

**THE NATIONAL RESEARCH INSTITUTE
PAPUA NEW GUINEA
DISCUSSION PAPER NO. 130**



POPULATION AND DEMOGRAPHIC TRENDS IN PAPUA NEW GUINEA



**NRI
The National Research Institute**

**The National Research Institute
Discussion Paper No. 130**



POPULATION AND DEMOGRAPHIC TRENDS IN PAPUA NEW GUINEA

by

Israel Sembajwe

**NRI
The National Research Institute**

First published in September 2013

Copyright © 2013 The National Research Institute.

NRI Discussion Paper No. 130

The NRI is an independent statutory authority established by an Act of Parliament in 1988 and confirmed by the *IASER (Amendment) Act* 1993. NRI's main aims are to undertake research into the social, political, economic, educational, legal, environmental, and cultural issues and problems of Papua New Guinea and to formulate practical solutions to these problems. Research results are published in the following NRI publication series:

- Research Reports;
- Discussion Papers;
- Issues Papers;
- *Spotlight with NRI*; and
- 'other' publications including newspaper commentaries, journal articles, chapters in books, books, conference proceedings, bibliographies, indexes and other compendiums.

Direct any inquiries regarding these publications to:

The Publications Sales Coordinator
National Research Institute
P.O. Box 5854
BOROKO. NCD. 111
Papua New Guinea

Tel: (675) 326 0300/326 0061 ext. 338
Fax: (675) 326 0213
E-mail: nri@nri.org.pg
Website: www.nri.org.pg

ISBN 9980 75 202 5
National Library Service of Papua New Guinea

ABCDE 20176543

The opinions expressed in this report are those of the author and not necessarily the views of the National Research Institute.

CONTENTS

ACRONYMS	iv
EXECUTIVE SUMMARY	v
INTRODUCTION	1
POPULATION AND DEVELOPMENT	1
POLICY PERSPECTIVES ON POPULATION ISSUES IN PNG	2
POPULATION GROWTH AND DISTRIBUTION	4
Population Growth	4
Population Distribution	5
URBANIZATION	6
MIGRATION	7
FERTILITY	8
MORTALITY	9
FUTURE POPULATION TRENDS	11
CONCLUSION	13
Summary of Indicators	14
The Way Forward	14
REFERENCES	16
ANNEX: MORTALITY AND POPULATION TRENDS IN PAPUA NEW GUINEA	18

ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
HIV	Human Immunodeficiency Virus
NCD	National Capital District
PNG	Papua New Guinea
PNGNPPI	Papua New Guinea's first national population policy
PNGNPP2	Papua New Guinea's second national population policy

EXECUTIVE SUMMARY

This paper analyses the links between population and development as well as factors that impinge on human capital development in Papua New Guinea. It provides a brief overview of future population prospects in the country, and identifies indicators that could be used to set a baseline against which future progress can be measured.

The relationship between population and development is complex, but it is clear that population size and rate of growth affect development and are affected by it. Although slowing population growth in itself cannot solve socio-economic problems, it can contribute to their solution. Developing human capital — including advancing gender equality, equity, and empowerment of women — is key to the success of population and development programs. It is necessary to give equal and concurrent consideration to issues of social sustainability, economic sustainability and environmental sustainability.

Since 2000, Papua New Guinea's approach to population issues has focused on reproductive health, family planning and sexual health. It has emphasized individual choice, quality of care, women's empowerment; provision of family planning services as part of a full range of sexual and reproductive health care; and elimination of violence and discrimination against women.

The implementation of this approach, however, has continued to be constrained by lack of management and technical skills at all levels, as well as lack of data and lack of integration of population in development planning. As plans are made to formulate the next population policy, serious attention should be paid to remedying these shortcomings.

In order for the country to track the effectiveness of population policies and programs, indicators should be selected for a few basic variables to provide the baseline for measuring change. The following indicators are proposed: population growth rate, rate of urbanization, population density (based on total land area and arable land area), internal migration rate, and fertility and mortality rates.

As the second population policy enters a period of review, it is important to pay attention both to its successes, in order to scale up the good practices, and to the constraints encountered, in order to eliminate as many of them as possible. Areas that require improvement include management and leadership capacity, integration of population in development planning, data collection, and strengthening of secretarial and technical support to the National Population Council.

INTRODUCTION

The case has already been made that in Papua New Guinea (PNG) there is a need for integrated and holistic policy making and planning as well as simultaneous implementation of development programs that are human-centred and embrace all the pillars of sustainable development. Salient issues to consider in this process include: (1) treating the development of human capital as a paramount issue; (2) providing fulfilling livelihoods to every woman and man as a major factor for a productive population; (3) taking care of the health needs of the population to sustain their productive energy; (4) treating HIV/AIDS seriously as a development issue that has the potential to significantly undermine the social and economic progress of the country; and (5) keeping in mind all the time the fact that all these factors contribute to poverty reduction and improved welfare for PNG's entire population. This approach positions population in sustainable development and leads to more inclusive decision making, planning and implementation of development programs, including their monitoring and evaluation. Developing human capital lets the development process blossom.

Many countries that emphasize this approach have achieved tremendous development feats. Good examples in Asia and the Pacific are Singapore and Japan, two nations with very limited natural resources that have prospered because they intensively invested in developing their human capital.

This paper analysis the links between population and development as well as factors that impinge on human capital development in PNG. Areas covered include population and development, population growth and distribution, urbanization, migration, fertility and mortality. A brief overview of future population prospects in the country is provided. Finally, indicators are suggested to establish current status on selected national issues in order to set a baseline against which future progress can be measured.

POPULATION AND DEVELOPMENT

The relationship between population and development is a complex one. Many theories on the relationship have been proposed over centuries, but none of them is conclusive or wholly applicable in a generalized manner. What is clear is that population size and rate of growth affect development while at the same time development affects population change.

Over two centuries ago, Malthus (1798) postulated that population growth beyond a given limit was a major constraint to social and economic development because it would lead to stagnant or declining standards of living and ultimately to the negative checks of famine and death unless societies invoked the positive checks of abstinence and birth control. But his position overlooked the possibility of technological innovation and development of the means of production so that any given land area could support an increasing number of people as time passed, without invoking the negative effects.

Subsequently, the industrial revolution took place and produced evidence that the subsistence needs of an increasing population can be met by technological innovation. Development and public health innovations that led to substantial declines in mortality (death rate) led to the theory

of a demographic transition that begins with high birth and death rates, goes through an extended period of high birth rates and declining death rates, and finally stabilizes at low birth and death rates (Sembajwe 1986). Later, in the twentieth century, this led researchers such as Boserup (1981) and Simon (1992) to postulate that population growth exerts a positive influence on economic development by forcing the population to become technologically innovative and overcome constraints brought about by the host environment.

Nevertheless, with new independent nations emerging from colonialism in the mid-twentieth century, especially in Africa, Asia and the Pacific, high fertility and rapid population growth presented clear challenges to the governments of the day in the way they could deal with issues of expenditures on such important sectors as education and health. It was argued that this diverted resources from capital investment to social expenditure (Coale and Hoover 1958).

Therefore, it was suggested that high population growth rates lead to poor socio-economic development and that official interventions were required to control population. But among the shortcomings of this theoretical postulation was the failure to acknowledge that changes in technology and human capital, for example through schooling and better health, could change the balances.

Marxist population theory picked up on the value of human capital, suggesting that excessive population is a capitalist necessity that makes possible the exploitation of the many to enrich the few (Marx and Engels 1888). In a milder form, a line of thought inspired by international population conferences in the 1970s suggested that (1) development can be a contraceptive if you invest resources in development activities and set the world economic order right; and (2) population does not affect the process of economic development if economic reforms, free markets and democracy are given priority by governance systems (McNicol 2003; Johns Hopkins 2006).

Clearly, discussions of the relationship between population and development have left many unanswered questions — for example: What differentiates the relationship at the family or household level from that at the national level? What is the actual causal relationship? Available evidence varies widely in the context of different economic, institutional and demographic settings. However, the following can be generalized as conclusive points: (1) slowing population growth cannot solve socio-economic problems, but can contribute to their solution; (2) developing human capital, including advancing gender equality, equity, and empowerment of women, is key to the success of population and development programs; and (3) giving equal and concurrent consideration to issues of social sustainability, economic sustainability and environmental sustainability yields the best mix of development results.

It is from this point of view that the next sections reflect on population issues in PNG in the context of sustainable development.

