PAPUA NEW GUINEA

NATIONAL STATISTICAL OFFICE

PAPUA NEW GUINEA 2011 NATIONAL REPORT

NATIONAL STATISTICAL OFFICE
PORT MORESBY
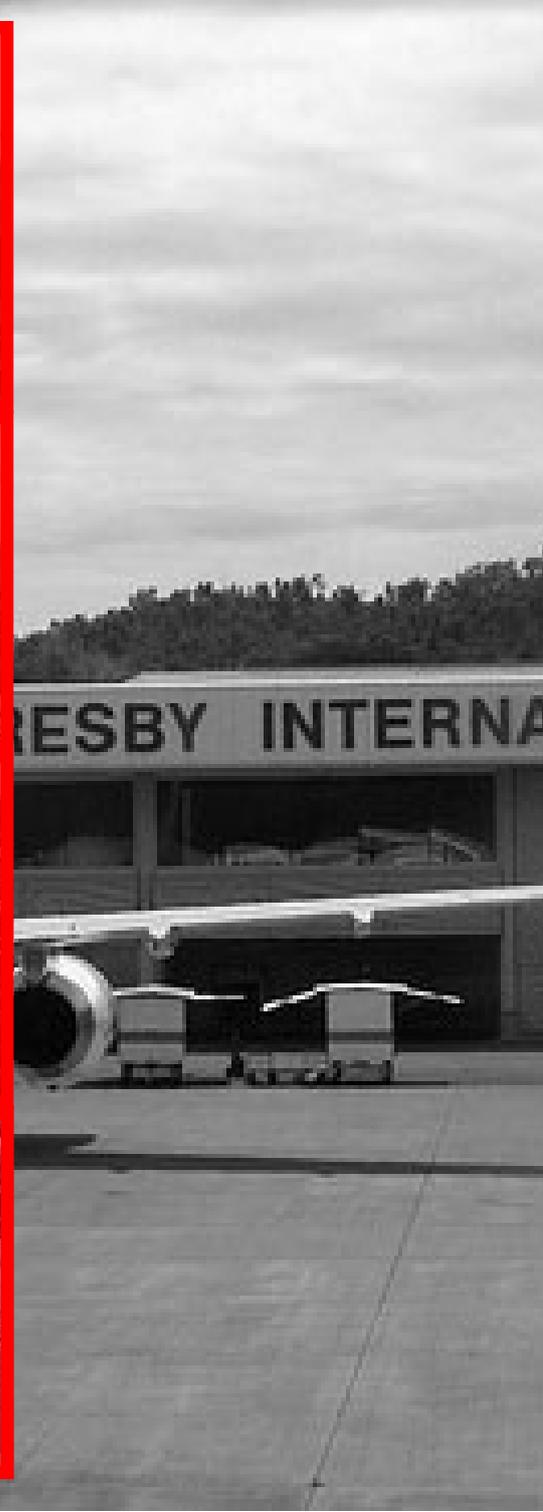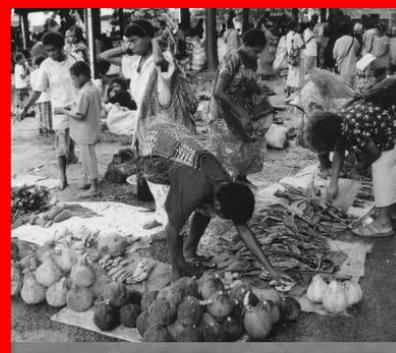
Foreword

The National Population and Housing Census for Papua New Guinea is one of the important national events on the calendar of the country every ten years. The country's fourth National Population and Housing Census was supposed to be held in July 2010. However, the event was deferred to July 2011 to provide sufficient preparation time. The first three censuses of the country were held in 1980, 1990 and 2000.

The National Report and the 22 Provincial Reports form the major public release of information obtained from the 2011 Census. The reports provide information at the national, provincial, urban and rural geographic sectors in the form of statistical tables, charts and figures with basic descriptive comments to assist data users interpret and use the census data. The focus of the reports is on citizen population who were enumerated in private dwellings throughout the country.

The National Report provides basic demographic and social information on age, sex, marital status, religion, education including other information on migration, economic activity, occupation, industry and household income generating activities. The report contains six (6) chapters including; population growth, distribution and composition, population characteristics, migration, education, economic activity and household activities and housing status.

The successful conduct of the 2011 Census project is a result of combined efforts of individuals and institutions at various capacities. NSO is indebted to the National Government for fully funding the 2011 Census Project and development partners namely; United Nation Population Fund (UNFPA) and Department of Foreign Affairs & Trade (DFAT) for providing technical assistance on project management, finance management, field operations, training and data processing.

We would like to also extend our sincere thanks to all field officers, provincial and NSO staff and most importantly the coorperation from the general public in providing the information required to successfully complete the 2011 Census Project.

We also acknowledge with gratitude the support from our local consultants; Homolpi Warom, Rita Pala and Lina Bade in the analysis and report writing of the 2011 Census National Report with the tireless effort and dedication of the NSO Census Analysis team in compiling and finilzing this report.

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Symbols and Usages

Throughout this report the following symbols and usages apply.

. .	not applicable
na	not available

Urban:	an area comprising settlements known as either a city or a town with a minimum population of 500 persons and a minimum population density of 195 persons per square kilometre
Rural:	all other areas

Provincial abbreviations

AROB	Autonomous Region of Bougainville
EHP	Eastern Highlands Province
ENB	East New Britain Province
ESP	East Sepik Province
MBP	Milne Bay Province
NCD	National Capital District
NIP	New Ireland Province
SHP	Southern Highlands Province
WHP	Western Highlands Province
WNB	West New Britain Province

Other abbreviations

AusAID	Australian Agency for International Development
LLG	Local Level Government
NSO	National Statistical Office
PNG	Papua New Guinea
UN	United Nations

Where percentages are presented, the denominator excludes not stated responses.

Table of Contents

TABLE OF CONTENTS
2011 NATIONAL REPORT

CHAPTER 1

POPULATION GROWTH, DISTRIBUTION AND COMPOSITION

Summary Indicators

Summary Indicators		PNG, 1980, 1990, 2000 and 2011 Censuses			
		PNG			
Citizen population		**2011**	**2000**	**1990**	**1980**
Population	Total	7,254,442	5,171,548	3,582,333	2,978,057
	Male	3,757,198	2,679,769	1,887,867	1,557,077
	Female	3,497,244	2,491,779	1,694,466	1,420,980
Population aged 18 years and over	Total	4,187,023	2,764,346	1,848,023	1,504,679
	Male	2,149,118	1,414,499	958,455	781,768
	Female	2,037,905	1,349,847	889,568	722,911
Population aged 0-4 years (% of population)	Total	11.9	14.0	15.0	15.7
	Male	11.9	14.1	15.0	15.7
	Female	11.8	14.0	15.0	15.8
Population aged 0-14 years (% of population)	Total	35.6	40.0	41.9	43.1
	Male	36.0	40.6	42.6	43.1
	Female	35.1	39.4	41.1	43.1
Population aged 65 years and over (% of population)	Total	2.6	2.4	2.4	1.6
	Male	2.8	2.6	2.6	1.6
	Female	2.3	2.2	2.1	1.5
Median age (years)	Total	21.4	19.7	na	na
	Male	21.1	19.3	18.3	14.4
	Female	21.7	20.1	19.1	15.4
Dependency ratio	Total	61.7	73.6	75.3	80.7

