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OTHER PUBLICATION

NATIONAL CAPITAL DISTRICT

2009 UNIVERSAL BASIC EDUCATION PROFILE

Jeremy Goro
Kilala Devette-Chee
Peter Magury
Daphney Kollin
Martha Waim

September 2020
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(b) The undertaking of research into social, political and economic problems of Papua New Guinea in order to enable practical solutions to such problems to be formulated.

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Acknowledgement

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

About the Authors

Jeremy Goro is a Research fellow in the Universal Basic Education Research Program at the PNG National Research Institute. He has a Master of Education specialising in research and pedagogy from the University of Newcastle, New South Wales, Australia. His research interest areas include education and curriculum reforms, understanding issues in higher education, economics of education, governance of education and cross-cutting issues in education. He also has research interest in governance and service deliveries in Papua New Guinea.

Dr Kilala Devette-Chee is a Senior Research Fellow and the Program Leader of the Universal Basic Education Program at the PNG National Research Institute. She holds a PhD in Educational Linguistics and Masters in English Language Teaching from the University of Canberra as well as a Postgraduate Diploma in Linguistics and Applied Linguistics from the Australian National University. Her current research interest is in the fight and advocacy for quality education which is the foundation to creating sustainable development. As vice chair of the PNG Education Advocacy Network and the South Pacific female representative in the Asia South Pacific Association for Basic & Adult Education’s (ASPBAE) Executive Council, which promotes equitable quality education and promotes life-long learning for all, Dr Devette-Chee advocates for “leaving no child behind”.

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

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

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

Glossary of terms

Elementary education

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

Gross enrolment rate

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

Net enrolment ratio

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

Net admission rate

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

Primary education

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

Retention rate

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

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

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

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

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

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

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

Dr Osborne Ogis Sanida
Director
Introduction

The National Capital District (NCD) encompasses Port Moresby, the capital of Papua New Guinea (PNG). While its administration is quite different to the provincial governments, it is classified for electoral purposes as the equivalent of a province. It is separated into three districts, but these are not considered districts in the same administrative sense as the other open electorates of PNG, due to the wide-ranging authority of the National Capital District Commission.

The NCD is one of the few locations in PNG where service delivery is relatively efficient due to the good road linkages in the city and the proximity of the population to services. There are, however, serious concerns about the lack of access to education for the majority of school-age children, poor student retention rates, and poor student learning outcomes.

To address these challenges, a number of policies and plans have been developed and implemented with the goals of making education available to all school-age children and keeping them in school to complete a basic education of good quality. It is essential that these policies and plans are carefully monitored. To do so requires current data disaggregated to the district level. This will help the government and its stakeholders better understand the unique needs and challenges of each district, and to identify performance monitoring gaps where there is improvement, no change, or deterioration in relation to access, retention, and quality of learning.

This profile is designed to help fill that data need. It contains a map and general information regarding the school-age population, enrolment, and number of schools and teachers. This is followed by an assessment of three key universal basic education (UBE) indicators: access, retention and quality.

This profile will be circulated at the national, provincial, district and local levels to stakeholders, political leaders, public servants and development partners.

This profile provides insights into the progress of NCD towards achieving UBE, and the unique challenges it faces. We hope that it will be used as a platform for influencing choices and interventions.
Provincial Education System coverage

Provincial education system coverage is the extent to which education is made available at various education levels to adequately meet the demand for education. This measurement helps education planners and policymakers understand, among other factors, the absorptive capacity of the system, the access and participation gaps, the number of places that will need to be provided for pupils at various levels in the education system, and the disparities in the provision of education. An understanding of these factors will enable more effective measures to be taken to address them and to ensure that education is made available to all school-aged children.

In 2009, the NCD education system had grown into one employing 1,463 teachers with 56,283 students in 45 elementary schools, one community school and 39 primary schools. A community school in the education system does not have Grade 8. The exit point is at Grade 6 only. While the DoE provides support to and oversight of all schools registered within the provincial education system, some schools are run by non-government agencies. In 2009, 71 percent of schools were run by the government, and 29 percent of the schools were run by non-government agencies. The distribution of the basic education providers from others in 2009 include the International Education Agency (4%) and church agency (25%). Within the church agency, the Catholic Church provided 18 percent and other denominations provided the rest (DoE, 2009).
Overview of universal basic education indicators

This section provides a background and a guide to the key Universal Basic Education (UBE) indicators chosen for this profile. It provides the description of the three indicators (access, retention, and quality) and an overview of the current situation in NCD and its districts’ basic education. These indicators are addressed according to three priority pillars in basic education development in NCD: increasing access to schools (access), ensuring that students get a full nine years of education (retention), and improving the quality of education so that all students have acquired all the knowledge and skills that are taught at the community school level (quality).

Net admission rate

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

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

Overall, the NAR for the NCD is 15.9 percent. This indicates that of all the children enrolled in Elementary Prep, only 15.9 per are six years old while 84.1 percent are older or younger.