POLICY PERSPECTIVES ON POPULATION ISSUES IN PNG

The government of PNG has in the past expressed concerns about the rate of population growth, environment, urbanization and delivery of essential services (UNFPA 2007). Eventually, this led

to the country's first formal national population policy (PNGNPP1) in 1991, which emphasized a family planning approach to deal with the high population growth rate in order to achieve the principal goal of sustainable development. It set a demographic target of 3.2 children per woman, to be reached within eight years; the rate at the time was 5.4 children per woman (House 1999: 16–17). The target was unrealistic, and the policy had little impact.

Incorporating lessons learned from PNGNPP1 — but influenced more by the International Conference on Population and Development, held in Cairo in 1994, and the Program of Action it produced — PNG, as a member of the international community, shifted from a focus on family planning to reduce births (and improve maternal and child health) “to the importance of improving the state of individual well-being, especially women’s reproductive health” (House 1999: 7). This resulted in PNG’s second national population policy (PNGNPP2), covering the period 2000–2010. It was envisaged that this would contribute to sustainable development through (1) improved reproductive health status of women; (2) greater gender equity, equality and empowerment of women; and (3) more informed choices and greater utilization of modern contraceptive methods. Not only would these contribute to individual well-being, but they would ultimately lead to a lower and stabilized population growth rate. This would, in turn, be a positive contribution to sustainable development.

Thus, the country’s approach to population issues changed from focusing on maternal and child health and family planning to reproductive health, family planning and sexual health. This emphasized individual choice and well-being, as well as quality of care and services. Further, it called for women’s education and literacy, equality and empowerment; family planning provided in a broader environment of full sexual and reproductive health care; and elimination of violence and discrimination against women to become important pillars of the new approach.

The PNGNPP2 covered the following interconnected issues:

- Population and poverty reduction
- Education
- Fertility and mortality reduction
- Sources of livelihood and livelihood opportunities
- Population distribution
- Environmental sustainability
- Gender equality, equity and empowerment
- Family and cultural norms
- Reproductive health
- HIV/AIDS,¹ sexually transmitted infections, tuberculosis and malaria
- Maternal and child health
- Advocacy and information, education and communication
- Data collection, analysis, dissemination and utilization
- Integration of population variables in development planning at all levels of government

Its implementation has, however, been hampered at all levels by lack of managerial and leadership knowledge and skills as well as technical capacity. This constrains effective

¹ Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome.

population policy and program implementation and evaluation. It also affects the delivery of quality care and services in health, education and other sectors.

The government of PNG mentioned the following constraints to implementing the PNGNPP1 in its country statement to the 2001 Regional Seminar on Population and Development (GoPNG 2001): (1) frequent staff changes; (2) lack of a knowledgeable, qualified and skilled local workforce, (3) lack of a system, planning unit and plan for integrating population issues in development planning; (4) lack of data or properly packaged data; and (5) abolition of the Population and Human Resources Branch in the Department of National Planning and Monitoring as a response to public service downsizing, which left glaring gaps in the capacity to implement, monitor and evaluate a population program. These shortcomings still exist and should be addressed before the next population policy is formulated.

POPULATION GROWTH AND DISTRIBUTION

The pace of population growth and distribution affects the development process. When the growth rate is high, it negatively affects government effort to provide economic and social services to its people, whereas when it is low it positively contributes to that effort. Almost in the same way, overcrowded or sparse population may constrain government effort to provide the same services, while in the case of properly planned population settlements economic and social services become easier to provide.

Population Growth

Population growth rates have declined over the past decades in most world regions (see Table 1). In 2008, the growth rate was 1.2 per cent per annum for the world as a whole, with Europe recording the lowest rate of 0.2 per cent and Africa recording the highest of 2.3 per cent. For Asia and the Pacific, the rate was 1.0 per cent. North and Central Asia recorded the lowest rate, 0.1 per cent, while South and South-West Asia recorded the highest, 1.5 per cent (see Table 2). The Pacific region, where PNG is located, recorded a growth rate of 1.3 per cent, the second highest in the region. Within the Pacific, PNG recorded the second highest growth rate, 2.2 per cent. Most countries in the region are growing at rates of less than 2 per cent, with some, such as Cook Islands, Fiji and Tuvalu, growing at less than 1 per cent (SPC 2008).

Table 1: World population growth rates (%)

	1990–1995	1995–2000	2000–2005	2008
Africa	2.6	2.4	2.4	2.3
Asia and the Pacific	1.5	1.3	1.1	1.0
Europe	0.2	0.0	0.2	0.2
Latin America and the Caribbean	1.7	1.6	1.3	1.1
North America	1.2	1.2	1.0	1.0
World	1.5	1.4	1.3	1.2

Source: UNESCAP 2009: Table 1.1.

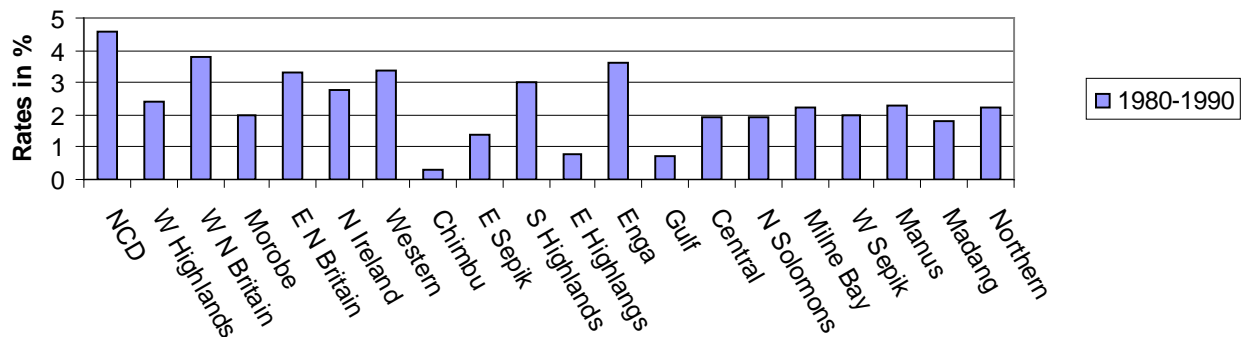
Table 2: Asia-Pacific population growth rates (%)

	1990–1995	1995–2000	2000–2005	2008
East and North-East Asia	1.1	0.8	0.6	0.6
South-East Asia	1.8	1.5	1.4	1.3
South and South-West Asia	2.1	1.8	1.7	1.5
North and Central Asia	0.3	0.0	-0.1	0.1
Pacific	1.5	1.4	1.5	1.3
Asia and the Pacific	1.5	1.3	1.1	1.0

Source: UNESCAP 2009: Table 1.1.

Rapid population growth continues to be recognized as creating a demographic poverty trap in the poorest countries. With poverty, productive investments are curtailed as poor nations struggle to meet the ever-increasing costs of basic social services such as education and health. PNG needs to make a concerted effort to balance population growth against its ability to generate social and economic development and to utilize its natural resources in a sustainable manner. Its 2.2 per cent growth rate is still high, but it has experienced a notable decline from a rate that averaged 2.7 per cent between 1980 and 2000 (NSO 2003: 7). Information from the 2000 census suggests that the growth rates are higher in some provinces than in others—for example, 4.6 per cent in the National Capital District (NCD) and 3.8 per cent in West New Britain, compared to 0.2 per cent in Chimbu and 0.6 in Gulf (see Figure 1).

Figure 1: Population growth rates in Papua New Guinea by province



The high growth rate for PNG is largely a consequence of a high birth rate and a moderately declining death rate (which contribute to the rate of natural increase). International migration is negligible and contributes only marginally to the population growth rate. This suggests that in order to lower the population growth rate, efforts should be made to lower the birth rate. Its decline is likely to have contributed to the change in the growth rate from 2.7 per cent in 2000 to 2.2 per cent in 2008.²

Population Distribution

About 85 percent of PNG’s land area consists of its share of the island of New Guinea (the eastern half). The rest is composed of about 600 smaller islands, including New Ireland, New

² There may have been problems with under- or over-counting in different censuses, but the evidence nonetheless indicates that the growth rate has dropped considerably.

Britain and Bougainville. Most of the country is made up of mountains, coastal lowlands and rolling hills. The mountain ranges form a ridge stretching from east to west with deep valleys, and this makes the construction of land transportation infrastructure very difficult; many communities continue to live in isolation.

