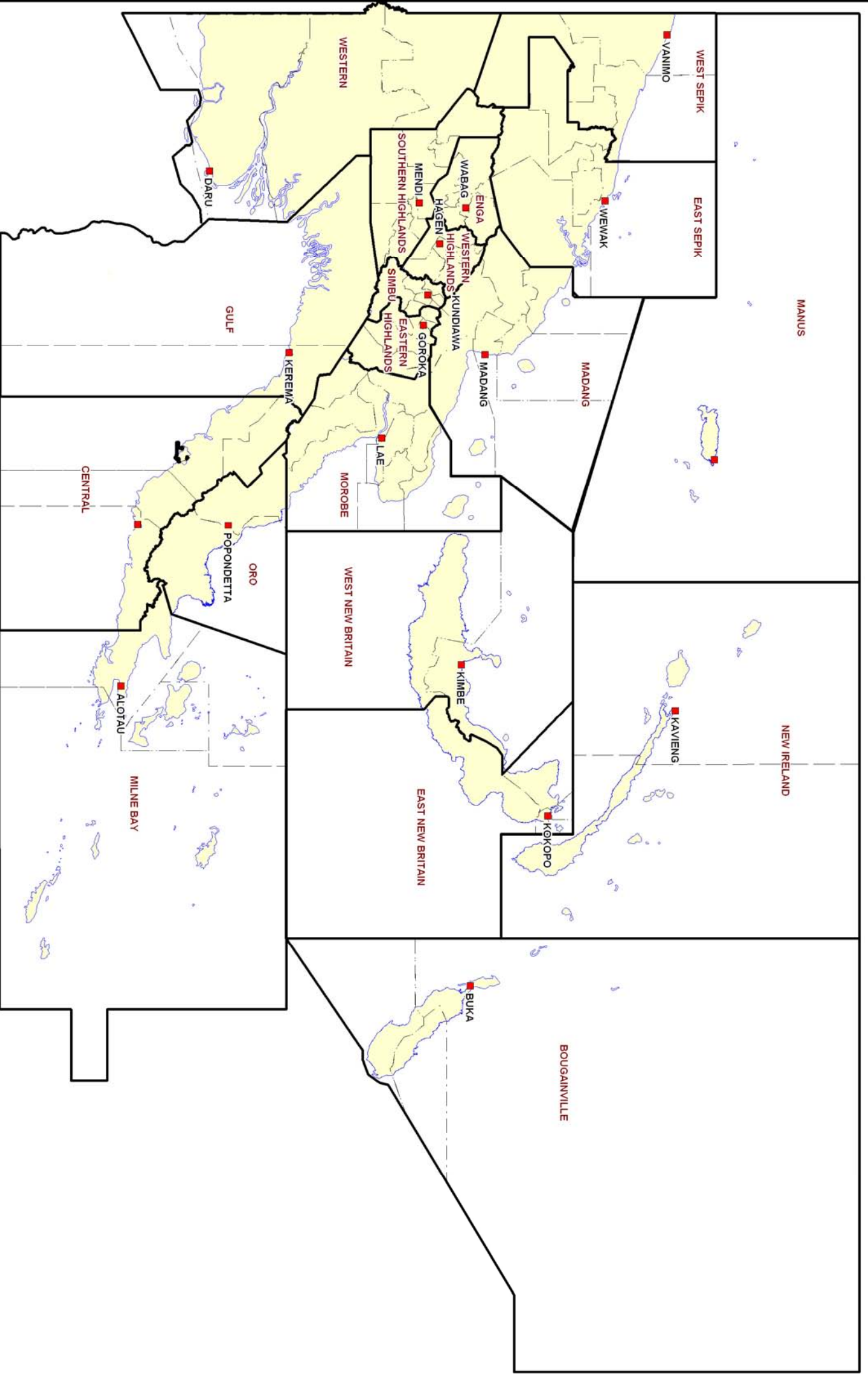




**Papua New Guinea  
District and Provincial Profiles**

**NRI  
The National Research Institute  
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PAPUA NEW GUINEA



## **Introduction**

In Papua New Guinea, there are more than 800 languages spoken. More than 80 percent of the population lives in rural areas and some of these areas are extremely remote. With 20 provinces, 89 districts, 313 local-level governments and 6,131 wards the challenges for policy makers and service delivery agencies are substantial.