Non-citizen population		**2011**	**2000**	**1990**	**1980**
Population	Total	20,882	19,235	25,621	32,670
	Male	15,666	11,975	14,716	18,595
	Female	5,216	7,260	10,905	14,075
Population aged 18 years and over	Total	9,566	13,726	16,971	22,062
	Male	7,009	9,013	10,160	13,166
	Female	2,557	4,713	6,811	8,896
Population aged 0-4 years (% of population)	Total	39.5	8.0	11.0	11.3
	Male	44.3	6.7	9.9	10.1
	Female	24.8	10.1	12.6	12.9
Population aged 0-14 years (% of population)	Total	50.2	24.8	29.8	30.6
	Male	52.2	21.1	27.3	27.4
	Female	49.3	31.00	33.2	34.8
Population aged 65 years and over (% of population)	Total	2.0	2.3	1.6	1.3
	Male	1.8	2.4	1.5	1.3
	Female	2.3	2.1	1.7	1.3
Median age (years)	Total	14.8	33.0	na	na
	Male	12.2	35.0	31.3	31.0
	Female	19.3	29.4	27.6	27.7
Dependency ratio	Total	109.0	37.2	43.4	46.8

Summary Indicators		PNG, 1980, 1990, 2000 and 2011 Censuses			
		PNG			
Urban citizen population		**2011**	**2000**	**1990**	**1980**
Population	Total	902,891	675,403	539,331	365,547
	Male	474,300	365,533	300,216	212,202
	Female	428,591	309,870	239,115	153,345
Population aged 18 years and over	Total	535,916	382,433	289,634	188,217
	Male	283,779	212,159	167,511	114,424
	Female	252,137	170,274	122,123	73,793
Population aged 0-4 years (% of population)	Total	11.3	12.9	14.8	17
	Male	11.2	12.5	13.9	15.4
	Female	11.5	13.4	15.9	19.2
Population aged 0-14 years (% of population)	Total	33.5	36.6	39.3	40.4
	Male	33.1	35.5	37.4	37.6
	Female	33.9	37.9	41.8	44.5
Population aged 65 years and over (% of population)	Total	1.6	1	0.8	0.5
	Male	1.8	1.1	0.8	0.5
	Female	1.4	1	0.8	0.5
Median age (years)	Total	21.9	20.8	na	na
	Male	22.2	21.4	20	19.1
	Female	21.7	19.1	17.7	17.1
Dependency ratio	Total	54.1	60.3	67	69.3

Rural citizen population		**2011**	**2000**	**1990**	**1980**
Population	Total	6,351,551	4,496,145	3,043,002	2,612,510
	Male	3,282,898	2,314,236	1,587,651	1,344,875
	Female	3,068,653	2,181,909	1,455,351	1,267,635
Population aged 18 years and over	Total	3,651,107	2,381,913	1,558,389	1,316,462
	Male	1,865,339	1,202,340	790,944	667,344
	Female	1,785,768	1,179,573	767,445	649,118
Population aged 0-4 years (% of population)	Total	12.0	14.2	15	15.6
	Male	12.0	14.3	15.2	15.7
	Female	11.9	14.1	14.8	15.4
Population aged 0-14 years (% of population)	Total	35.9	40.5	42.4	43.5
	Male	36.4	41.4	43.6	44
	Female	35.3	39.6	41	42.9
Population aged 65 years and over (% of population)	Total	2.7	2.6	2.7	1.7
	Male	2.9	2.8	3	1.8
	Female	2.4	2.3	2.3	1.6
Median age (years)	Total	21.3	19.5	na	na
	Male	20.9	19	17.9	14.5
	Female	21.7	20	19.2	16.2
Dependency ratio	Total	62.8	75.8	81.9	82.4

Summary Indicators		Provinces, 2011 Census					
		Southern Region					
Citizen population		Western	Gulf	Central	NCD	MBP	Northern
Population	Total	200,200	157,525	269,135	361,222	275,932	185,737
	Male	103,030	81,339	141,758	192,665	143,319	96,762
	Female	97,170	76,186	127,377	168,557	132,613	88,975
Population aged 18 years and over	Total	102,211	78,880	143,269	221,008	148,611	98,384
	Male	52,194	40,323	75,013	118,806	76,088	51,433
	Female	50,017	38,557	68,256	102,202	72,523	46,951
Population aged 0-4 years (% of Population)	Total	15.1	14.5	14.1	10.9	14.2	15.2
	Male	15.2	14.5	14.1	10.8	14.5	14.9
	Female	14.9	14.5	14.0	11.1	13.9	15.5
Population aged 0-14 years (% of Population)	Total	41.8	42.6	40.0	31.9	39.7	40.5
	Male	42.0	43.1	40.2	31.5	40.4	40.3
	Female	41.5	42.2	39.7	32.3	39.1	40.7
Population aged 65 years and over (% of Population)	Total	2.1	2.0	2.9	1.5	2.9	2.6
	Male	2.0	1.9	3.0	1.6	2.9	2.8
	Female	2.2	2.0	2.8	1.3	2.9	2.4
Median age (years)	Total	18.6	18.1	19.6	23.8	22.7	19.5
	Male	18.4	17.9	19.4	23.0	19.7	19.6
	Female	18.8	18.3	19.9	22.4	20.5	19.5
Dependency ratio	Total	78.0	80.5	75.0	50.0	74.4	75.8

Citizen Population		Highlands Region						
		SHP	Enga	WHP	Chimbu	EHP	Hela	Jiwaka
Population	Total	509,488	431,418	362,068	375,604	578,242	248,838	343,133
	Male	262,936	224,180	183,167	196,687	299,863	128,403	177,789
	Female	246,552	207,238	178,901	178,917	278,379	120,435	165,344
Population aged 18 years and over	Total	321,885	276,773	233,757	243,486	348,500	169,423	227,976
	Male	163,499	141,693	116,714	126,877	178,041	87,193	117,718
	Female	158,386	135,080	117,043	116,609	170,459	82,230	110,258
Population aged 0-4 years (% of Population)	Total	8.0	7.9	9.4	8.1	10.7	7.9	8.1
	Male	8.1	8.0	9.6	8.1	10.8	7.7	8.1
	Female	8.0	7.9	9.2	8.2	10.6	8.1	8.1
Population aged 0-14 years (% of Population)	Total	29.6	29.0	29.2	28.5	33.4	26.5	27.0
	Male	30.3	29.6	30.0	28.8	34.2	26.5	27.3
	Female	28.8	28.3	28.4	28.2	32.6	26.5	26.7
Population aged 65 years and over (% of Population)	Total	2.5	2.7	3.0	3.2	2.8	2.6	2.7
	Male	3.0	3.2	3.5	3.9	3.2	3.2	3.2
	Female	2.1	2.1	2.5	2.4	2.4	2.1	2.3
Median age (years)	Total	22.4	23.6	24.3	24.0	22.7	26.6	23.5
	Male	21.7	23.0	23.7	23.8	22.2	26.4	23.3
	Female	23.1	24.2	25.0	24.3	23.2	26.8	23.7
Dependency ratio	Total	47.3	46.3	47.5	46.5	56.9	41.2	42.3