It is therefore not surprising that the population is not evenly distributed over the country. For example, Morobe and Southern Highlands provinces had 10 per cent of the population each in 2000, while provinces like Northern, New Ireland, Gulf and Manus had less than 3 per cent of the population each (NSO 2003). But even in provinces with bigger proportions of the population, especially in the highland areas, population densities are low. Consequently, implementation of development programs has to take into account the challenges created by poor infrastructure and sparsely distributed population clusters.

Population densities (people per km²) range from NCD's 1059 to Western Highlands Province's 52 and Chimbu's 43 to West Sepik Province's 6 and Northern's 5.³ For the country as a whole, crude density was 11 people per km², while density on arable land was 86 people per km² in 2000, and according to calculations based on population estimates and projections in this paper, the crude density in 2010 was 14 per km², while density on arable land was 107 people per km².

PNG is counted as one of the developing countries with a broad-based age structure, reflecting the effects of high fertility, moderate mortality and negligible international migration. In 1980, 1990 and 2000, the percentages of population under 15 years of age were 43.1, 41.9 and 40.0 respectively, suggesting that the population is still very youthful, although there are marginal declines over time, reflecting slowly declining fertility (NSO 2003: 2). At the other end of the scale, the percentages aged 65 years and over were 1.6, 2.4 and 2.4 respectively for the same points in time (*ibid*: 2). This suggests that the number of elderly people in the country is increasing and implies potential growth in the demand for services geared towards their welfare. On the other hand, the fact that about 58 per cent of the population was economically active in 2000 implies a high demand on the government to provide opportunities for economic activity, especially for the youth, who constitute a significant component of this group.

URBANIZATION

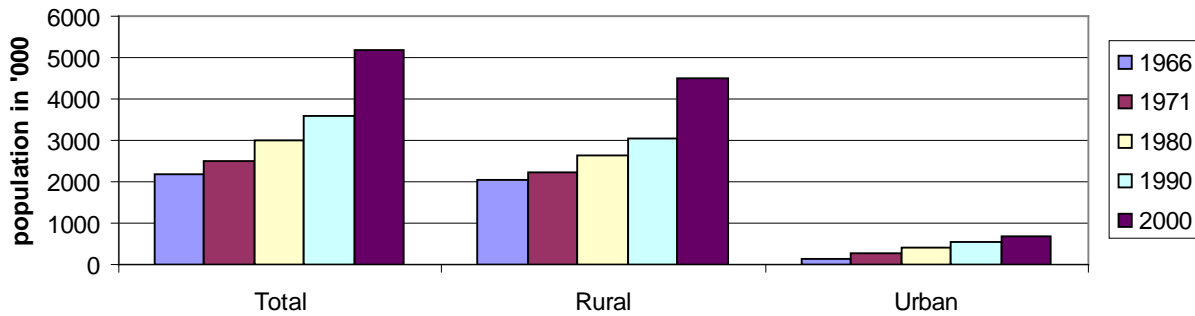
Urbanization adds another challenge in the context of rapid population growth. The attraction of the city's bright lights and unrealistic expectations of employment in urban areas motivate many people to move to places like Port Moresby and Lea. For example, NCD, in which Port Moresby is based, is the fastest-growing district or province in the country. People of various age groups migrate to urban areas, but particularly young people who have had some degree of education and cannot find a worthwhile means of livelihood in their rural localities.

³ The NSO (2003: 8) discussed crude and physiological measures of population density based on total and arable land area. The crude population density was given as 8 persons per km² in 1990 and 11 persons per km² in 2000. On the other hand, the physiological population density, or density on arable land, was given as 63 per km² in 1990 and 86 per km² in 2000. While PNG has a total land area of 462,840 km², only 60,235 km² are regarded as arable. This suggests that without improvements in technology to utilize land not currently regarded as arable or to increase the productivity of currently arable land, pressure on agricultural land will increase rapidly.

Rapid urbanization constrains public and private efforts to improve the socio-economic conditions of the people. Efforts to provide amenities and infrastructure in sprawling new settlements are frustrated, and urban residents — especially youth who remain unemployed and whose expectations are unfulfilled — face increasing temptations to engage in vice.

Figure 2 shows both rural and urban population trends and confirms that urbanization is indeed increasing. An estimated 15 per cent of the population lived in cities in 2000. This is bound to increase as time passes, bringing more challenges for urban planning and provision of services.

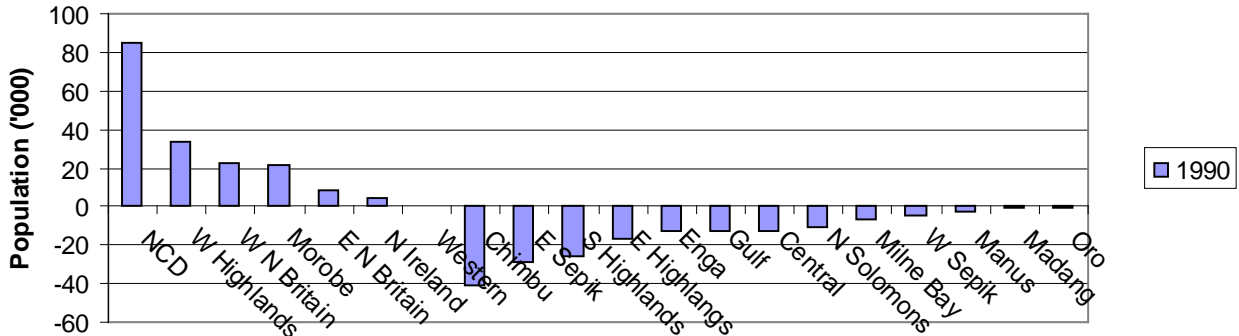
Figure 2: Population trends in Papua New Guinea by rural-urban distribution



MIGRATION

Information on migration in PNG is scarce, largely because no surveys on migration and the labour force have been carried out in recent times, and a question on migration that was included in the 1990 PNG housing and population census was for unknown reasons dropped from the 2000 census (NSO 2003). However, it is clear that the contribution of international migration to national population growth in the country is almost non-existent (NSO 2003). Internal migration clearly plays an important role, particularly in the growth of urban areas. For example, the growth rate of NCD reflects substantial contribution from migration. Figure 3 illustrates the provincial gains and losses due to lifetime migration (people were born there and have since moved away or born elsewhere and have since moved in) in 1990.

Figure 3: Lifetime net migration in Papua New Guinea in 1990 by province



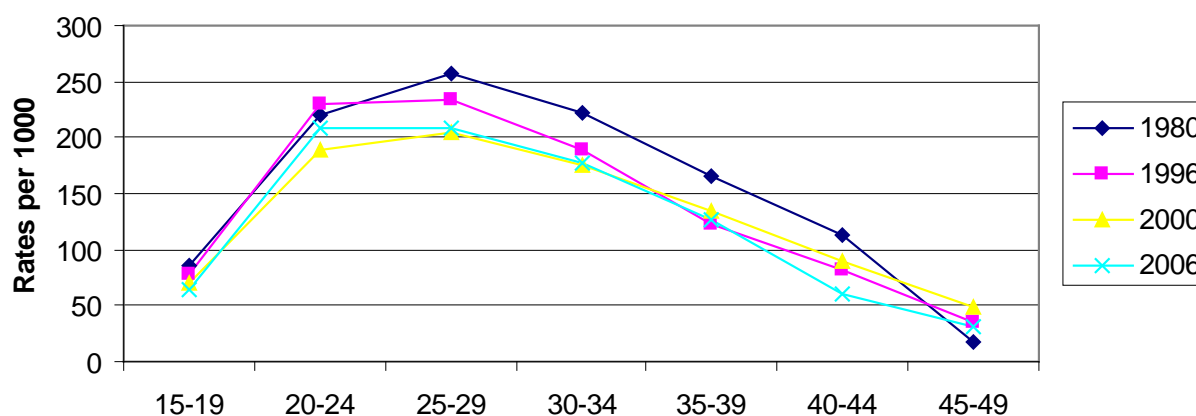
Therefore, although the patterns of recent internal migration are not known, indirect information suggests that it contributes to population growth in urban areas and economic enclaves, and it is likely to be a major factor in population growth in different parts of the country as effective

implementation of programs aimed at achieving the goals of Vision 2050 and the Long-Term Development Plan takes place. The development process is bound to attract population in some parts of the country more than in others, especially as various development corridors are realized.