Generally, the NAR for NCD is lower than the national average, indicating that a large proportion of six-year-olds do not have access to the first year of formal education. The large number of children enrolled at older ages can be explained by the fact that children are starting school very late. This merits further investigation. Better understanding of the reasons for this phenomenon will help in designing effective strategies for getting parents to enrol their 6-year-olds in school.

Enrolment rates

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

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

Generally, NCD had a GER of 84.6 percent, slightly below the PNG average of 88.6 percent. The enrolment rate of the officially designated age group may be much lower because of the presence of over- and under-aged children in school as well as inaccurate population figures.

The NER has been used to measure students’ participation in basic education because firstly, it helps us to know the actual number of students in the population of related school age (six to 14 years) who are in school and, most importantly, those who are not in school. Secondly, it is a good indicator for measuring provincial and district progress towards the goal of UBE.

The enrolment data presented indicate that NCD has a NER of 49.8 percent. This means that 50.2 percent of students were not enrolled at the correct age of six years. The data suggest that NCD is making a progress towards the goal of UBE.

Retention rate

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

The CRR is a useful indicator because it not only tells us the number of children that remain in school to progress to the next level of the education cycle but also the number of children who dropped out of school.
Completion of basic education implies achieving the necessary level of competence to allow a child to progress to the next level of education or to be able to be self-taught. Leaving school before completing the nine years of basic education for various reasons means that a smaller number of children finally completed Grade 8. This fact is important in looking at the UBE because we will only be successful if all the children enrolled in Elementary Prep continue in school until the end of Grade 8. This is referred to as the CRR.

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

Overall, data shows that the CRR was 100 percent for NCD, significantly higher than the national average of 65 percent.

Given the high enrolment rate in NCD, the retention of students in school is also perfect. A large percentage of the children who enrolled in Elementary 1 and Grade 1 in community and primary schools completed Grade 8 in 2009. This means that many children passing on from schools in NCD is working towards achieving the goal of UBE.

**Quality**

The third indicator of UBE in PNG is quality education. This measures whether students can learn the required knowledge, skills and competencies prescribed in the national school curriculum. Quality is often measured using students’ academic achievements from examination results or the pass mark. In most cases, proxy indicators such as Pupil-Teacher Ratio, Qualified Teachers, and Pupil-to-Textbook Ratio are used instead. However, for this UBE Provincial and District Profile, the pass mark for Grade 8 examination is used as the measure of quality education under UBE, which then translates into Sum of Mean Scores of the subjects examined (English, Maths, and Combined Subject), which is the determining factor in selection for admissions to Grade 9 in secondary schools.

An analysis of the national Grade 8 examination results in 2009 generally shows that the average for NCD (71.1) in basic education was fairly high in all four subjects. Literacy, numeracy and general skills results are high in the province. The province’s pass mark (75) is well above all other provinces and near the national target of 80.

This indicates that most students after completing Grade 8 have acquired the minimum knowledge and skills necessary to equip them for work and life.
Guide to data sources

This publication, NCD 2009 Universal Basic Education Profile is produced by the PNG National Research Institute based on collections from a census of Papua New Guinea schools held in March 2009. It presents information on all government and non-government schools, students and teachers in NCD.

From 2007, all NCD schools provide details of enrolments and staffing data once every year. The collection starts in March and provides data which is used as a basis for school resource allocation and for inclusion in provincial and national statistical digest publications.

The census data is processed and validated by staff of the Policy Planning Research and Data Analysis Division of the Department of Education.

The figures presented in this report have been taken from the 2009 school census. This census collected student age data for the first time as well as large amounts of previously unavailable data about the teachers. Approximately, all the schools in NCD responded to the 2009 school census.

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

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

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

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

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

Further information about this publication may be obtained by contacting:

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Boroko, NCD
Papua New Guinea
Telephone on +675 326 0300 or 326 00t61
Email: pngnri@pngnri.org
The NCD 2009 Universal Basic Education Profile is based on the 2009 school census and assesses the status of the province in relation to achieving UBE. The indicators are limited to what data were available at the time, based on the school census exercise run by the Department of Education throughout the country.

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

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

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

The NCD encompasses Port Moresby, the capital of PNG. While its administration is quite different to the provincial governments, it is classified for electoral purposes as the equivalent of a province. It is separated into three open electorates, but these are not considered districts in the same administrative sense as the other open electorates of PNG, due to the wide-ranging authority of the National Capital District Commission.

In 2009, NCD had 45 elementary schools, one community school and 85 primary schools. These schools were run by the government (71%), the Catholic Church (18%) and other education providers (11%).

Summary

National Capital District’s performance in UBE for 2009 is reported in this profile. In terms of access, NAR (15.9%) was below the national average (24.0%) and a higher percentage of the female population were admitted to Elementary Prep. GER (84.6%) was also below the national average. The NER (49.8%) was below the national average (69.5%). Gender comparisons for both GER and NER shows a higher percentage of male population were enrolled in 2009.