Citizen population		Momase Region			
		Morobe	Madang	ESP	WSP
Population	Total	673,448	492,162	449,395	247,628
	Male	349,875	256,355	225,160	127,128
	Female	323,573	235,807	224,235	120,500
Population aged 18 years and over	Total	378,186	255,881	235,174	129,082
	Male	195,642	132,655	115,113	65,290
	Female	182,544	123,226	120,061	63,792
Population aged 0-4 years (% of Population)	Total	12.8	14.6	14.3	14.8
	Male	12.7	14.6	14.6	14.9
	Female	12.9	14.6	14.1	14.7
Population aged 0-14 years (% of Population)	Total	37.3	41.2	40.8	41.1
	Male	37.4	41.4	41.8	41.6
	Female	37.1	40.9	39.8	40.5
Population aged 65 years and over (% of Population)	Total	2.6	2.1	3.1	2.3
	Male	2.7	2.3	3.0	2.4
	Female	2.4	2.0	3.1	2.3
Median age (years)	Total	21.0	19.0	19.2	19.1
	Male	20.8	18.9	18.7	18.7
	Female	21.2	19.1	19.8	19.5
Dependency ratio	Total	66.3	76.4	78.1	76.8

Citizen Population		New Guinea Islands Region				
		Manus	NIP	ENBP	WNBP	AROB
Population	Total	60,307	193,488	327,355	263,338	248,779
	Male	31,025	102,055	167,921	138,217	127,564
	Female	29,282	91,433	159,434	125,121	121,215
Population aged 18 years and over	Total	31,293	98,468	169,461	141,579	133,736
	Male	15,781	52,023	85,076	74,491	67,455
	Female	15,512	46,445	84,385	67,088	66,281
Population aged 0-4 years (% of Population)	Total	13.8	14.0	14.1	14.8	14.3
	Male	14.2	13.9	14.5	14.7	14.5
	Female	13.4	14.0	13.8	14.8	14.1
Population aged 0-14 years (% of Population)	Total	41.0	41.9	41.0	40.0	39.4
	Male	41.9	41.8	42.1	39.9	40.1
	Female	40.1	42.1	39.9	40.1	38.6
Population aged 65 years and over (% of Population)	Total	3.0	2.5	2.4	2.2	2.4
	Male	3.0	2.6	2.5	2.3	2.5
	Female	3.0	2.3	2.4	2.0	2.3
Median age (years)	Total	19.0	18.5	18.9	19.9	19.9
	Male	18.5	18.6	18.4	20.0	19.5
	Female	19.5	18.5	19.4	19.8	20.5
Dependency ratio	Total	78.6	80.0	76.9	72.8	71.7

Glossary

Child woman ratio	The number of children (of both sexes) under the age of 5 years divided by the number of females in the reproductive ages (15–44 years) multiplied by 100.
Citizenship	The legal nationality of each person.
Crude population density	Citizen population divided by the total land area multiplied by 100.
Dependency ratio	The population aged 0–14 years and the population aged 65 years and over (the dependent population) divided by the population aged 15–64 years (working age population) multiplied by 100.
Median age	The age at which half the population is younger and half is older.
Physiological population density	Citizen population divided by the total arable land area multiplied by 100.
Sex ratio	The number of males per 100 females.
Total population	Total population consists of all persons falling within the scope of the census. This includes usual residents and all other persons present at the time of census.

Population Size

The total population of Papua New Guinea (PNG) according to the 2011 census was 7.3 million persons as shown in Table 1.1. Of this, 3.8 million were males and 3.5 million were females.

The majority (88%) of the population live in the rural areas while 12% live in the urban areas. The pattern was similar to that of 2000 census. Less than 1 % (21,000) of the population were non-citizens.

Table 1.1 Population by sector, sex and citizenship, PNG, 2011 Census.

Area	Total	Citizen	Non-citizen
All sectors			
Persons	7,275,324	7,254,442	20,882
Males	3,772,864	3,757,198	15,666
Females	3,502,460	3,497,244	5,216
Urban			
Persons	908,465	902,891	5,574
Males	478,344	474,300	4,044
Females	430,121	428,591	1,530
Rural			
Persons	6,366,859	6,351,551	15,308
Males	3,294,520	3,282,898	11,622
Females	3,072,339	3,068,653	3,686

Population Growth

Papua New Guinea has been experiencing population growth since 1980 and is evident in the increasing average annual growth rates as shown in Figure 1.1.

The average annual growth rates are influenced by demographic processes such as births, deaths and migration as well as non-demographic factors such as changes in the operational strategies and under enumeration.

Between the 1980 and 2000 censuses, the average annual growth rate for PNG was 2.7%, while for the 31 year period (1980 to 2011), it was 2.9%. For the period between 2000 and 2011, the average annual growth rate was 3.1%. Between these censuses the population of PNG increased by 40%.

Figure 1.1 Average annual growth rates, PNG, 1980, 2000 and 2011 Censuses
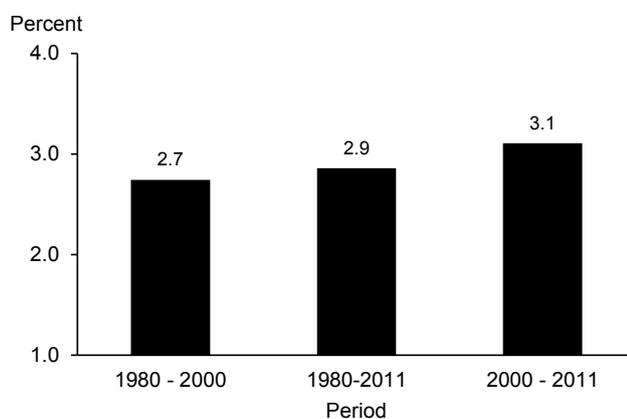
Population Density

The crude and physiological measures of population density for PNG and the provinces based on the total and arable land area data from National Forest Authority (NFA) are presented in Table 1.2.

The total land area of PNG is 461,937 square kilometres and the total population was 7,275,324 according to the 2011 census. This gives a crude population density for PNG of 16 persons per square kilometre while the 2000 census indicated a population density of 11 persons per square kilometre.

The arable land area of PNG is 44,438 square kilometres giving a physiological density of 164 persons per square kilometre, an increase of 78 persons from 86 persons in 2000.

Table 1.2 Crude and physiological density by province, PNG, 1990, 2000 and 2011 Censuses

Province	Crude			Physiological		
	2011	2000	1990	2011	2000	1990
PNG	15.7	11.2	8.1	163.7	86.2	62.5
Western	2.1	1.5	1.1	107.3	55.6	40.1
Gulf	4.6	3.1	2.0	150.7	121.2	77.9
Central	9.1	6.2	4.8	178.4	37.8	29.0
NCD	1,366.3	1,059.0	814.9	-	-	-
Milne Bay	19.4	15.0	11.3	114.4	52.9	39.9
Northern	8.2	5.8	4.2	139.8	65.3	47.3
SHP	32.3	23.0	13.3	219.5	89.1	51.8
Enga	36.9	24.9	19.9	134.2	89.9	71.8
WHP	85.5	51.8	39.6	171.6	106.4	81.3
Chimbu	61.4	42.6	30.1	255.9	116.5	82.5
EHP	52.0	38.7	26.8	243.4	100.5	69.8
Morobe	20.0	16.1	11.3	139.8	85.5	60.3
Madang	17.1	12.6	8.7	90.7	59.1	41.0
ESP	10.3	8.0	5.9	94.2	119.6	88.6
WSP	6.9	5.1	3.9	173.8	61.3	46.2
Manus	28.3	20.7	15.6	662.5	213.7	161.8
NIP	20.3	12.3	9.1	251.3	82.7	60.8
ENBP	21.5	14.2	12.0	161.1	102.5	86.4
WNBP	13.0	8.8	6.2	211.8	198.6	140.1
AROB	26.5	18.8	16.6	482.2	69.3	60.9
Hela	25.5	-	-	132.5	-	-
Jiwaka	70.7	-	-	201.5	-	-

Note: 2000 Census land use data from DAL and 2011 Census land use data from NFA
   - denotes data not available

Population Distribution

According to the 2011 census, Morobe province had the highest proportion of population (9%) followed by EHP with 8% as shown in Table 1.3. Manus remained the smallest province in terms of population size with less than 1%.