FERTILITY

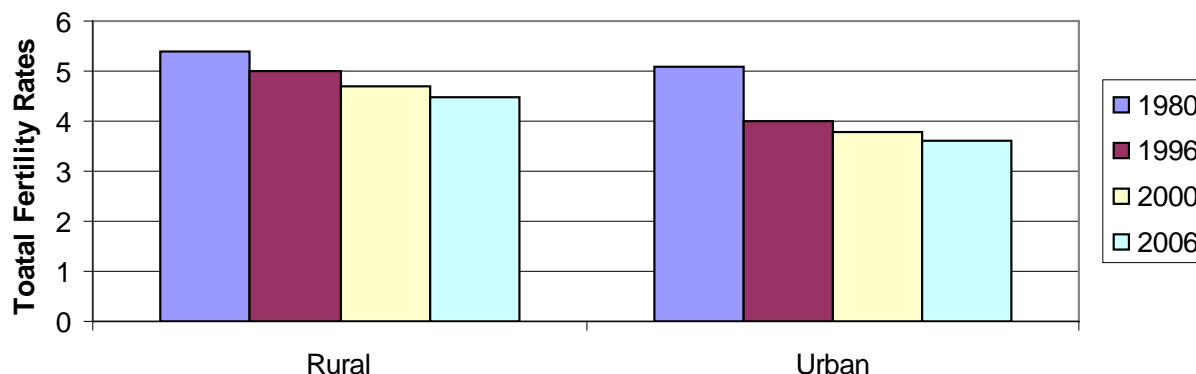
Total fertility rate is one of the measures that can be utilized to assess how countries have formulated and implemented strategies aimed at managing population change in ways that are compatible with development efforts. After reaching a peak in 1980, the fertility rate in PNG has declined, although it is still 4.1 children per woman, one of the highest in the Pacific. In 1980 the fertility rate was highest in the age range 20 to 35 years and especially high among 25- to 29-year-olds. As the overall rate has declined, the age range of maximum fertility has narrowed somewhat to ages 20 to 29 (see Figure 4). It is expected that with continued implementation of reproductive health programs targeted at mothers and children, and accessible family planning programs as well as human capital development programs emphasizing education for girls, the fertility rate will continue to decline.

Figure 4: Trends in age-specific fertility rates



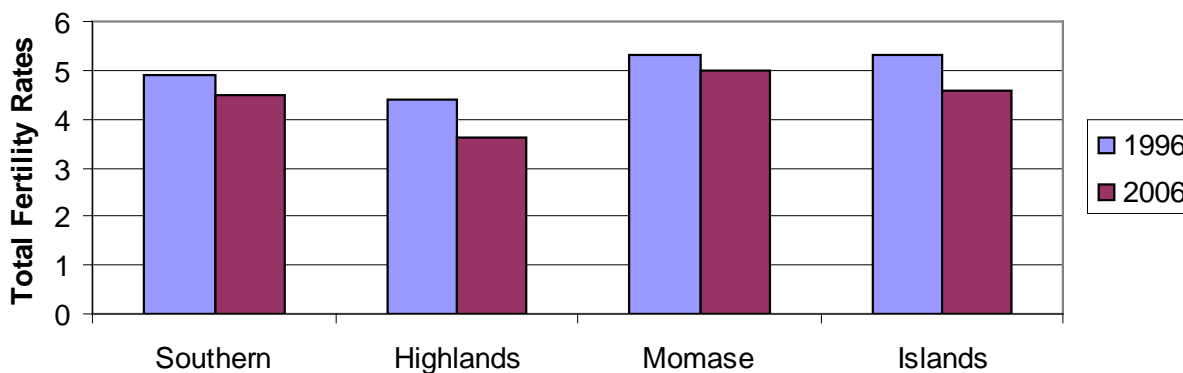
Fertility rates are lower in urban areas. Overall, the differentials show a level of fertility of less than one child in urban areas than in rural areas (figure 5).

Figure 5: Trends and differentials in rural-urban fertility in Papua New Guinea



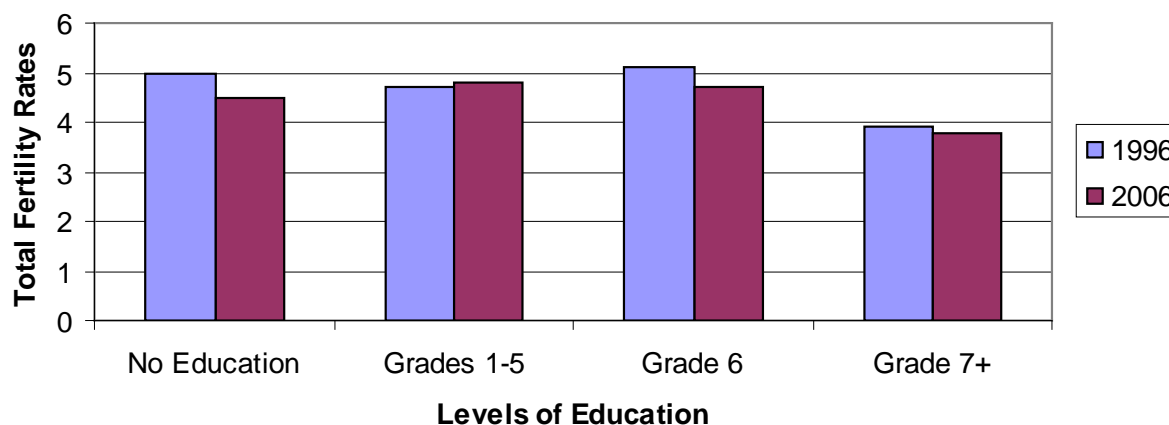
Fertility rates also vary by region, with the lowest rate in the Highlands and the highest in the Momase region (see Figure 6).

Figure 6: Fertility trends and differentials by region in Papua New Guinea



Fertility rates are lower for women with seven or more years of education (see Figure 7).

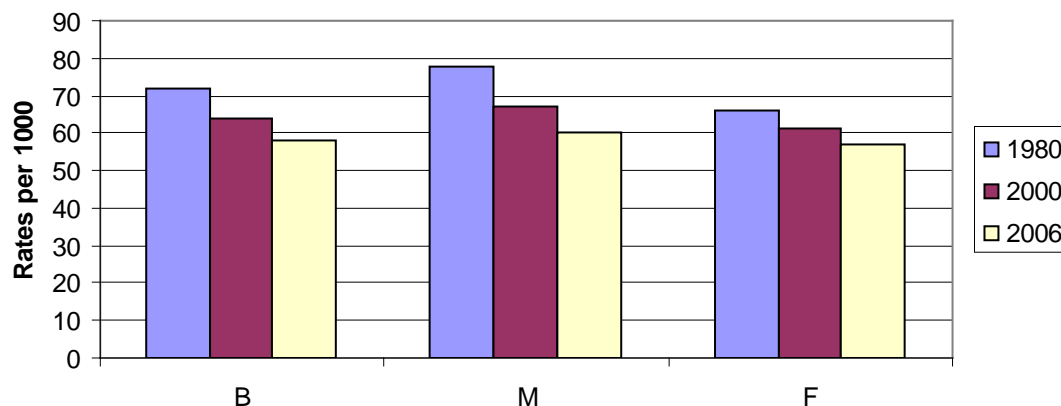
Figure 7: Fertility trends and differentials by levels of education in Papua New Guinea



MORTALITY

Infant and child mortality provide some of the best indicators of human development and reflect the effect of social and economic conditions on survival during early childhood, including the effects of malnutrition during weaning and infectious diseases. Lower infant mortality rates reflect improved social, economic and public health conditions.

In PNG, the infant mortality rate declined from 72–73 per 1000 in 1980–1996 to 58 per 1000 in 2006. Broken down by gender, the rates dropped from 78 to 60 per 1000 for boys and from 66 to 57 per 1000 for girls. Changes were more notable in the child mortality rate, which dropped from 42 per 1000 in 1980 to 17 per 1000 in 2006 — from 43 to 18 per 1000 for boys and from 41 to 15 per thousand for girls. Figure 8 and Table A1 in the annex provide more detailed information on these trends.

Figure 8: Infant mortality trends in Papua New Guinea by sex

Although the changes in infant and child mortality rates in PNG suggest that conditions have somewhat improved over time, the changes are moderate, suggesting that the situation could have been better. As expected, the rates are higher for boys than for girls.

Life expectancy has gone up in PNG over the last 30 years (see Table 3). But the increase has been small, about half a year per year from 1971 to 2000. Life expectancy has stagnated at around 54 years for the last 10 to 15 years; this reflects worsening social and economic conditions and possibly the grave impacts of malaria, HIV/AIDS, tuberculosis and other diseases.