Retention measured using the CRR for NCD (100%) was far above the national average (65.3%) in 2009.

Quality, as measured using the Grade 8 national examination results, shows that NCD’s Sum of Mean Scores (71.1) is high in all three subject areas (English, Maths and Combined Subject). Results for literacy, numeracy and general skills were high in the NCD.
Basic education institutions

Table 1: National Capital District - number of schools, classes, students and teachers by school level

<table>
<thead>
<tr>
<th>School Level</th>
<th>Schools</th>
<th>Classes</th>
<th>Students</th>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>45</td>
<td>531</td>
<td>20,648</td>
<td>496</td>
</tr>
<tr>
<td>Community</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Primary</td>
<td>39</td>
<td>847</td>
<td>35,635</td>
<td>967</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>85</strong></td>
<td><strong>1,378</strong></td>
<td><strong>56,283</strong></td>
<td><strong>1,463</strong></td>
</tr>
</tbody>
</table>


Figure 2: National Capital District - basic education distribution


Distribution of schools

Table 2: National Capital District - distribution of schools by district and school level

<table>
<thead>
<tr>
<th></th>
<th>Elementary</th>
<th>Community</th>
<th>Primary</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Capital District</td>
<td>45</td>
<td>1</td>
<td>39</td>
<td>85</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>45</strong></td>
<td><strong>1</strong></td>
<td><strong>39</strong></td>
<td><strong>85</strong></td>
</tr>
</tbody>
</table>

Education providers

Table 3: National Capital District - number of schools by basic education providers

<table>
<thead>
<tr>
<th>Provider</th>
<th># of Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catholic</td>
<td>16</td>
</tr>
<tr>
<td>Government</td>
<td>63</td>
</tr>
<tr>
<td>International Education Agency (IEA)</td>
<td>4</td>
</tr>
<tr>
<td>Others</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>89</strong></td>
</tr>
</tbody>
</table>


Figure 3: National Capital District - basic education providers

Universal Basic Education indicators

Access

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

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

Net admission rates

Table 4: National Capital District - net admission rates

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Capital District</td>
<td>15.1%</td>
<td>16.9%</td>
<td>15.9%</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>23.2%</td>
<td>24.9%</td>
<td>24.0%</td>
</tr>
</tbody>
</table>

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

**Table 5: National Capital District - gross and net enrolment rates**

<table>
<thead>
<tr>
<th></th>
<th>Gross Enrolment</th>
<th>Net Enrolment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>National Capital District</td>
<td>83.9%</td>
<td>85.4%</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>91.1%</td>
<td>85.9%</td>
</tr>
</tbody>
</table>

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

**Retention**

**Table 6: National Capital District - retention rates**

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Capital District</td>
<td>102%</td>
<td>97%</td>
<td>100%</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>69%</td>
<td>61%</td>
<td>65%</td>
</tr>
</tbody>
</table>

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

**Quality**

**Table 7: National Capital District - Grade 8 examination results by subject**

<table>
<thead>
<tr>
<th></th>
<th>English Language (average marks out of 50)</th>
<th>Mathematics (average marks out of 50)</th>
<th>Combined Subject (average marks out of 50)</th>
<th>Sum of mean scores (out of 50)</th>
<th>Written Expression (average marks out of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Capital District</td>
<td>25.4</td>
<td>21.5</td>
<td>24.2</td>
<td>71.1</td>
<td>14.8</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>19.8</td>
<td>19.9</td>
<td>20.3</td>
<td>60.0</td>
<td>13.8</td>
</tr>
</tbody>
</table>

Source: Authors' calculations from 2009 examination data from EMIS Database (DoE, 2009).
In terms of access to education, the NCD’s 2009 admission and enrolment rates fell below national averages. The province’s retention rate was well above the national average. A greater percentage of boys than girls remained in school through to Grade 8.

Quality was measured using the results of the three main segments of the national Grade 8 examinations. NCD’s average scores were above the national average in all subject areas; the sum of scores for the three main exams was 71.1 out of 150, compared to the national average of 60.1.

In 2009, National Capital District’s access rates in terms of NAR (15.9%) and GER (84.6%) were lower than the national averages (24.2% and 88.6% respectively) while the NER (49.8%) was below the national average (69.5%).

NCD’s CRR (100%) in 2009 was above the national average (65.3%). Proportionately, a higher number of male students than female students were being retained.

In 2009, NCD’s sum of mean score (71.1) was higher than the national score (60.1). The highest score was in English (25.4) and the lowest score was in Mathematics (21.5).

Table 8: Summary of National Capital District’s performance in UBE in 2009.

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Access</td>
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<tr>
<td></td>
<td>NAR</td>
</tr>
<tr>
<td>National Capital District</td>
<td>15.9%</td>
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<tr>
<td>Papua New Gunea</td>
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Bibliography


