and even tertiary level. Therefore, increasing the participation levels in school alone will not ensure that illiteracy is effectively combated. Responses to the literacy challenge in Gulf Province must consider both access and quality issues simultaneously if substantive progress is to be achieved.



Literacy and Income

The relationship between literacy and income is analysed in Table G.31. As noted previously 98.0% of the population estimated their annual income to be K5,000 or less. In the lowest income bracket the majority of respondents were classified as either non or semi-literate. A higher percentage of those who were literate were in the highest income bracket. As noted previously respondents who speak Tokples only were classified as non-literate and were not asked to declare their income level.

Table G.31: Literacy Classification and Estimated Annual Income

ANNUAL INCOME	GULF			Overall
	Non-literate	Semi-literate	Literate	
K0 - 5,000	45.7%	48.5%	5.7%	98.0%
K6000 +	9.5%	76.2%	14.3%	2.0%
Not declared (Tokples only speaker)	100.0%	0.0%	0.0%	-
Overall	58.8%	36.7%	4.4%	-

Clearly much needs to be done to improve literacy levels in Gulf Province, since it has the worst literacy rates of the 5 provinces assessed. Action to be taken includes:

- Better quality education at primary and secondary school, including a more focused effort on achieving literacy;
- Post-school literacy training opportunities for those who never went to school or who did not achieve literacy through it; and
- Special attention to reverse the gender disparity in terms of access to education and the opportunity to achieve literacy.

The Challenges Ahead

The survey findings highlight that in the 5 provinces surveyed: Chimbu, Sandaun, Gulf, New Ireland and NCD the Education For All (EFA) goals are far from being achieved. Clearly further surveys and literacy assessments are needed to ascertain the extent to which the findings accurately reflect the national picture. However, already it is evident that many of the findings have national implications and point to the need for a creative review of education policies. Examining the challenges through the lens of the EFA goals can point the way forward.

The third EFA goal focuses on youth and adults skills and requires that the learning needs of all young people and adults are met through equitable access to appropriate learning and life-skills programs. For those who did attend formal schooling even basic functional literacy was not assured. Those who missed out on school or did not complete it, or those who did not receive quality education at school, there are very few opportunities for second chance education or post-school literacy and life skills education.

The fourth EFA goal focuses on adult literacy, urging a commitment to improve adult literacy by 50% by 2015. In 4 of the 5 provinces less than 12% of respondents were classified as literate. Further, for those who did not attend formal schooling it is almost certain they will remain illiterate. Very few adult literacy courses are available to enable Papua New Guineans the opportunity to achieve basic functional literacy. Unless a much more serious effort is mounted, and more resources provided, PNG is unlikely to achieve the fourth EFA goal.



The fifth EFA goal focuses on ensuring gender parity across all aspects of education. As noted in multiple sections in the report there is a significant gender gap which negatively impacts on women in all 5 provinces. This is notable in terms of primary school intake, transition to secondary schooling, and completion and literacy rates. In PNG, gender parity is a long way from being achieved.

Finally in terms of the sixth EFA goal regarding the quality of education, the report raises significant concerns for policy makers in PNG to consider. Although literacy rates improved with higher schooling, attending school was no guarantee of achieving literacy, as the vast majority of respondents who attended primary school even secondary school were assessed to be semi or non-literate. Further, many respondents who declared they were currently attending school were unable to demonstrate sufficient skills to be classified as functionally literate.

This report provides accurate information about the education of respondents in Chimbu, Sandaun, Gulf, New Ireland and NCD provinces, and is offered as a contribution to inform policy debate and action by Government, donors, civil society organisations, other stakeholders and the community. All Papua New Guineans have a right to a basic education. Based on the findings in this report we offer five key recommendations towards meeting this right:
















1. The very low literacy levels are of serious concern. A more concerted planning effort and commitment of resources is required to lift the literacy levels of the population. This means strategies aimed at youth and adults, not just children. Widespread adult literacy programs need to be developed by the government and not just left to NGOs and the churches.
2. Greater efforts are required to ensure all children go to school and stay at school.
3. There is a need to dramatically improve the quality of education at primary and secondary school and ensure that more students become literate.
4. Special attention is needed to reduce the gender gap in education, so that more women and girls have access to quality education opportunities.
5. Substantial second chance and post-school education programs need to be developed by the government to give out-of-school youth and adults the opportunity to achieve functional literacy and receive basic life skills education.

ASPBAE and PEAN call upon all education stakeholders to urgently take up the findings of the report and to work together to ensure that all Papua New Guineans are given the access to an education of good quality, so that they can achieve their potential and can contribute more effectively to social and economic development in Papua New Guinea.