Life expectancy at birth is better in urban areas and in more urbanized provinces such as NCD and Central, and provinces in the Islands Region where a better system of health and education services exists than in rural areas. As in the case of infant mortality, in all situations, females enjoyed higher life expectancy than males. This is a normal biological dividend for females, but it can sometimes be dramatically reduced or even reversed by adverse social, economic, environmental and cultural factors (such as violence against women).

The maternal mortality rate gives us an overall idea about the state of maternal health and the health of women in general in a particular community, despite the problems related to gathering these data.⁴ Information from the 1996 and 2006 National Demographic Health Surveys suggests that maternal mortality changed from 370 per 100 000 in the 10 years before 1996 to 733 per 100 000 in the 10 years before 2006 (NSO 1997: 89; NSO 2009: 111). This apparent reversal in the quality of life of mothers is most likely due to deterioration in social and economic conditions and in provision of services, and to a lesser extent to the larger sample size used to collect data in 2006, as well as possible data collection problems (NSO 2009: 111). Concerted effort is required to reduce maternal mortality risks if PNG is to achieve the Millennium Development Goals target of reducing maternal mortality by three-quarters by 2015.

⁴ Data on maternal mortality are the scantest of all the data on quality-of-life indicators used in this analysis. These data are difficult to collect. If the conditions of a woman's pregnancy and immediate post-pregnancy periods are not closely monitored, accurate information on maternal mortality cannot be collected.

Table 3: Average life expectancy at birth (in years), 1971–2000

	1971			1980			1996			2000		
	All	Male	Female	All	Male	Female	All	Male	Female	All	Male	Female
PNG as a whole	40.4	39.6	41.1	49.6	48.7	50.7	54.0	54.6	53.5	54.2	53.7	54.8
Rural areas ^a	n/a	n/a	n/a	48.7	47.5	49.8	n/a	n/a	n/a	53.0	52.5	53.6
Urban areas	n/a	n/a	n/a	55.0	54.1	55.6	n/a	n/a	n/a	59.6	59.0	60.3
Southern Region	40.3	39.6	41.1	52.1	51.9	52.1	n/a	n/a	n/a	55.4	55.0	55.9
Western	38.5	39.0	37.8	47.7	46.2	49.5	55.0	55.2	54.9	54.3	54.0	54.7
Gulf	29.1	29.1	29.1	47.3	47.8	46.9	46.1	46.8	45.4	46.4	46.3	46.6
Central ^b	43.7	43.1	44.3	51.3	50.9	51.9	56.6	58.4	54.7	56.4	56.2	56.7
NCD ^b				56.7	56.1	57.3	60.5	61.0	60.0	59.2	58.5	59.9
Milne Bay	43.0	41.1	44.9	57.1	58.3	55.8	53.1	52.6	53.6	54.1	53.5	54.8
Northern/Oro	42.3	40.2	44.5	49.2	48.8	49.6	56.1	57.7	54.5	54.5	54.1	55.0
Highlands Region	41.0	40.2	42.0	49.7	48.1	51.8	n/a	n/a	n/a	55.3	54.6	56.1
Southern Highlands	36.8	35.7	38.0	43.8	41.1	47.2	52.6	52.0	53.2	55.2	53.8	56.7
Enga ^c	40.5	39.5	40.9	47.1	45.8	48.8	51.1	52.6	49.5	52.5	52.3	52.7
Western Highlands ^c				51.9	50.8	53.6	55.1	56.0	54.2	56.2	55.6	56.8
Simbu	43.3	43.6	42.9	50.2	51.0	49.9	56.2	57.7	54.6	56.8	56.8	56.8
Eastern Highlands	44.3	43.0	45.9	53.1	51.0	56.3	56.1	56.4	55.9	55.4	54.6	56.3
Momase Region	38.4	37.9	38.9	47.7	47.2	48.3	n/a	n/a	n/a	50.7	50.2	51.3
Morobe	42.7	42.1	43.5	50.9	50.7	51.5	53.9	55.1	52.6	51.7	51.2	52.3
Madang	40.2	39.5	41.0	50.7	49.4	52.3	53.7	54.3	53.3	51.1	51.0	51.3
East Sepik	32.8	32.6	33.2	49.3	49.1	49.4	52.7	53.2	52.1	52.2	51.3	53.1
West Sepik	36.5	36.4	36.7	42.1	41.2	43.1	45.7	46.3	45.1	46.0	45.6	46.5
Islands Region	46.0	45.2	46.9	54.1	54.1	54.6	n/a	n/a	n/a	57.8	57.5	58.2
Manus	43.7	43.3	44.6	51.8	51.4	52.4	57.2	58.0	56.4	58.6	59.0	58.2
New Ireland	45.9	45.2	46.7	52.7	51.6	53.7	58.8	56.5	56.9	57.9	57.8	58.1
East New Britain	47.1	46.2	48.1	52.8	53.2	52.8	55.5	55.3	55.6	57.1	56.6	57.7
West New Britain	44.3	43.1	45.8	51.3	50.5	52.7	55.7	55.2	56.1	56.7	56.7	56.7
North Solomons ^d	46.9	46.2	47.5	59.6	60.2	59.3	n/a	n/a	n/a	59.6	58.8	60.4

Sources: 1971 and 1980 rates: Bakker 1986: 214; 1990 rates: DNPM 1999: Appendix A.

Notes: ^a The 1980 rates for the rural sector refer to the rural village sector excluding the RNVs (Rural non-village areas). ^b In 1971, NCD was part of Central Province. ^c In 1971, Enga was part of Western Highlands. ^d North Solomons was not included in the 1996 Demographic Health Survey.

FUTURE POPULATION TRENDS

Based on past population trends, it is possible to make well-informed assumptions about future demographic changes in the medium term and possibly the long term. This will facilitate planning and provide some of the inputs for the evaluation of population data collected in the future. For example, the evaluation of data from the planned 2011 National Population and Housing Census will benefit from these projections. The assumptions are as follows:

1. A sex ratio at birth of 108 males per 100 females
2. A total fertility rate of 4.6 in 2000, declining in 2020 to 4.1 (a 10 per cent decline) for the medium variant of population projections and to 3.9 (a 15 per cent decline) for the low variant of population projections

3. A female life expectation at birth of 54.8 years in 2000, increasing in 2020 to 57.4 years (an increase of about 0.13 years per year) for the medium variant of population projections and to 58.4 years (an increase of 0.18 years per year) for the low variant of population projections
4. A male life expectancy at birth of 53.6 years in 2000, increasing in 2020 to 55.7 years (an increase of about 0.11 years per year) for the medium variant of population projections, and to 56.7 years (an increase of 0.15 years per year) for the low variant of population projections
5. A negligible international migration rate
6. Age-specific fertility rates of 0.07, 0.185, 0.205, 0.176, 0.134, 0.09, and 0.048 for age groups 15–19, 20–24, 25–29, 30–34, 35–39, 40–44, and 45–49 years in 2000 and lower by 10 per cent and 15 per cent respectively for the medium and low variants of population projections in 2020

The high variant of population projections maintains the same fertility and mortality rates that were recorded in 2000.

Single-year and grouped projected populations as well as the vital rates according to the medium variant are provided in the annex to this paper for 2010, 2015 and 2020. But for the sake of comparison and discussion of implications, summary information from the low, medium and high variants of population projections for 2020 is provided in Table 4. The table and figures that follow are based on population projections made by the author.

Table 4. Projected population rates for 2020

Variant	Sex	Population	Birth rate per 1000	Death rate per 1000	Growth rate (%)
High	Male	4 136 000	33	33	33
	Female	3 874 000	12	12	12
	Both	8 010 000	21	21	21
Medium	Male	4 060 000	30	30	30
	Female	3 813 000	11	11	11
	Both	7 873 000	19	19	19
Low	Male	4 032 000	29	29	29
	Female	3 786 000	10	10	10
	Both	7 818 000	19	19	19

Throughout the next decade, the annual birth, death and population growth rates are likely to hover around 31 per 1000, 11 per 1000 and 2 per cent respectively. These are still high levels, and a concerted effort will be required to make them compatible with the national capacity to invest in human development.

Over the next 10 years, the percentage distribution of population according to the medium variant is likely to remain relatively the same, with moderate declines in the population under 15 years of age and gradual increases in the population aged 65 years and over (see Figure 9). But due to the already existing momentum of population growth in the age structure, pressure on

service provision will continue to mount as increasing numbers of the population continue to seek such services. For example, as Figure 10 illustrates, the school-age population (ages 6 to 18 years) will continue to increase significantly as time passes.