The 1995 reforms to the Organic Law on Provincial Governments and Local-level Governments were significant in relation to decentralization of public administration to the district level in the hope of improved service delivery. An ongoing reform process is expected to simplify administrative arrangements, increase accountability and ensure that funds are spent where they are most needed. It is essential that any reform process is carefully monitored to detect evidence of change.

The ability to monitor the progress of policy and administrative reforms is limited unless there is up-to-date, accurate and relevant information that can be disaggregated to the level of the district. This will help governments to better understand the unique needs of each district, to focus on areas most in need and to identify where there are signs of improvement, no change or deterioration.

The NRI Provincial and District Profiles have been prepared to draw attention to the need for information at the district level. They provide basic information and establish key socioeconomic indicators related to services at the district level. This will establish a baseline from which individual districts can monitor their progress over time. These profiles can be used by public administrators and policy makers to monitor the progress of districts and to assist in planning and policy development.

There have been a number of exercises where information and analysis has been focused at the district level. The Papua New Guinea Rural Development Handbook and the NEFC's Review of Intergovernmental Financing Arrangements: District Development Index, among others. Although these are useful resources, the NRI believes that much more can be done to collect and publish a broad range of district level indicators related to services and the monitoring of these over time.

It is clear that there is limited accessible and up-to-date data and information disaggregated at the district level. For the effective monitoring of changes in service delivery, there needs to be substantial investment in information management across all agencies responsible for services.

Improved services will require more effective public administration. In relation to monitoring performance, there will need to be particular attention given to systematic record keeping and timely performance reporting. With a greater emphasis on implementation, reporting, monitoring and evaluation, it is expected that, over time, there will be improved data and information for future versions of this publication.

Each district profile contains a map, some general Information regarding the population, geography, government and access to services. There are also specific indicators on education, health and economic activity and it is anticipated that future editions will include indicators on infrastructure. Provincial profiles have also been included as there was found to be important information that could be reported at this level and that provides some additional context to the district profiles. At the same time, it is recognized that provincial-level data do not convey the variability between districts and the distinct development problems related to public administration and service delivery.

In preparing the District Profiles NRI has drawn heavily on the 2000 Census and the Rural Development Handbook. This is because the data for each of these sources have been collected nationally, are comparable across districts and are readily available.

It is hoped that indicators at the district level can be expanded upon as information management and data collection practices improve and as there is increased pressure on agencies to report on service delivery and to make this information accessible to others. We look forward to your suggestions for how this document could be improved and refined in the future.

## **Overview of Indicators**

This section is intended as a guide to the indicators chosen for these profiles. It provides a description of the significance of each indicator and what it tells us about the status of development in each of the districts and provinces.

### **Administration and Governance**

The profiles in each district and province begin with administrative information on the numbers of wards and local-level governments as well as the headquarters for each province or district. In Papua New Guinea, the administrative boundaries are coextensive with electoral boundaries. This is a useful situation when it comes to these profiles, as it is possible to look at political representation directly alongside the development indicators for each unit of government and administration. However, there are also problems associated with having the administrative boundaries linked to electoral boundaries. Administrative boundaries can often be long-standing and rooted in history, while electoral boundaries need to respond to changing demographics. For instance, electoral boundaries should cover approximately equal population units, so that representation is reasonably equal across the country. This is especially important because PNG has single-member districts, that is, only one Member of Parliament represents each district. In reality, this is not the case. Across the country, there is no uniformity on the size (in terms of population) of local-level, district and provincial government jurisdictions. The vested interests in the 'status quo' have also made it very difficult for the Electoral Boundaries Commission to successfully change electoral boundaries to bring them more in-line with the demographic characteristics of the country.