Appendix

Appendix A: Sample Questions from Survey Tool

The following two sample questions are from the survey tool used in Renbel and Isabel. The first question is from the reading skills' section of the assessment tool and the second question is from the numeracy skills' section. The scoring rubric appears at the bottom of the question and is used to calculate the composite literacy score.

Reading Skills					
<p>Can you match the pictures and words?</p> <p>Makim lain long piksa na nem bilong samting i stap long piksa.</p> <p>[show participant this page and ask him/her to draw a line matching the correct words and pictures]</p>					
	Eye Ai				
	Bird Pisin				
	Fish Pis				
<p>[0 points for incorrect or no matches; 2 points for one correct match; 4 points for two correct; 6 points for three correct] IF '0 POINTS', GO TO Q. 37</p>					
Numeracy Skills					
<p>How many fish and how many birds are there in the picture?</p> <p>Hamaspela pis na hamaspela pisin istap long dispela piksa?</p> <p>[show participant this page and ask for oral answers]</p>					
					
					
<p>[0 points for incorrect or no answers; 4 points for one correct answer; 6 points for two correct answers] IF '0 POINTS', THE SURVEY IS COMPLETE</p>					

Appendix B: Survey definitions

Literacy is understood as the possession of reading, writing and numeracy skills and the ability to use such skills in familiar contexts in everyday life

Non-literate is being unable to:

- read simple words;
- write simple words;
- count objects; and
- use these skills in everyday life.

Semi-literate is able to:

- read simple words or read some basic text;
- write simple words or write simple sentences;
- count objects or perform basic calculations, and
- use these skills in a limited way in everyday life.

Literate is able to:

- read and comprehend basic text with ease;
- write complete simple sentences with correct spelling;
- count objects & perform calculations; and
- use these skills in everyday life.

Adult is between the ages of 25 and 60 years

Youth is between the ages of 15 and 24 years

Appendix C: Additional Notes on Survey Methodology and Analysis

The methodology used to classify respondents as literate, semi-literate or non-literate is as per previous surveys. Those respondents who could not speak English, Tokpisin or Motu were automatically classified as non-literate. For those who declared an ability to read English, Tokpisin or Motu, the literacy classification of respondents was based on a composite score for the eleven questions within the literacy assessment, with a maximum possible composite score of 66. Those respondents who answered all eleven questions correctly obtained a composite score of 66 and were classified as literate. To be classified a semi-literate, the respondent needed to demonstrate literacy skills in each of the reading, writing, numeracy and application skills questions by providing at least one partially correct answer for each literacy skill area. For example a respondent who achieved a composite score of 30, but a score of zero within the numeracy skills section would be classified as non-literate, even if they performed well on the reading, writing and application questions.

In this report the results of the survey are presented in percentage form to one decimal place, to enable comparison with nationally reported figures, between provinces and amongst disaggregated groups such as males and females. It is noteworthy that the style of question, impacts on the analysis and thus interpretation of the results. For example for questions where respondents could provide one or more possible response, such as Table 2, then the results table has noted the proportion of respondents who have chosen each particular response and thus the cumulative percentage was not calculated. In contrast, for the case where respondents could select only one response, such as Table 3, then the total cumulative percentage for valid responses was calculated and will always equal 100%. However, given that results in this report are rounded to one decimal place it is reasonable that a rounding error will be present such that the total may be 100.1 or 99.9% in some cases but most often equal to 100.0%.

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The ASPBAE Australia Ltd. is a not for profit company owned by the Asia South Pacific Association for Basic and Adult Education (ASPBAE). ASPBAE is a regional association of more than 200 organisations and individuals working towards promoting quality education for all and transformative, liberating and life-long adult education and learning. It strives to forge and sustain an Asia-Pacific movement dedicated to mobilising and supporting community and civil society groups and institutions in holding governments and the international donor community accountable in meeting education targets and commitments, ensuring the right of all to education, and upholding education as an empowering tool for combating poverty and all forms of exclusion and discrimination, pursuing sustainable development, enabling active and meaningful participation in governance, and building a culture of peace and international understanding.

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The PNG Education Advocacy Network (PEAN) is a not for profit association of civil society organisation based in PNG and provides a focal point through which civil society can contribute to education policy debates. PEAN undertakes research on education policy issues and advocates for policy change, and further acts as an information source for civil society organisations with an interest in education. PEAN also works to strengthen the capacity of its members, and civil society more broadly, to participate actively and with authority in public debates on education in the PNG.

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