Figure 9: Percentage age distribution by age group

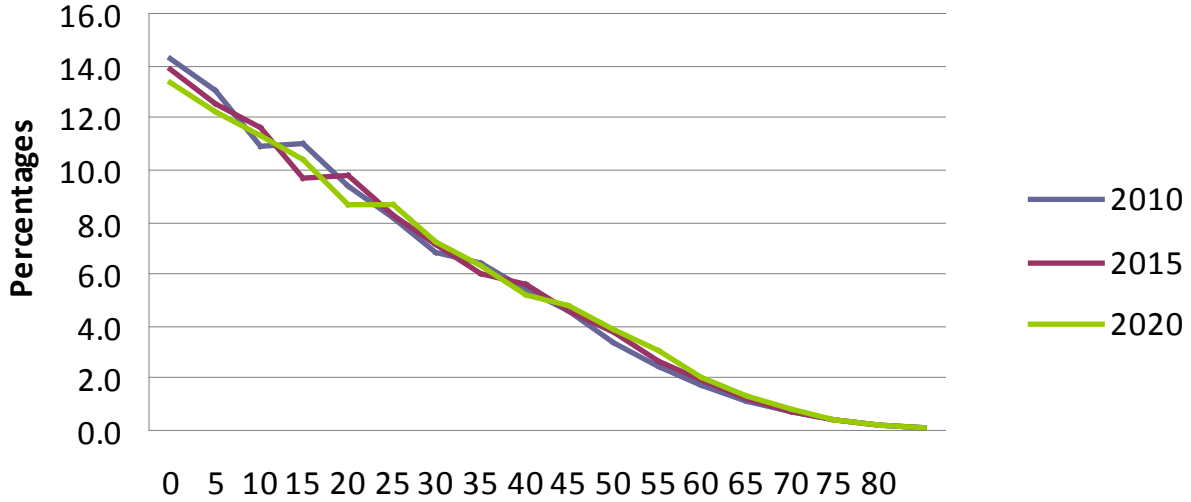
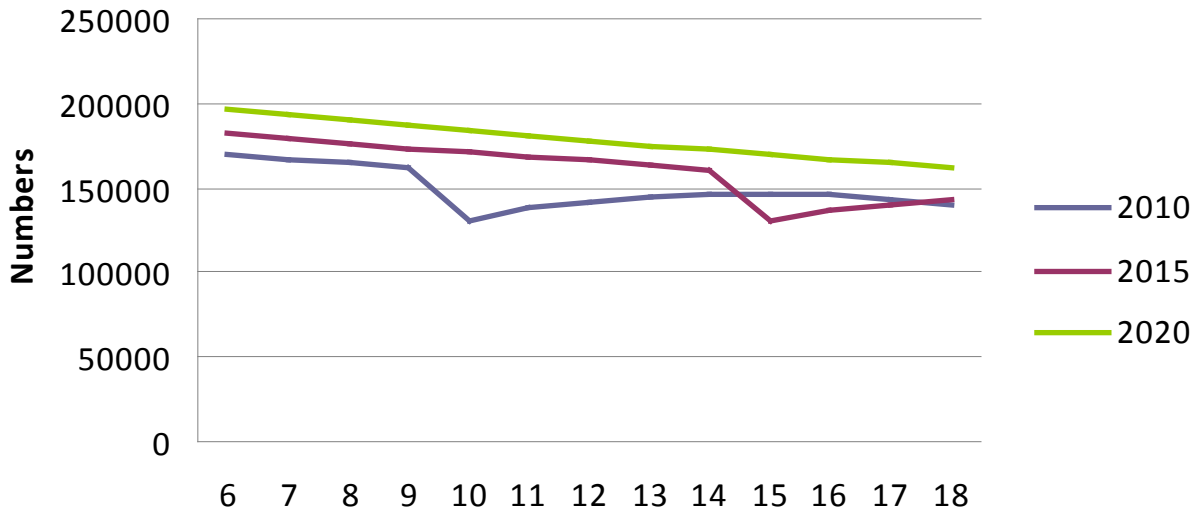


Figure 10: Number of school-going children by age



CONCLUSION

The relationship between population and development is complex and requires country-specific analysis to establish status of current policy and program achievements and to plan for monitoring and evaluation of future policy and program implementation. What is not in dispute, however, is that although a program to slow population growth cannot solve socio-economic problems, it can contribute to their solution by slowing the increase in demand for goods and services; advancing gender equality, equity, and empowerment of women as a key to the success of population and development programs; and giving equal and concurrent consideration to issues of social sustainability, economic sustainability and environmental sustainability in order

to yield the best mix of development results. These are development ingredients that PNG should aspire to achieve.

The implementation of PNG's population policies continues to be constrained by lack of management, leadership and technical capacity at all levels. It is therefore not surprising that population and demographic trends show little or no positive change for most of the vital indicators. This has serious implications for the quality of life of the people of PNG. As the next population policy is formulated, serious attention should be paid to addressing these shortcomings.

Summary of Indicators

In order to track future progress in the population sector and the success of population policies and programs, indicators on selected variables must be identified to provide a baseline for measuring change. Based on the discussion carried out in this paper, the suggested indicators and their values are as follows:

- The country's population growth rate was 2.2 per cent in 2010.
- The rate of urbanization was 15 per cent in 2000.
- Population density in 2010 was 14 people per km² when based on total land area, but far higher, about 107 people per km², when based on arable land area.
- International migration contributes almost nothing to the national population growth rate. Recent patterns of internal migration are not well known, although indirect information suggests that it contributes to population growth in urban areas and economic enclaves.
- The total fertility rate was 4.1 children per woman of child-bearing age in 2006 and is assumed to be the same in 2010.
- Mortality declines are moderate or stagnant, with life expectancy at birth in 2000 estimated at 54.2, 53.7 and 54.8 years respectively for both sexes, males and females (53.0, 52.5 and 53.6 years for rural areas, and 59.6, 59.0 and 60.3 years for urban areas).
- The infant mortality rate in 2006 was 58, 60 and 57 per 1000 for both sexes, males and females respectively.
- Maternal mortality, recorded in 2006 for approximately the preceding 15 years, was 733 per 100 000.

The Way Forward

It is commendable that since the 1980s, PNG has begun to recognize population issues by formulating explicit national population policies. As the second population policy enters a period of review, focus should be put on the policy's successes as well as the constraints encountered, so that as the draft for the third national population policy is formulated, adequate attention is paid to scaling up the good practices and, more importantly, to eliminating the constraints. For example, concerted effort is required to improve managerial and leadership knowledge and skills at all levels. Other areas that require improvement include (1) staff recruitment and retention; (2) development of knowledge and skills for integration of population in development planning; (3) collection of relevant, up-to-date data to inform policy making, planning, and program formulation, implementation, monitoring and evaluation; and (5) strengthening of institutional mechanisms — within the Department of National Planning and Monitoring or in a different

setting — to provide efficient and timely secretarial and technical support to the National Population Council, as well as relevant coordination.

This will give a big boost to holistic national planning and program formulation, implementation, and monitoring and evaluation. It will also strengthen coordination and program management.

REFERENCES

- Bakker, M. L., 1986. **The mortality Situation in Papua New Guinea: Levels, differentials, patterns and trends.** Port Moresby: National Statistical Office.
- Boserup, E., 1981. **Population and Technological Change: A Study of Long-Term Trends.** Chicago: University of Chicago Press.
- Coale, A. J. and Hoover, E. M., 1958. **Population Growth and Economic Development in Low-Income Countries.** Princeton, NJ: Princeton University Press.
- DNPM (Department of National Planning and Monitoring). 1999. **Papua New Guinea National Population policy, 2000-2010.** Port Moresby: Government of Papua New Guinea.
- GoPNG (Government of Papua New Guinea), 2001. **Country Statement—Papua New Guinea.** Regional Seminar on Population and Development, 26–30 March. Noumea, New Caledonia: Secretariat of the Pacific Community.
- House, W. J., 1999. **What Should Be the Nature of Population Policies in the Pacific Island Countries?** Discussion Paper No. 18. Suva: UNFPA Country Support Team, Office of the South Pacific.
- Johns Hopkins, 2006. **Population and Development: Theories on Interrelationships.** Module 3a. Baltimore: Johns Hopkins Bloomberg School of Public Health.
- Malthus, T., 1798. **Essay on the Principle of Population.** Oxford: Oxford World's Classics.
- Marx, K., and Engels, F., 1888. **Manifesto of the Communist Party.** London: Signet Classics.
- McNicoll, G., 2003. **Population and Development: An Introductory Review.** Working Paper No. 174. New York: Population Council.
- NSO (National Statistical Office), 1997. **Papua New Guinea Demographic Health Survey: 1996 National Report.** Port Moresby: National Statistical Office.
- _____, 2003. **Recent Fertility and Mortality Indices and Trends in Papua New Guinea.** Port Moresby: National Statistical Office.
- _____, 2009. **Papua New Guinea Demographic Health Survey: 2006 National Report.** Port Moresby National Statistical Office.
- Sembajwe, I., 1986. **Population Change and Development Prospects in Lesotho.** Working Paper in Demography No. 8. Roma: National University of Lesotho.
- Simon, J., 1992. **Population and Development in Poor Countries: Selected Essays.** Princeton, NJ: Princeton University Press.