The five least populated provinces including Manus had remained almost in the same position since 2000 while the positions of the three highly populated provinces have changed since 2000. SHP dropped in rank from first in 2000 to third in 2011 due to the creation of Hela Province.

Similarly, WHP dropped in the ranking from third to tenth due to the creation of Jiwaka Province. Morobe moved from second to first while EHP moved from fourth to second in 2011.

**Table 1.3 Ranking of provincial populations, PNG, 1990, 2000 and 2011 Censuses**

Province	Percent of population	Ranking 2011	2000	1990
Morobe	9.3	1	2	1
EHP	8.0	2	4	4
SHP	7.0	3	1	3
Madang	6.8	4	5	6
ESP	6.2	5	6	5
Jiwaka	6.0	6	-	-
Enga	5.9	7	7	7
Chimbu	5.2	8	8	10
NCD	5.0	9	9	8
WHP	5.0	10	3	2
ENBP	4.5	11	10	9
Milne Bay	3.8	12	11	11
Central	3.7	12	14	13
WNBP	3.6	14	13	15
Hela	3.4	15	-	-
AROB	3.4	16	15	12
WSP	3.4	17	12	14
Western	2.8	18	16	16
NIP	2.7	19	18	18
Northern	2.6	20	17	17
Gulf	2.2	21	19	19
Manus	0.8	22	20	20

Population Composition

Age and sex are the central variables in all demographic and socio-economic analysis. According to the 2011 census, the sex ratio for PNG was 107 males for every 100 females indicating that there were more males than females. Sex ratios by age groups were fairly standard, a pattern similar to that in 2000. However, age specific variations by sex were obvious as shown in Figure 1.2.

Figure 1.2 Sex ratio of citizen population by age, PNG, 2000 and 2011 Censuses
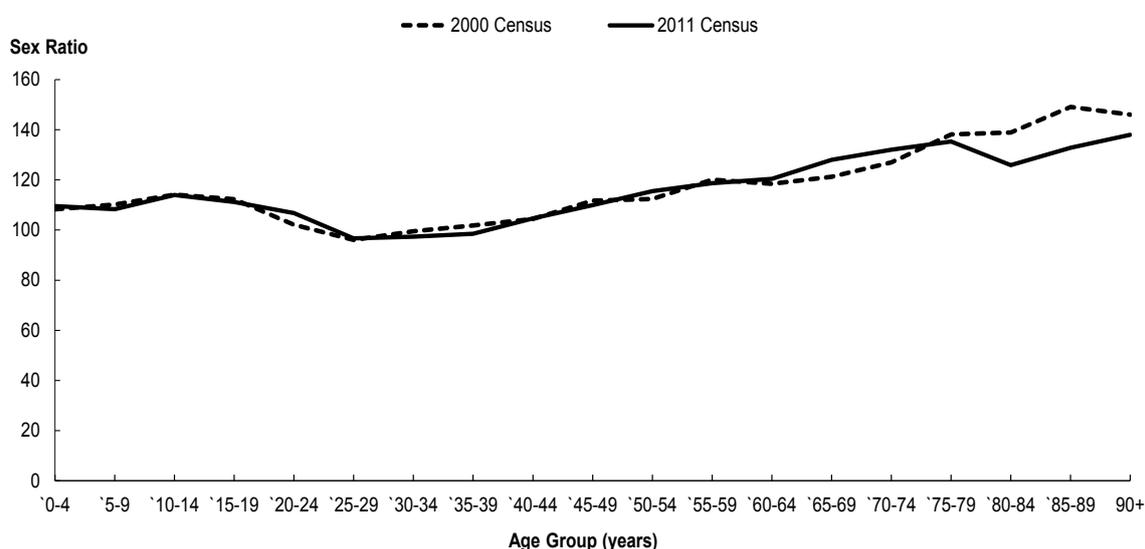
Age-sex population pyramid is one method of showing the age-sex structure of a population graphically. Population pyramid for PNG in 2011 as shown in Figure 1.3 has a broad base indicating a young population.

More than 35% of the citizen population were under the age of 15 years while the proportion of population aged 65 years and over was 3%. Such age distribution conforms to the pattern of high fertility of which there is potential for future population growth.

Age reporting the has always been a challenge in the conduct of major censuses and surveys in PNG. A brief evaluation of age –sex data is presented in Appendix 2.

Figure 1.3 Citizen population by age and sex, PNG, 2011 Census
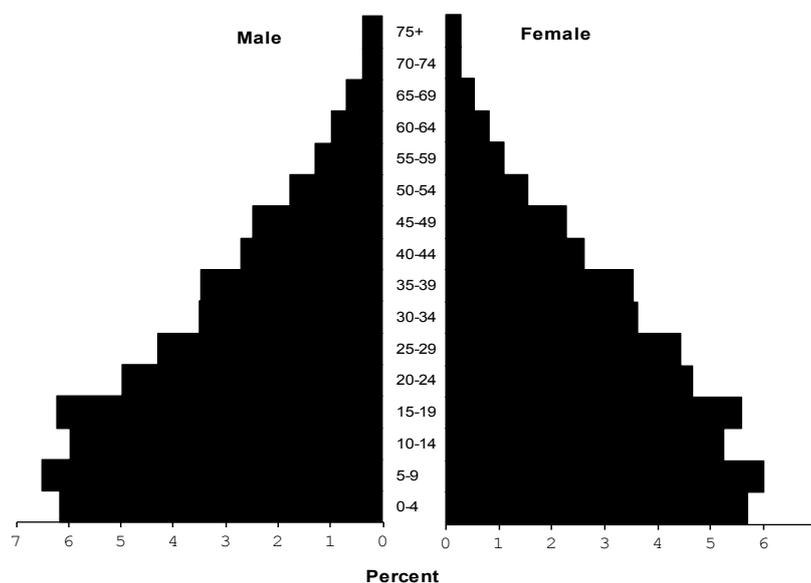
Of the 7.2 million citizen population enumerated in PNG, 36% were below the age of 15 years and 62% were aged 15 to 64 years as shown in Table 1.4. The population distribution pattern according to the three broad age groups has been similar except for the variations in the levels between the age groups.

According to the 2011 census, the proportion for the younger age group (less than 15 years) has decreased with a possible shift to the working age group (15-64 years). The proportion for older persons (65 years and over) has remained consistent.

Table 1.4 Citizen population by broad age group, PNG, 1990, 2000 and 2011 Censuses

Census	Total	Age groups (years)			Dependency Ratio
		Less than 15	15-64	65 and over	
2011	7,241,460	35.6	61.9	2.6	61.7
2000	5,171,548	40.0	57.6	2.4	73.6
1990	3,582,333	41.9	55.7	2.4	75.3

Variations can be noted in the composition of the population in the urban and rural sector as shown in Table 1.5. About 34% of the urban population was in the younger age group (less than 15 years) while 65% were in the working age group (15-64 years).

In the rural sector, 36% were in the younger age group (less than 15 years) and 61% were in the working age group (15-64 years). Slightly higher proportion (3%) of population in the rural sector were aged 65 years and over compared to 2% in the urban sector.