One challenge in PNG is to get a definitive list of administrative units because the National Statistical Office, the National Mapping Bureau and the Department of Provincial and Local Government Affairs (DPLGA) all have slightly different lists, especially at the local-level government and ward levels. A careful reader will notice that often the district and provincial maps, supplied by the National Mapping Bureau, and the listing of local-level governments, supplied by the DPLGA differ in many districts. This will continue to frustrate any department involved in the collection of statistics until there is some resolution of administrative units, and their names and boundaries, at the national level.

The profiles also give some basic information on the political representation within each province and district, by individual and by political party in the period since 2002. This section could be expanded in the future to develop a longer term picture of political governance in each of the districts and provinces.

### **Population Data and Indicators by Age and Sex**

Population data are disaggregated in each profile by sex and age. This is done for a number of reasons. For example, it is important to know the distribution of population by sex and age: (1) To determine the size of the working age population in relation to that of the children and the elderly (this can help you to assess the degree of dependency in the population); (2) To determine the proportion of females or males in each age group

so that planning for facilities and services such as those for health and education is facilitated (e.g. health facilities and services are targeted towards children and females in maternal ages); (3) To have adequate information on the number and sex of the population when deciding on policies and plans that are geared towards gender equality, equity and empowerment; and (4) To know the size and sex of the working age population in relationship to female and male employment or unemployment differences.

### **Population Density**

Population density measures the number of persons per square kilometre in a given area (e.g. district, province, country). Care should be taken in interpreting population density as a measure of population distribution. Other geographic factors that effect population distribution, such as deserts, mountains, and forests, should be taken into consideration. In these profiles, the density is given per total land area in the district and per occupied land area in the district, to capture this difference and to take into account uninhabitable areas. This shows whether the area is thickly or sparsely populated, and reflects the implication of this on the provision of facilities such as schools and health centres as well as the provision of services for health, education, banking and essential commodities. A more meaningful measure of population distribution, in this respect, is population per arable land or population per agricultural land, which could be included in future profiles.

### **Population Growth**

The rate of population growth in the same area would indicate the nature of population change taking place, whether the rate of natural increase is high or low in the area, whether people are moving out of the area, or whether apart from the natural rate of increase, people are moving into the area because of different opportunities, especially those related to economic activities and availability of services.

### **Electoral Statistics**

Electoral participation is an indicator of the extent to which citizens can freely participate in the processes and institutions of democracy. Typically, high levels of participation can be used to indicate the legitimacy of elected officials and the regimes to which they belong. In Papua New Guinea, indicators of electoral participation also give information about the extent to which the electoral process has been impacted by electoral fraud, which has been prevalent, and some would say is growing, in National General Elections.

Voter turnout is usually expressed as the percentage of eligible voters who cast a ballot in an election. In this profile we have used the 'number of votes cast' in the 2002 and 2007 elections. This figure represents to the total of formal and informal votes recorded in the counting process. We note that the law does allow some ballots to be excluded from the count if electoral fraud can be demonstrated; therefore in a small number of cases these figures may not represent the total number of eligible voters who cast a ballot in the relevant elections.

In addition, and in the provincial profiles only, the numbers of names on the electoral roll for 2002 and 2007 have been provided. This district level data was not available at the time of printing.

Where the numbers of votes cast or numbers of names on the roll are substantially higher than the number of eligible voters, it reveals that the results for these elections have been artificially impacted by instances of multiple voting or of ballots being cast by 'ghost' voters, who have benefited from an inaccurate and inflated roll. Where figures are lower than the number of eligible voters, this could be indicative of a number of factors including the deliberate disenfranchisement of groups of voters, the existence of some geographic or other barrier that is preventing citizens from freely participating, or even that some groups of voters may be deliberately boycotting elections.

These indicators also develop a picture of the effectiveness of initiatives to curb electoral fraud and ensure free and fair elections. For instance, an entirely new electoral roll was developed in 2006, which was intended to eliminate or reduce the numbers of 'ghost' voters who were voting in elections. In theory, this new roll should have brought voter participation more in-line with the eligible voting population, as the 2002 Electoral Roll, with 5.3 million names, was substantially inflated.