SPC (Secretariat of the Pacific Community), 2008. **Pocket Statistical Summary**. Noumea, New Caledonia: Statistics and Demography Programme, SPC.

UNESCAP (United Nations Economic and Social Commission for Asia and the Pacific), 2009. **Statistical Yearbook for Asia and the Pacific**. Bangkok: United Nations.

UNFPA (United Nations Population Fund), 2007. **Technical Assistance Completion Report**. New York: Pacific Operations Division.

ANNEX: MORTALITY AND POPULATION TRENDS IN PAPUA NEW GUINEA

This Annex contains a table on past mortality trends as well as tables on future population trends and vital statistics starting from 2010. In the case of future population trends, although the projections shown in this annex are worked out in detail, they are just projections and should be used with caution.

Table A1: Mortality trends since 1980

	Sex	1980	1996	2000	2006
Infant mortality rate (per 1000)	Both	72	73	64	58
	Male	78	n/a	67	60
	Female	66	n/a	61	57
Child mortality rate (per 1000)	Both	42	24	25	17
	Male	43	n/a	27	18
	Female	41	n/a	23	15
Life expectancy at birth (years)	Both	49.6	54.0	54.2	n/a
	Male	48.8	54.6	53.7	n/a
	Female	50.7	53.5	54.8	n/a

Sources: 1980, 1996, and 2000: NSO 2003; 2006: NSO 1997; NSO 2009.

Table A2: Population by age, 11 July 2010

Age	Males	Females	Total
0	101 098	93 590	194 688
1	97 124	89 468	186 592
2	94 914	87 243	182 157
3	93 116	85 513	178 630
4	91 506	84 000	175 506
5	90 037	82 641	172 678
6	88 608	81 328	169 936
7	87 236	80 073	167 309
8	85 889	78 845	164 734
9	84 536	77 614	162 150
10	68 411	62 871	131 282
11	71 634	66 100	137 734
12	73 504	67 895	141 399
13	74 900	69 138	144 039
14	75 851	69 885	145 737
15	76 250	70 038	146 288
16	76 066	69 569	145 635
17	75 184	68 362	143 546
18	73 566	66 387	139 953
19	71 307	63 762	135 069
20	68 640	60 760	129 401
21	65 919	57 794	123 713
22	63 545	55 327	118 872
23	61 766	53 646	115 412
24	60 404	52 557	112 961
25	59 200	51 653	110 853
26	57 787	50 616	108 403
27	56 005	49 485	105 490
28	53 694	48 163	101 858
29	51 057	46 746	97 803
30	48 275	45 268	93 543
31	45 765	43 981	89 746
32	43 851	43 141	86 992
33	42 760	42 888	85 648
34	42 261	43 021	85 282
35	41 981	43 355	85 335
36	41 549	43 482	85 030
37	40 883	43 083	83 966
38	39 829	41 933	81 763
39	38 496	40 238	78 734
40	37 090	38 332	75 423
41	35 791	36 563	72 355
42	34 598	35 012	69 610
43	33 568	33 822	67 390
44	32 635	32 875	65 510

Age	Males	Females	Total
45	31 758	31 987	63 744
46	30 783	30 946	61 729
47	29 569	29 689	59 257
48	28 036	28 132	56 168
49	26 294	26 374	52 668
50	24 473	24 562	49 036
51	22 766	22 854	45 620
52	21 281	21 295	42 577
53	20 110	19 954	40 063
54	19 163	18 783	37 946
55	18 295	17 662	35 956
56	17 379	16 543	33 922
57	16 412	15 488	31 900
58	15 354	14 492	29 846
59	14 243	13 547	27 790
60	13 166	12 677	25 843
61	12 160	11 841	24 001
62	11 193	10 970	22 163
63	10 272	10 038	20 310
64	9 402	9 089	18 491
65	8 551	8 140	16 691
66	7 754	7 283	15 038
67	7 081	6 606	13 687
68	6 549	6 147	12 697
69	6 112	5 835	11 947
70	5 730	5 591	11 321
71	5 331	5 309	10 640
72	4 868	4 934	9 802
73	4 319	4 429	8 748
74	3 731	3 852	7 582
75	3 165	3 285	6 450
76	2 669	2 791	5 460
77	2 246	2 365	4 611
78	1 903	2 023	3 926
79	1 622	1 743	3 366
80	1 377	1 497	2 874
81	1 151	1 266	2 417
82	946	1 051	1 997
83	758	851	1 609
84	592	670	1 261
85+	1 814	2 122	3 936

Table A3: Population in five-year age groups, 11 July 2010

Age	Absolute numbers			Per cent distribution		
	Males	Females	Total	Males	Females	Total
0	477 757	439 815	917 572	14.4	14.1	14.3
5	436 307	400 500	836 807	13.1	12.9	13.0
10	364 301	335 890	700 191	11.0	10.8	10.9
15	372 372	338 119	710 491	11.2	10.9	11.0
20	320 274	280 085	600 360	9.7	9.0	9.3
25	277 743	246 664	524 407	8.4	7.9	8.2
30	222 912	218 299	441 211	6.7	7.0	6.9
35	202 738	212 090	414 828	6.1	6.8	6.5
40	173 682	176 606	350 288	5.2	5.7	5.4
45	146 439	147 127	293 566	4.4	4.7	4.6
50	107 794	107 448	215 242	3.2	3.5	3.3
55	81 683	77 732	159 415	2.5	2.5	2.5
60	56 194	54 615	110 809	1.7	1.8	1.7
65	36 048	34 011	70 059	1.1	1.1	1.1
70	23 978	24 114	48 092	0.7	0.8	0.7
75	11 605	12 208	23 813	0.3	0.4	0.4
80	4 823	5 335	10 158	0.1	0.2	0.2
85+	1 814	2 122	3 936	0.1	0.1	0.1
Total	3 318 465	311 2781	6 431 245	100	100	100

Table A4: Vital statistics summary, 11 July 2009–11 July 2010

Vital statistics	Absolute numbers			Annual vital rates		
	Males	Females	Total	Males	Females	Total
Births	106 692	98 789	205 481	0.032	0.032	0.032
Deaths	37 040	32 649	69 689	0.011	0.011	0.011
Migrants	0	0	0	0.000	0.000	0.000
Growth	69 652	66 139	135 792	0.021	0.021	0.021

Table A5. Projected population by age, 11 July 2015

Age	Males	Females	Total
0	108 220	100 176	208 396
1	104 343	96 133	200 476
2	102 067	93 846	195 914
3	100 106	91 967	192 073
4	98 285	90 262	188 548
5	96 602	88 707	185 309
6	94 976	87 214	182 190
7	93 440	85 810	179 250
8	91 973	84 474	176 446
9	90 554	83 182	173 735
10	89 171	81 923	171 094
11	87 824	80 694	168 518
12	86 501	79 484	165 985
13	85 182	78 274	163 457
14	83 834	77 030	160 864
15	67 818	62 361	130 179
16	70 968	65 506	136 474
17	72 754	67 207	139 961
18	74 047	68 338	142 385
19	74 885	68 970	143 854
20	75 169	69 007	144 176
21	74 880	68 431	143 311
22	73 912	67 132	141 045
23	72 236	65 089	137 325
24	69 949	62 421	132 370
25	67 278	59 401	126 678
26	64 567	56 430	120 997
27	62 207	53 959	116 166
28	60 433	52 266	112 700
29	59 070	51 159	110 228
30	57 858	50 236	108 094
31	56 438	49 189	105 627
32	54 652	48 054	102 705
33	52 345	46 735	99 080
34	49 715	45 325	95 040
35	46 941	43 856	90 797
36	44 430	42 572	87 001
37	42 495	41 718	84 213
38	41 352	41 429	82 782
39	40 777	41 507	82 285
40	40 406	41 772	82 177
41	39 880	41 830	81 710
42	39 123	41 375	80 498
43	37 990	40 193	78 183
44	36 588	38 484	75 073