Table 1.5 Citizen population by province, broad age groups and dependency ratio, PNG, 2011 Census

Area	Less than 15	15 - 64	65 and over	Dependency ratio
PNG	35.6	61.9	2.6	61.7
Urban	33.5	64.9	1.6	54.1
Rural	35.9	61.4	2.7	62.8
Western	41.8	56.2	2.1	78.0
Gulf	42.6	55.4	2.0	80.5
Central	40.0	57.1	2.9	75.0
NCD	31.9	66.7	1.5	50.0
Milne Bay	39.7	57.3	2.9	74.4
Northern	40.5	56.9	2.6	75.8
SHP	29.6	67.9	2.5	47.3
Enga	29.0	68.4	2.7	46.3
WHP	29.2	67.8	3.0	47.5
Chimbu	28.5	68.3	3.2	46.5
EHP	33.4	63.7	2.8	56.9
Morobe	37.3	60.1	2.6	66.3
Madang	41.2	56.7	2.1	76.4
ESP	40.8	56.1	3.1	78.1
WSP	41.1	56.6	2.3	76.8
Manus	41.0	56.0	3.0	78.6
NIP	41.9	55.6	2.5	80.0
ENBP	41.0	56.5	2.4	76.9
WNBP	40.0	57.9	2.2	72.8
AROB	39.4	58.2	2.4	71.7
Hela	26.5	70.8	2.6	41.2
Jiwaka	27.0	70.3	2.7	42.3

Population composition also varied across provinces. Gulf province had the highest proportion of population less than 15 years (43%) compared to Hela province with less than 27%.

Of the working age population (15-64 years), Hela province had the highest proportion of 71% while Gulf province had the lowest proportion of 55%.

For the older age group 65 years and over, NCD had the lowest proportion of less than 2% while Chimbu and ESP had the highest proportion of over 3%, respectively. *(See Summary Indicators).*

Dependency Ratio

In every population, there are persons who depend on others for their daily living. The dependency ratio is defined as population aged less than 15 years and 65 years and older, who depend on the working age group population aged 15-64 years.

Because of its young population, PNG has a very high dependency ratio of 62 persons, which means that there were 62 persons depending on every 100 persons who are working. This was a decrease from 74 in 2000 as shown in Table 1.4.

The dependency ratio in the rural sector was high (63) compared to the urban sector (54) due to the high proportion of population age less than 15 years and 65 years and over in the rural sector. The dependency ratio also varied between provinces with the highest in Gulf province (81) and lowest in Hela province (41).

Median Age

The median age for the citizen population in 2011 was 21 years, an increase of 3 years from 2000 census as shown in Table 1.6. Median age for urban and rural sector was similar at about 21 years (Table 1.7).

Variations were evident between the provinces with 27 years in Hela province and 18 years in Gulf province.

Table 1.6 Median age, child-woman ratio and sex ratio of citizen population, PNG, 1990, 2000 and 2011 Censuses

Census	Median age	Child Woman Ratio	Sex Ratio
2011	21.4	48.6	107.4
2000	18.7	60.4	107.5
1990	18.4	68.5	109.6

Sex Ratio

Sex ratio has remained constant at 107 over the past 11 years as presented in Table 1.6. There were obvious differences by sector with sex ratio in the rural sector lower at 107 than in the urban sector with 111 as shown in Table 1.7.

Sex ratio also varied from a high of 114 in NCD to a low of 100 in ESP indicating approximately equal numbers

Table 1.7 Median age, sex ratio and child-woman ratio of citizen population, PNG, 2011 Census

Area	Median age	Sex ratio	Child woman ratio
PNG	21.4	107.4	48.6
Urban	21.9	110.7	44.0
Rural	21.3	107.0	49.3
Western	18.6	106.0	66.6
Gulf	18.1	106.8	64.6
Central	19.6	111.3	64.8
NCD	23.8	114.3	41.8
Milne Bay	22.7	108.1	64.4
Northern	19.5	108.8	68.8
SHP	22.4	106.6	29.2
Enga	23.6	108.2	29.1
WHP	24.3	102.4	34.4
Chimbu	24.0	109.9	31.0
EHP	22.7	107.7	42.6
Morobe	21.0	108.1	54.6
Madang	19.0	108.7	64.6
ESP	19.2	100.4	62.8
WSP	19.1	105.5	66.2
Manus	19.0	106.0	64.4
NIP	18.5	111.6	65.8
ENBP	18.9	105.3	62.6
WNBP	19.9	110.5	64.8
AROB	19.9	105.2	62.0
Hela	26.6	106.6	28.8
Jiwaka	23.5	107.5	29.0

Child Woman Ratio

According to the 2011 census, the child-woman ratio was 49, which means that there were 49 children aged 0-4 years for every 100 women of child bearing age 15-44 years. This was a decline from 60 in 2000 as shown in Table 1.6.

Child-woman ratio was higher in the rural sector (49) than in the urban sector (44). At the provincial level, the ratio varied from 69 in Northern province to less than 29 in Hela province. *(See Summary Indicators).*

Non-Citizens

There were 21,000 non-citizens enumerated in PNG at the 2011 census, an increase of 1,644 persons since 2000 as shown in Table 1.8. In all the censuses, the working age group 15-64 years has remained consistently high, however, the proportion decreased significantly between 2000 and 2011 from 73% to 48%.

For the same period, there was an increase of 25% in the younger age group (less than 15 years) to 50% in 2011. Consistent with the age group distribution, dependency ratio has increased and median age has significantly decreased in the past 11 years.

Table 1.8 Non-citizen population by broad age groups, dependency ratio, median age and sex ratio, PNG, 1990, 2000 and 2011 Censuses

Census	Age groups (years)				Dependency ratio	Median Age	Sex ratio
	Total	Less than 15	15 - 64	65 and over			
2011	20,288	50.2	47.9	2.0	109.0	14.8	300.3
2000	19,238	24.8	72.9	2.3	37.2	33.0	164.9
1990	25,621	29.8	68.6	1.6	43.4	30.0	134.9

The sex ratio increased from 165 in 2000 to 300 in 2011 indicating an increase in the number of non-citizen males over the last 11 years, a pattern consistent to that between 1990 and 2000.

CHAPTER 2
POPULATION CHARACTERISTICS

Summary Indicators

Summary Indicators		PNG, 1980, 1990, 2000 and 2011 Censuses			
		PNG			
Citizen population		**2011**	**2000**	**1990**	**1980**
Married (% of population aged 15 years and over)	Total	58.9	61.6	62.2	na
	Male	54.9	57.9	59.2	na
	Female	63.3	65.5	65.5	na
Never married (% of population aged 15 years and over)	Total	33.4	29.9	29.2	na
	Male	40.5	37.6	36.1	na
	Female	25.9	23.9	21.8	na
Singulate mean age at marriage (years)	Total	24.8	23.8	na	na
	Male	27.1	25.8	24.6	na
	Female	22.6	21.8	20.8	na
Household heads (% of population aged 15 years and over)	Total	28.4	30.7	na	na
	Male	47.8	51.9	na	na
	Female	7.9	8.4	na	na
Female heads of households (% of household heads)	Total	13.5	13.4	na	na
		R/Cath.	R/Cath.	R/Cath.	
Main religion (% of population)	Total	26.0	27.6	28.4	na
	Male	26.1	27.8	28.5	na
	Female	25.9	27.4	28.4	na