In the districts of Simbu Province, the over-participation of voters in 2002 was pronounced, with numbers of votes cast totalling more than double the number of eligible voters, in some instances. This has been substantially reduced in the roll used in the 2007 Elections and is now more in-line with numbers of eligible voters. By contrast, in Western Highlands Province, specifically in Mt. Hagen, it is clear that the re-registration process was less successful. The number of votes cast is well above the number of eligible voters. At the other end of the scale, in the Autonomous Region of Bougainville, the number of votes cast was well below the number of eligible voters in both 2002 and 2007.

In addition, because growth rates in PNG are unreliable, we have instead presented the figures for eligible voters in the 2000 census along side the numbers of votes cast in the 2002 and 2007 National General Elections. The average national annual growth rate of 2.7 % would need to be applied to get an estimated idea of eligible voters in 2002 and 2007.

### **Type and Number of Schools**

Each district and provincial profile shows the number of schools in each level of education, by province and by district, in order to ascertain if there is an adequate supply of space to meet the demand for education. Access and enrolment data seem to suggest that one of the critical factors for the increased number of school-aged children being out of school is the lack of schools. There is an obvious critical shortage of space in all provinces and districts.

### **Net Admission Rate: Students' Access to Education**

In Papua New Guinea, access to the first level of education is measured in terms of the proportion of six year old children admitted to elementary prep relative to the population of six year olds, and this measure is described as the net admission rate.

The net admission rate 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. The data presented show that East Sepik Province has the lowest net admission rate (2.8%) while Central Province has the highest net admission rate (32.7%). In terms of districts, data show that Wosera-Gawi has the lowest net admission rate (0.1%), while Kundiawa has the highest net admission rate (49.4%). Generally, the net admission rates for the provinces and the districts show that a large proportion of children in the population of six year olds do not have access to the first year of formal education. This is caused by the lack of space and qualified teachers, the inability of parents to pay school fees, high incidences of repetition, and the enrolment of over-aged children, amongst other factors.

### **Enrolment Rates: Students' Participation in Education**

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 and the net enrolment rates are often used to measure students' participation in education.

The gross enrolment rate has been used here because it helps us to know the exact number of children, regardless of age, who are enrolled from Elementary Prep to Grade 8 and, most importantly, those who are not enrolled. The enrolment data presented here show that the Autonomous Region of Bougainville has the highest gross enrolment rate (109.5%) while Southern Highlands has the lowest gross enrolment rate (51.7%). In terms of the districts, Central Bougainville has the highest gross enrolment rate (130.8%) while Tari has the lowest gross enrolment rate (2.3%). The figures for the Autonomous Region of Bougainville and Central Bougainville suggest that student enrolment in basic education is very high. However, these enrolment rates provide an illusion of high enrolment in basic education. This high enrolment is caused by factors such as the enrolment of a large number of students who are outside the population of related school age (6-14 years of age).

The net enrolment rate has been used to measure students' participation in basic education because firstly, it helps us to know the actual number of pupils in the population of related school age (6-14 year olds) who are in school and, most importantly, those who are not in school. Secondly, it is a good indicator for measuring province's and districts' status of progress toward the attainment of the goal of Universal Basic Education. The enrolment data presented indicate that Milne Bay Province has the highest net enrolment rate (69.2%) while Oro Province has the lowest net enrolment rate (38.4%). In terms of districts, Ialibu-Pangia has the highest net enrolment rate (82.4%) while Nipa-Kutubu has the lowest net enrolment rate (25.1%). The data seem to suggest that Milne Bay Province and Ialibu-Pangia District are making good progress towards the attainment of the goal of Universal Basic Education.

### **Infant and Child Mortality**

Health indicators are usually listed as some of the most important social indicators because they reflect whether a national or local government is making progress in improving the living conditions of its people.

The infant mortality rate relates to the environment in which infants are born, how their mothers are taken care of before and after child-birth, and the cultural practices determining how early the infants are exposed to liquids and foods other than their mothers breast milk. In childhood, in relationship to the child mortality rate, the risks to children are extended through the weaning practices and the nutritional quality of food they are given, the shelter in which they are kept, and the hygienic conditions in which they live, as well as prevailing parasitic diseases such as malaria, and communicable diseases such as measles. All this is summed up by the under five child mortality rate which combines all the conditions together. Where the rates are high, the living conditions and service provision are relatively poor compared to where the rates are low.