Age	Males	Females	Total
45	35 116	36 574	71 690
46	33 745	34 794	68 539
47	32 472	33 221	65 693
48	31 352	31 988	63 341
49	30 320	30 982	61 303
50	29 338	30 029	59 367
51	28 264	28 929	57 192
52	26 970	27 626	54 596
53	25 390	26 046	51 437
54	23 631	24 285	47 916
55	21 814	22 484	44 297
56	20 112	20 786	40 898
57	18 621	19 234	37 856
58	17 415	17 888	35 303
59	16 412	16 702	33 114
60	15 482	15 568	31 050
61	14 519	14 444	28 963
62	13 523	13 385	26 908
63	12 464	12 388	24 852
64	11 378	11 444	22 822
65	10 338	10 572	20 911
66	9 373	9 741	19 114
67	8 458	8 891	17 349
68	7 598	8 007	15 605
69	6 797	7 127	13 923
70	6 031	6 266	12 297
71	5 326	5 497	10 823
72	4 728	4 881	9 608
73	4 241	4 439	8 681
74	3 831	4 111	7 942
75	3 468	3 837	7 305
76	3 108	3 542	6 650
77	2 726	3 193	5 920
78	2 317	2 775	5 092
79	1 912	2 331	4 242
80	1 544	1 915	3 459
81	1 236	1 563	2 799
82	983	1 270	2 252
83	785	1 037	1 822
84	627	851	1 479
85+	1 894	2 788	4 681

Table A6. Projected population in five-year age groups, 11 July 2015

Age	Absolute numbers			Percent distribution		
	Males	Females	Total	Males	Females	Total
0	513 021	472 385	985 407	13.9	13.7	13.8
5	467 544	429 387	896 931	12.7	12.4	12.6
10	432 512	397 406	829 918	11.8	11.5	11.6
15	360 472	332 381	692 854	9.8	9.6	9.7
20	366 146	332 080	698 226	9.9	9.6	9.8
25	313 554	273 214	586 769	8.5	7.9	8.2
30	271 007	239 539	510 546	7.4	6.9	7.2
35	215 994	211 083	427 077	5.9	6.1	6.0
40	193 988	203 653	397 641	5.3	5.9	5.6
45	163 006	167 560	330 566	4.4	4.9	4.6
50	133 594	136 914	270 508	3.6	4.0	3.8
55	94 374	97 094	191 468	2.6	2.8	2.7
60	67 366	67 229	134 595	1.8	1.9	1.9
65	42 565	44 338	86 903	1.2	1.3	1.2
70	24 157	25 194	49 351	0.7	0.7	0.7
75	13 531	15 678	29 209	0.4	0.5	0.4
80	5 175	6 637	11 811	0.1	0.2	0.2
85+	1 894	2 788	4 681	0.1	0.1	0.1
Total	3 679 900	3 454 560	7 134 460	100	100	100

Table A7. Projected vital statistics summary, 11 July 2014–11 July 2015

Vital statistics	Absolute numbers			Annual vital rates		
	Males	Females	Total	Males	Females	Total
Births	114 067	105 617	219 684	0.031	0.031	0.031
Deaths	40 229	35 959	76 188	0.011	0.011	0.011
Migrants	0	0	0	0.000	0.000	0.000
Growth	73 837	69 658	143 496	0.020	0.020	0.020

Table A8. Projected population by age, 11 July 2020

Age	Males	Females	Total
0	114 963	106 409	221 372
1	111 271	102 532	213 803
2	109 092	100 336	209 428
3	107 152	98 477	205 629
4	105 270	96 719	201 989
5	103 646	95 221	198 867
6	102 141	93 839	195 981
7	100 554	92 389	192 942
8	98 932	90 909	189 841
9	97 308	89 430	186 738
10	95 714	87 978	183 692
11	94 172	86 571	180 743
12	92 686	85 212	177 898
13	91 249	83 894	175 143
14	89 833	82 590	172 423
15	88 431	81 294	169 725
16	87 041	80 007	167 048
17	85 654	78 721	164 375
18	84 250	77 418	161 667
19	82 807	76 076	158 883
20	66 894	61 493	128 387
21	69 904	64 492	134 396
22	71 571	66 063	137 634
23	72 759	67 074	139 834
24	73 512	67 598	141 111
25	73 734	67 546	141 280
26	73 403	66 902	140 305
27	72 415	65 561	137 977
28	70 738	63 504	134 242
29	68 463	60 847	129 310
30	65 811	57 856	123 667
31	63 117	54 920	118 037
32	60 760	52 478	113 238
33	58 970	50 794	109 764
34	57 573	49 680	107 253
35	56 317	48 745	105 062
36	54 849	47 688	102 536
37	53 019	46 542	99 562
38	50 681	45 216	95 897
39	48 028	43 800	91 827
40	45 237	42 323	87 560
41	42 702	41 021	83 724
42	40 723	40 130	80 853
43	39 501	39 777	79 278
44	38 817	39 767	78 584

Age	Males	Females	Total
45	38 318	39 926	78 244
46	37 665	39 877	77 542
47	36 787	39 330	76 117
48	35 551	38 086	73 637
49	34 063	36 340	70 403
50	32 511	34 405	66 916
51	31 054	32 595	63 649
52	29 690	30 981	60 670
53	28 466	29 685	58 150
54	27 322	28 598	55 919
55	26 223	27 557	53 779
56	25 042	26 380	51 422
57	23 671	25 021	48 692
58	22 059	23 417	45 476
59	20 307	21 660	41 967
60	18 525	19 881	38 406
61	16 864	18 210	35 074
62	15 402	16 682	32 084
63	14 194	15 347	29 541
64	13 166	14 163	27 329
65	12 210	13 037	25 246
66	11 242	11 933	23 176
67	10 267	10 898	21 165
68	9 264	9 929	19 193
69	8 267	9 018	17 285
70	7 329	8 182	15 511
71	6 473	7 392	13 865
72	5 678	6 607	12 285
73	4 948	5 817	10 766
74	4 285	5 053	9 338
75	3 672	4 329	8 001
76	3 124	3 693	6 817
77	2 664	3 182	5 846
78	2 290	2 802	5 092
79	1 975	2 508	4 483
80	1 702	2 255	3 958
81	1 448	2 001	3 449
82	1 201	1 729	2 930
83	961	1 436	2 397
84	744	1 149	1 893
85+	2 035	3 551	5 586

Table A9: Population in five-year age groups, 11 July 2020

Age	Absolute numbers			Percent distribution		
	Males	Females	Total	Males	Females	Total
0	547 748	504 473	1 052 221	13.5	13.2	13.4
5	502 581	461 789	964 370	12.4	12.1	12.2
10	463 654	426 245	889 898	11.4	11.2	11.3
15	428 183	393 517	821 699	10.5	10.3	10.4
20	354 640	326 721	681 362	8.7	8.6	8.7
25	358 754	324 361	683 114	8.8	8.5	8.7
30	306 232	265 728	571 960	7.5	7.0	7.3
35	262 893	231 991	494 884	6.5	6.1	6.3
40	206 981	203 018	409 999	5.1	5.3	5.2
45	182 386	193 559	375 944	4.5	5.1	4.8
50	149 041	156 263	305 305	3.7	4.1	3.9
55	117 301	124 036	241 336	2.9	3.3	3.1
60	78 151	84 284	162 435	1.9	2.2	2.1
65	51 249	54 815	106 064	1.3	1.4	1.3
70	28 714	33 051	61 765	0.7	0.9	0.8
75	13 724	16 514	30 238	0.3	0.4	0.4
80	6 055	8 571	14 626	0.1	0.2	0.2
85+	2 035	3 551	5 586	0.1	0.1	0.1
Total	4 060 321	3 812 487	7 872 808	100	100	100

Table A10: Vital statistics summary, 11 July 2019–11 July 2020

Vital statistics	Absolute numbers			Annual vital rates		
	Males	Females	Total	Males	Females	Total
Births	121 025	112 060	233 084	0.030	0.030	0.030
Deaths	43 797	39 502	83 299	0.011	0.010	0.011
Migrants	0	0	0	0.000	0.000	0.000
Growth	77 227	72 558	149 785	0.019	0.019	0.019