Non-citizen population		**2011**	**2000**	**1990**	**1980**
Married (% of population aged 15 years and over)	Total	55.7	na	na	na
	Male	50.6	65.8	65.4	na
	Female	65.5	71.6	71.7	na
Never married (% of population aged 15 years and over)	Total	25.5	na	na	na
	Male	25.2	30.1	31.0	na
	Female	25.9	22.1	22.9	na
Singulate mean age at marriage (years)	Total	24.2	na	na	na
	Male	25.3	27.9	26.3	na
	Female	22.5	22.1	19.6	na
Household heads (% of population aged 15 years and over)	Total	44.4	na	na	na
	Male	63.3	65.3	na	na
	Female	8.4	11.5	na	na
Female heads of households (% of household heads)	Total	6.4	9.2	na	na
Main religion (% of population)	Total	R/Cath.	R/Cath.	R/Cath.	na
	Male	33.9	44.9	40.7	na
	Female	33.2	48.2	47.6	na

Summary Indicators		PNG, 1980, 1990, 2000 and 2011 Censuses			
		PNG			
Urban citizen population		**2011**	**2000**	**1990**	**1980**
Married (% of population aged 15 years and over)	Total	56.7	59.6	60.9	na
	Male	52.5	55.3	54.8	na
	Female	61.3	64.8	69.1	na
Never married (% of population aged 15 years and over)	Total	36.3	35.6	35.4	na
	Male	43.0	41.5	42.5	na
	Female	28.8	28.5	25.8	na
Singulate mean age at marriage (years)	Total	25.1	24.3	na	na
	Male	27.3	26.3	24.5	na
	Female	22.9	22.2	20.7	na
Household heads (% of population aged 15 years and over)	Total	20.4	24.5	na	na
	Male	33.3	40.1	na	na
	Female	6.0	5.7	na	na
Female heads of households (% of household heads)	Total	14.0	10.7	na	na
		R/Cath.	R/Cath.	R/Cath.	
Main religion (% of population)	Total	23.7	25.0	27.4	na
	Male	23.8	25.3	27.5	na
	Female	23.5	24.7	27.2	na

Rural citizen population		**2011**	**2000**	**1990**	**1980**
Married (% of population aged 15 years and over)	Total	59.3	61.9	64.3	na
	Male	55.2	58.4	60.1	na
	Female	63.5	76.0	68.6	na
Never married (% of population aged 15 years and over)	Total	33.0	30.2	28.1	na
	Male	40.2	37.0	34.7	na
	Female	25.5	10.8	21.1	na
Singulate mean age at marriage (years)	Total	24.8	23.7	na	na
	Male	27.0	25.8	24.6	na
	Female	22.6	21.8	20.9	na
Household heads (% of population aged 15 years and over)	Total	29.5	31.6	na	na
	Male	50.0	53.9	na	na
	Female	8.1	8.8	na	na
Female heads of households (% of household heads)	Total	13.4	13.7	na	na
		R/Cath.	R/Cath.	R/Cath.	
Main religion (% of population)	Total	26.3	28.0	28.6	na
	Male	26.5	28.2	28.7	na
	Female	26.2	27.8	28.5	na

Summary Indicators		Provinces, 2011 Census					
		Southern Region					
Citizen population		**Western**	**Gulf**	**Central**	**NCD**	**MBP**	**Northern**
Married (% of population aged 15 years and over)	Total	59.0	58.8	60.1	56.9	60.7	61.2
	Male	55.3	54.1	55.4	52.9	57.2	57.2
	Female	62.7	63.7	65.4	61.6	64.5	65.6
Never married (% of population aged 15 years and over)	Total	33.4	33.4	31.8	36.3	28.9	31.4
	Male	40.9	41.6	39.6	42.5	36.9	38.7
	Female	25.7	24.8	23.3	29.0	20.3	23.4
Singulate mean age at marriage (years)	Total	24.1	23.9	24.2	25.1	23.5	24.3
	Male	26.4	26.5	26.6	27.1	26.0	26.8
	Female	22.0	21.4	21.7	23.0	21.2	21.8
Household heads (% of population aged 15 years and over)	Total	25.5	27.0	24.8	17.3	31.9	30.2
	Male	44.3	45.3	41.0	28.2	51.3	52.5
	Female	5.9	7.8	7.0	4.8	11.3	5.7
Female heads of households (% of household heads)	Total	11.4	14.3	13.4	12.8	17.2	9.1
		Evan.All.	U/Church	U/Church	U/Church	U/Church	Anglican
Main religion (% of population)	Total	37.1	30.1	40.0	23.0	54.9	60.6
	Male	36.8	30.4	40.1	22.9	55.4	60.7
	Female	37.4	29.9	39.9	23.2	54.3	60.4

Citizen Population		Highlands Region						
		SHP	**Enga**	**WHP**	**Chimbu**	**EHP**	**Hela**	**Jiwaka**
Married (% of population aged 15 years and over)	Total	52.1	55.1	62.3	60.3	63.0	63.3	56.7
	Male	47.5	50.6	58.9	56.1	59.1	58.9	53.2
	Female	56.9	59.9	65.7	64.9	67.1	68.1	60.5
Never married (% of population aged 15 years and over)	Total	41.4	36.1	30.7	31.1	28.9	29.8	35.6
	Male	48.4	43.3	36.8	37.6	35.5	36.5	41.5
	Female	34.1	28.5	24.7	24.0	21.9	22.7	29.2
Singulate mean age at marriage (years)	Total	26.7	25.8	24.7	24.5	23.9	25.2	25.1
	Male	28.6	28.1	26.5	26.8	26.1	27.6	26.9
	Female	24.8	23.7	22.9	22.3	21.9	23.0	23.2
Household heads (% of population aged 15 years and over)	Total	24.1	24.5	32.7	27.9	34.4	35.3	25.7
	Male	42.4	43.3	55.2	49.7	59.0	54.6	44.1
	Female	5.1	4.6	10.2	4.1	8.6	14.7	6.1
Female heads of households (% of household heads)	Total	10.4	9.1	15.7	7.1	12.2	20.2	11.5
		R/Cath.	Evan.Luth	Evan.Luth	R/Cath.	SDA	Evan.All	R/Cath.
Main religion (% of population)	Total	19.7	26.4	26.0	34.4	39.6	19.7	29.6
	Male	20.0	26.6	26.3	34.7	39.3	19.4	29.8
	Female	19.4	26.2	25.7	34.0	39.8	20.0	29.4

Summary Indicators		Provinces, 2011 Census			
		Momase Region			
Citizen population		**Morobe**	**Madang**	**ESP**	**WSP**
Married	Total	59.7	57.9	60.2	60.1
(% of population aged 15 years and over)	Male	55.1	53.6	57.3	55.7
	Female	64.5	62.4	63.1	64.7
Never married	Total	33.1	34.8	32.3	32.7
(% of population aged 15 years and over)	Male	40.9	42.5	39.1	40.4
	Female	24.8	26.7	25.7	24.8
Singulate mean age at marriage	Total	24.7	24.8	24.5	24.4
(years)	Male	27.3	27.3	26.7	26.8
	Female	22.1	22.3	22.6	22.2
Household heads	Total	29.4	28.8	31.9	29.1
(% of population aged 15 years and over)	Male	49.5	49.3	53.8	49.3
	Female	7.9	6.7	10.6	8.2
Female heads of households	Total	12.9	11.2	17.0	14.0
(% of household heads)					
		Evan.Luth	Evan.Luth	R/Cath	R/Cath.
Main religion (% of population)	Total	67.0	38.4	43.0	40.4
	Male	67.4	38.4	43.4	41.3
	Female	66.5	38.3	42.7	39.5