### **Life Expectancy**

With regard to indicators such as life expectancy at birth, it is useful to provide them by sex because they reflect biological, health and socioeconomic differences between women and men. For example, it is universally known that women survive longer than men, sometimes by more than two or three years. This margin of differences is a reflection of a special biological advantage which is sometimes increased by the hazardous occupations in which men engage as compared to women, or even be reversed because of the sociocultural conditions in which women in some societies live, that is when they are exposed to violence, hard labour, limited access to health and education facilities and services, poor nutrition, lower status for girls than for boys, limited participation in decisionmaking, and other factors.

Overall, life expectancy (or average number of years lived from birth in a particular area) summarizes the mortality conditions and provides an embracing indicator of how health and living conditions in a particular area compare with those in another area. Where life expectancy is higher, the conditions are better than where it is lower.

Hence, during distribution of services, facilities and development opportunities, more chances should be given to relatively underprivileged or underserved areas than those which are better served.

### **Population per Health Officer and Health Facility**

The indicators of population per medical officer, population per nursing officer, population per Aid Post, and population per Health Centre reveal the gaps that exist in the provision of health services in PNG. Hence, during distribution of services, facilities and development opportunities, more emphasis should be given to relatively underprivileged or underserved areas than those which are better served.

Such gaps affect the delivery of services such as those related to maternal health, and infant and child immunization programs, and facilitates policymaking and planning for the future.

### **Economic Activity**

The economic activity in a province or district encompasses all activities whereby an individual or company earns a wage or income from selling goods or services. This section in each of the provincial and district profiles focuses on agricultural activities at a household level because the majority of Papua New Guinea's population, particularly in rural areas, participates in the cash economy through agriculture.

The census data presented in the provincial and district profiles shows the top five agricultural activities in the province or district in 2000, ranked by the proportion of citizen households that engaged in these activities. Also shown is the proportion of households that earned cash income from these same activities.

These figures give an indication of the importance of the different crops as a source of food and as a source of income. If there is a dominant crop (one that a much higher percentage of households grow than other crops) this suggests there is little crop diversification. Heavy reliance on a single type of crop, particularly if it is also the main source of income, can mean the effects of a crop failure or a problem with disease or pests (such as the cocoa pod borer) could be disastrous.

Where the figures show that a high proportion of households are engaged in agricultural activities for cash, this can indicate there are few other sources of income. People in these districts and provinces are likely to be more vulnerable to the effects of floods, droughts, crop failures and agricultural commodity price fluctuations.

What these figures don't show is the volume or value of the crops produced or the relative importance of these crops compared to other food and income sources. In future editions, other measures of economic activity such as average income, formal employment levels, tax revenue or GDP could be considered to give a more holistic picture of the economic activity within the provinces and districts.

## **Infrastructure**

The infrastructure in a province or district refers to the network of facilities that supports the community in meeting its economic and social needs. This includes roads, ports, wharves, airstrips, communications and energy distribution networks, and water and waste management systems.

Infrastructure is important to connect communities to basic services such as health and education, to improve social cohesion and to facilitate access to markets for participation in economic activities. The level of infrastructure within a province or district can affect both whether a community's needs are met, and the efficiency and effectiveness in which they are met.

In the district profiles, because of constraints in accessing data within the time available to prepare this report, this section is limited to a general description of road networks and access to services. This information has been sourced from the *Rural Development Handbook* (2001). In future editions, it is hoped that the data can be expanded to capture additional types of infrastructure.

In the provincial profiles, the proportion of the population living within five kilometres of a national road and the number of electricity customers has been included in addition to the general description of roads and access to services.

The data have been sourced from *Food and Agriculture in PNG* (2009). In reading the figures for proportion of the population living within five kilometres of a national road, it is important to note that only national roads have been considered, the condition of the roads is not taken into account and the terrain is not factored in as the five kilometres distance is measured in a straight line. However, these figures do provide some indication of a community's access to services and markets.

The distance people have to travel to reach major roads and service centres is an indication of how easy it is for them to access basic services such as health and education. It also signals their ability to participate in economic activities through their access to financial services and markets to buy and/or sell produce. Road networks also enable others to access the community, including delivery of government services, distribution of goods and services, and tourism.

The number of electricity customers has been included as an indication of the accessibility of electricity within the provinces. It is acknowledged that this is a crude measure and that the number of customers could reflect the demand for electricity as well as the supply.

Access to electricity can improve well-being as it leads to better health care and education services, creates employment opportunities and frees up time for more economically productive (income-earning) opportunities.

<b>Glossary of Terms</b>	
Agricultural Activity	Household involvement in growing or raising any of the following either for cash or own use: cocoa, coffee, rubber, oil palm, coconut, betel nut, livestock (cattle, pigs, goats, sheep), poultry, food crops/vegetables/root crops, fish (including crabs and shellfish), any other major crops or livestock.
Aid Post	An Aid Post is staffed by a Community Health Worker. It provides a limited range of specified medicines for which the Aid Post staff have been appropriately trained to handle. Curative services are the lowest priority in the range of services provided by an Aid Post, with the emphasis placed on teaching people to take responsibility for their own health.
Child Mortality Rate	The probability of a child dying between their first and fifth birthdays.
Citizen Households	A regular household where the head of household is a PNG citizen. A regular household is defined as 'People who live together in a private dwelling and who share cooking arrangements. Household members may, or may not, be related'.
Community School	A school with classes from Grade 1 to Grade 6.
Electricity Customers	Number of PNG Power Ltd customers as at April 2009.
Elementary School	A school with classes from Prep to Elementary Grade 2.
Eligible Voters	Total number of citizens aged 18 and above.
Gross Enrolment Rate	The number of students in a given education cycle expressed as a percentage of the population of six to 14 year olds.
Health Centre	The term includes health sub-centres, health centres, rural hospitals and hospitals. A Health Centre supports and supervises Aid Posts and provides services to the community as well as supporting smaller health centres or sub-centres and day/urban clinics with supplies, staff, training and additional health services. It provides a broader range of services than an Aid Post.
Health Sub-centre	A Health Sub-Centre provides services similar to those of a Health Centre, but to a limited scale.
High School	A school with classes from Grade 7 to Grade 10.
Infant Mortality Rate	The probability of a child dying before their first birthday.
Life Expectancy	Average number of years lived from birth assuming that present age-sex specific death rates remain constant.
Literacy Rate	The percentage of the population who could read and write with understanding at least one of English, Tok Pisin, Motu or Tokples.
LLG	Local-level Government is the third tier of government under Papua New Guinea's system of Government, as outlined in the Organic Law on Provincial Governments and Local-level Governments.
Medical Officer	A Medical Officer is a trained medical doctor registered under the National Medical Board.

## Glossary of Terms

Net Admission Rate	The number of six year olds admitted to Elementary Prep expressed as a percentage of the population of six year olds.
Net Enrolment Rate	The number of students in the 6 to 14 year age group in a given cycle expressed as a percentage of the population of 6 to 14 year olds.
Nursing Officer	A Nursing Officer is a trained nurse registered under the National Medical Board.
Population Growth Rate	Annual rate of population change between 1980 and 2000.
Population per Aid Post	Total district/province population divided by number of operational aid posts in a district/province.
Population per Health Centre	Total district/province population divided by the number of sub-health centres, health centres, and hospitals in a district/province.
Population per Medical Officer	Total district/province population divided by the number of medical officers in a district/province.
Population per Nursing Officer	Total district/province population divided by the number of nursing officers in a district/province.
Primary School	A school with classes from Grade 3 to Grade 8.
Proportion of Population Living within 5km of a National Road	The percentage of people living in the Province who live within five kilometres of a national road, as measured by a straight line and not taking into account terrain.
Provincial High School	A school with classes from Grade 7 to Grade 10.
Rural Hospital	A rural hospital is a health facility with at least one medical officer. It has fewer staff and provides a more limited range of services than a hospital.
Secondary School	A school with classes from Grade 9 to Grade 12.
Service Centre	A service centre refers to the nearest location with any level of services or administrative functions available. A 'major' service centre either a provincial capital or urban centre with more than 1,000 people.
Total Population	All persons falling within the scope of the 2000 Census. This includes usual residents and all other persons present at the time of census.
Travel	Includes any travel on foot, boat or by vehicle. It does not include air travel.
Under 5 Mortality Rate	The probability of a child dying between birth and their fifth birthday.
Urban Clinic	An Urban Clinic provides day services in urban areas similar to those provided by a Health Centre in rural areas.
Vocational School	A training centre offering vocational skills courses to post-primary school students.
Ward	The smallest unit of governance in Papua New Guinea. Typically, it comprises of four to five villages who are represented by a single Ward Councillor.