Citizen Population		New Guinea Islands Region				
Citizen Population		**Manus**	**NIP**	**ENBP**	**WNBP**	**AROB**
Married	Total	56.6	57.1	58.1	62.0	57.7
(% of population aged 15 years and over)	Male	53.0	52.5	54.3	57.1	54.9
	Female	60.4	62.2	62.0	67.4	60.6
Never married	Total	32.7	34.4	34.1	31.3	35.0
(% of population aged 15 years and over)	Male	41.7	42.6	41.7	39.0	42.2
	Female	23.5	25.4	26.5	22.8	27.7
Singulate mean age at marriage	Total	24.1	24.5	24.4	24.1	25.5
(years)	Male	27.0	27.0	26.7	26.7	27.7
	Female	21.3	22.1	22.3	21.6	23.3
Household heads	Total	27.7	24.5	27.9	30.8	30.7
(% of population aged 15 years and over)	Male	42.5	38.6	44.1	51.2	50.4
	Female	12.5	8.8	11.7	8.4	10.5
Female heads of households	Total	22.4	17.0	20.9	12.9	17.0
(% of household heads)						
Main religion (% of population)		R/Cath.	R/Cath.	R/Cath.	R/Cath.	R/Cath.
	Total	38.5	31.3	42.8	55.3	68.4
	Male	38.7	31.3	42.9	55.3	68.3
	Female	38.3	31.3	42.7	55.4	68.5

Glossary

Adopted/step child	Any child looked after by the head of household that is not his/her natural child.
Head of household	A person regarded as head by members of the household.
Marital status	Personal status of individuals in relation to the marriage laws or customs of PNG. Indicates whether a person is married, never married, separated, divorced or widowed.
Non-relative	A person not related to the household head but present at the time of census enumeration.
Other relative	Person, other than a spouse or child, related to the head of household by blood or marriage.
Own child	Natural child of the head of household.
Relationship in household	A person's relationship to the head of household during census enumeration.
Religion	An affiliation with an organized group having specific religious or spiritual beliefs or preferences.
Singulate mean age at marriage	A measure of average age at marriage derived from the proportion of population never married by age and sex.
Spouse	A person married to, or in a marriage–like relationship with, the head of household.

Marital Status

The information on marital status for persons aged 15 years and over is presented in Table 2.1. According to the 2011 census, marriage was common for both males and females (59%). Proportionally, there were more females (63%) married than males (55%).

A similar pattern was also observed for the other marital status categories, except for the never married. There were more males never married than females with 41% and 26%, respectively.

Table 2.1 Proportion of citizen population 15 years and over in private dwellings by sector, sex and marital status, PNG, 2011 Census

| Area | Total | Marital Status | | | |
		Never Married	Married	Separated Divorced	Widowed
All sectors					
Persons	4,644,086	33.4	58.9	3.8	3.8
Males	2,386,768	40.5	54.9	2.5	2.1
Females	2,257,318	25.9	63.3	5.1	5.7
Urban					
Persons	589,719	36.3	56.7	4.1	3.0
Males	310,476	43.0	52.5	2.8	1.7
Females	279,243	28.8	61.3	5.5	4.3
Rural					
Persons	4,054,367	33.0	59.3	3.8	4.0
Males	2,076,292	40.2	55.2	2.5	2.1
Females	1,978,075	25.5	63.5	5.1	5.9

Although marriage is a common status in both the urban and rural sectors, there were slightly more rural population married (59%) compared to urban population (57%). Urban population were likely to be never married, separated and divorced than the rural population. A higher proportion of rural females were widowed compared to their urban counterparts with 6% and 4%, respectively.

In the provinces, the proportion of married males varied from 59% in EHP, WHP and Hela province to 48% in SHP. While for married females, the proportions varied from a high of 68% in Hela province to a low of 57% in SHP. *(See Summary Indicators)*.

The never married proportion varied from 41% in SHP to 29% in Milne Bay and EHP, respectively. *(See Summary Indicators)*.

Singulate Mean Age at Marriage (SMAM)

Singulate mean age at marriage is a measure of the average age at marriage derived from data on the never married population by age and sex. As shown in Table 2.2, the SMAM for males and females according to the 2011 census was 27 years and 23 years, respectively. This implies that males marry at a later age than females.

Table 2.2 Singulate mean age at marriage by sex and sector, PNG, 1990, 2000 and 2011 Censuses

Census	Sex	Total	Urban	Rural
2011	Males	27.1	27.3	27.0
	Females	22.6	22.9	22.6
2000	Males	25.8	26.3	25.8
	Females	21.8	22.2	21.8
1990	Males	24.6	24.5	24.6
	Females	20.8	20.7	20.9

The SMAM for males in the urban and rural sector was similar at 27 years, likewise for females at 23 years. Since 2000, SMAM for males has increased from 26 years to 27 years and from 22 years to 23 years for females. Both have increased by 1 year in the last 11 years.

There were variations in the SMAM between provinces from 27 years in SHP to less than 24 years in Milne Bay, EHP and Gulf provinces. SMAM was lowest among males (26 years) in Milne Bay, Western, and EHP, whereas for females (21 years) in Milne Bay, Manus and Gulf provinces *(see Summary Indicators).*

Relationship Status

The relationship status of each member of the household to the head of the household is presented in Table 2.3. According to the 2011 census, 18% of population were heads of household and 14% were spouses to the head. More than 46% were own children whilst 3% were step or adopted children. A further 17% were other relatives to the head of household.

Table 2.3 Citizen population in private dwellings by age, sex and relationship status, PNG 2011 Census

Age group (years)	Total	Relationship to head of household					
		Head of household	Spouse	Own child	Step/ adopted child	Other Relative	Non- Relative
Persons	7,217,809	18.3	14.1	46.6	2.9	16.7	1.4
0 - 14	2,573,723	0.0	0.0	79.4	4.1	15.9	0.5
15 - 64	4,458,231	27.2	22.2	29.7	2.3	16.7	1.9
65 and over	185,855	56.8	15.3	0.1	0.9	25.2	1.7
Males	3,735,210	30.6	0.3	48.6	3.1	16.0	1.5
0 - 14	1,348,442	0.0	0.0	79.5	4.1	15.8	0.6
15 - 64	2,281,701	46.3	0.5	32.5	2.6	16.1	2.0
65 and over	105,067	79.7	0.5	0.0	1.0	17.0	1.7
Females	3,482,599	5.1	28.9	44.5	2.8	17.4	1.3
0 - 14	1,225,281	0.0	0.0	79.3	4.1	16.0	0.5
15 - 64	2,176,530	7.2	44.9	26.6	2.1	17.4	1.7
65 and over	80,788	26.9	34.6	0.1	0.9	35.9	1.7

The younger age group 0-14 years were mainly own, step or adopted children (84%). Of the working age group 15 to 64 years, less than half (49%) were heads of household and spouses to the heads of households. For those aged 65 years and over, a high proportion of males (80%) were heads of households than females (27%).

The proportion of males aged 15 years and over as heads of households was higher in the urban and rural sector (33% and 50%) than females (6% and 8%). Females represented 14% of household heads *(See Summary Indicators).*

By province, EHP had the highest proportion of males aged 15 years and over as heads of household (59%) while NCD had the lowest proportion with 28%. Manus province had the highest proportion of females as heads of households (22%) compared to all other provinces.

Religion

The majority of the citizen population in PNG according to the 2011 census were Christians (96%) as presented in Table 2.4. Less than 2% were non-Christians while 3% did not indicate a religion. Since 2000, the proportion of Christians was consistent at 96%, likewise, the proportion for non- Christian remained at less than 2%.