## General Information

### Administration

Papua New Guinea Local-level Government Gazette, 15 January 2007. With the exception of Autonomous Region of Bougainville, this is from the Census (2000), TRS System, National Statistical Office.

### Population

	Male (%)	Female (%)
Total	Census (2000), TRS System, National Statistical Office	
< 15 years		
15-64 years		
> 65 years		
Citizen households		

### Area and population density

Area (km <sup>2</sup> )	Hanson <i>et al.</i> (2001) <i>Papua New Guinea Rural Development Handbook</i>
Occupied area (km <sup>2</sup> )	
Population per km <sup>2</sup>	Calculated by NRI
Population per km <sup>2</sup> (occupied area)	

### Average annual population growth rate

**(1980-2000):** Census (2000), TRS System, National Statistical Office

Maps supplied by the National Mapping Bureau

NOTE: As the National Mapping Bureau uses a different data set to the Department of Provincial and Local-level Government Affairs, certain ward and LLG names, their spelling, and in some cases, the land boundaries differ to the information given in the column to the left. This difference is beyond the control of the National Research Institute.

## About each province and/or district

The paragraph on geography is summarised from the information on each province and district in Hanson *et al.* (2001) *Papua New Guinea Rural Development Handbook*.

The paragraph on governance is based on data collected by the NRI.

The paragraph on economic activity is summarised from the information on each province and district in Hanson *et al.* (2001) *Papua New Guinea Rural Development Handbook*.

The paragraph on transport access is summarised from the information on each province and district in Hanson *et al.* (2001) *Papua New Guinea Rural Development Handbook*.

### Electoral statistics

Eligible voters	Census (2000), TRS System, National Statistical Office
Votes cast (2002)	Results from the PNG Electoral Commission
Votes cast (2007)	Data collected by NRI and based on some data supplied by PNG Electoral Commission
2002 and 2007 Electoral Roll	PNG Electoral Commission

## Education

### Type and number of schools

Elementary	Schools Census (2007) Department of Education
Community	
Primary	
Provincial high	
Secondary	
Vocational	

### Universal basic education indicators (%)

Net admission rate	Schools Census (2007) Department of Education
Gross enrolment rate	
Net enrolment rate	

### Literacy rate (%)

Total	Male	Female
Census (2000), TRS System, National Statistical Office		

## Health

### Number and population per facility

Health centres	Department of Health (2000), National Inventory of Health Facilities
Aid posts	

### Number and population per officer

Medical officers	Department of Health (2000), National Inventory of Health Facilities
Nursing officers	

### Mortality rates (per 1000)

Under 5 years	Department of Health (2000), National Inventory of Health Facilities
Infant: under 1 year	
Child: 1-4 years	

### Life expectancy (years)

Total	Male	Female
Census (2000), TRS System, National Statistical Office		

## Economic Activity

### Top agricultural activities of citizen households

	% engaged	%* engaged for cash
Food crops	Census (2000), TRS System, National Statistical Office	
Coconut		
Fishing		
Rubber		
Poultry		

\*of total citizen households

## Infrastructure

Electricity customers	PNG Power (Correct at April 2009)
Percent of population within 5km of a national road	Bourke and Harwood, eds. (2009), <i>Food and Agriculture in Papua New Guinea</i>