Table 2.4 Citizen population in private dwellings by religious affiliation, PNG, 2000 and 2011 Censuses

Religious affiliation	2011			2000		
	Persons	Males	Females	Persons	Males	Females
Total	7,217,809	3,735,210	3,482,599	5,140,476	2,659,394	2,481,082
Christian	95.6	95.5	95.6	96.0	95.9	96.1
Non-Christian	1.4	1.3	1.4	1.4	1.4	1.4
No Religion	0.0	0.0	0.0	0.6	0.7	0.5
Not Stated	3.1	3.1	3.0	2.0	2.0	2.0

Roman Catholic remained the major Christian denomination in PNG, accounting for 26% of the population, followed by Evangelical Lutheran (18%) and Seventh Day Adventist (13%) as shown in Figure 2.1.

Due to the possible missionary influences in the past, there were major concentrations of particular Christian denominations in some provinces. Such were found in AROB (Roman Catholic, 68%), Morobe province (Evangelical Lutheran, 67%) and Northern Province (Anglican, 61%). *(See Summary Indicators).*

Figure 2.1 Citizen population in private dwellings by christian denomination, PNG, 2011 Census
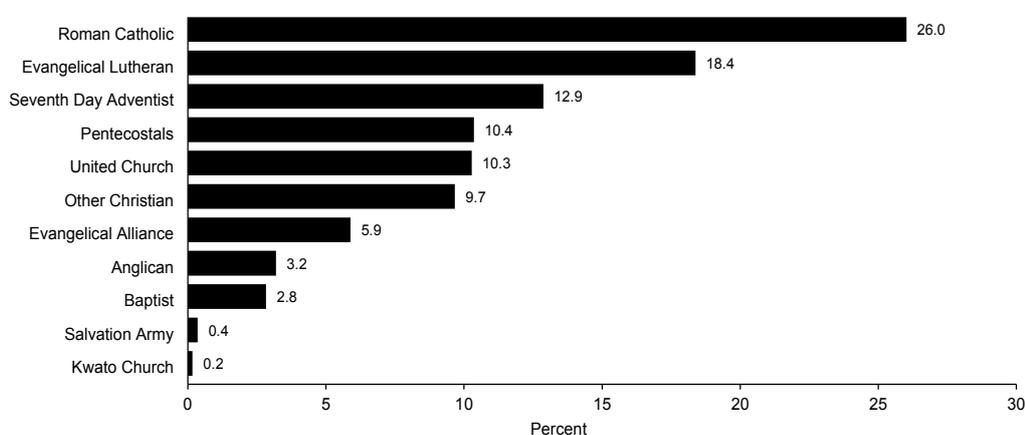
Non-citizens

According to the 2011 census, 56% of the non-citizen population aged 15 years and over were married with higher proportion among the females (66%) than males (51%). More than a quarter of non-citizen males and females were never married, respectively. The SMAM for males was higher than females with 25 years and 23 years, respectively. *(See Summary Indicators).*

More than 62% of non-citizen males aged 15 to 64 years were heads of households while 45% of non-citizen females of the same age group were spouses.

About 52% of non-citizen populations were Christians of which more than one third (34%) were Roman Catholics and a further 14% were Evangelical Lutherans as shown in Figure 2.2. However, more than 37% of the non-citizen population did not belong to any religion, while 3% belonged to non-Christian religions.

Figure 2.2 Non-citizen population in private dwellings by religious affiliations and christian denominations, PNG, 2011 Census

Religious affiliation	Percent
No religion	37.3
Roman Catholic	33.6
Evangelical Lutheran	13.9
Other Christian	12.5
Pentecostals	9.9
United Church	8.4
Seventh Day Adventist	7.9
Not stated	7.8
Anglican	5.2
Evangelical Alliance	4.4
Baptist	3.4
Non Christian	2.7
Salvation Army	0.6
Kwato Church	0.2

Percent
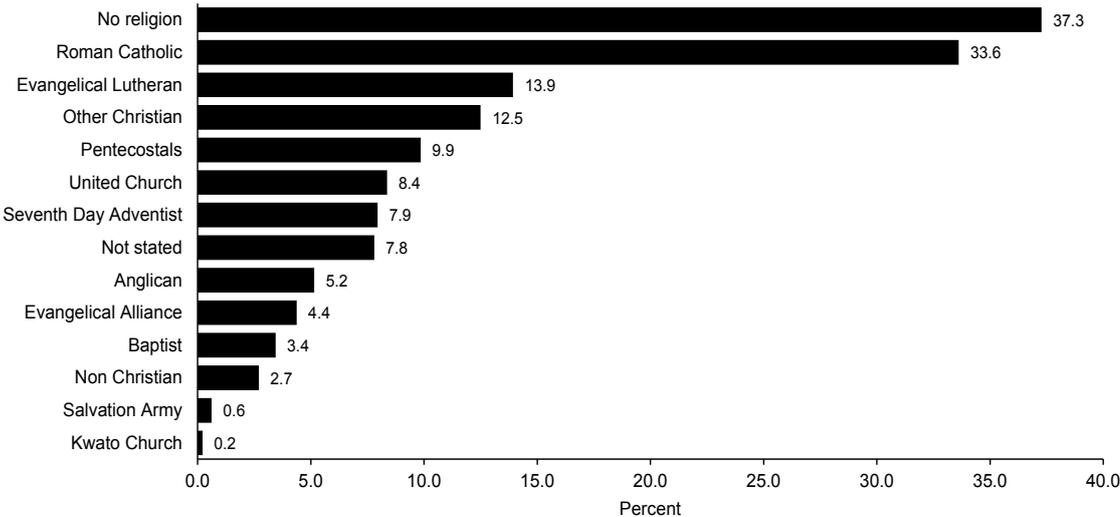
CHAPTER 3

MIGRATION

Summary Indicators

Summary Indicators		PNG, 1980, 1990, 2000 and 2011 Censuses			
		PNG			
Citizen population		**2011**	**2000**	**1990**	**1980**
Migrants (% of total population)	Total	12.5	20.3	na	na
	Male	12.7	20.6	12.9	11.2
	Female	12.3	19.9	11.2	6.9
Migrated less than 10 years ago (% of migrants)	Total	na	59.7	na	na
	Male	na	60.1	na	na
	Female	na	59.3	na	na
Interprovincial migrants (% migrants born in PNG)	Total	60.8	46.0	..	..
	Male	61.8	48.5	..	..
	Female	59.7	43.3	..	..
Main gaining province (net internal migration)	Prov	NCD	NCD	..	..
	Total	108,184	77,124	..	..
	Prov	NCD	NCD	NCD	NCD
	Male	60,443	45,120	62,437	40,516
	Prov	NCD	NCD	NCD	NCD
	Female	47,741	32,004	45,607	25,411
Main losing province (net internal migration)	Prov	Chimbu	Chimbu	na	na
	Total	-48075	-39511	na	na
	Prov	Chimbu	SHP	Chimbu	ESP
	Male	-24609	-22520	-25659	-16964
	Prov	Chimbu	Chimbu	Chimbu	Chimbu
	Female	-23466	-18695	-21179	-13081
Non-citizen population		**2011**	**2000**	**1990**	**1980**
Migrants (% of total population)	Total	49.7	84.1	na	na
	Male	53.1	83.6	na	na
	Female	45.1	84.9	na	na
Migrated less than 10 years ago (% of migrants)	Total	na	63.5	na	na
	Male	na	64.6	na	na
	Female	na	61.8	na	na
International migrants (% of migrants)	Total	74.3	91.6	na	na
	Male	78.2	91.4	na	na
	Female	68.0	91.9	na	na
Main destination province (% of international migration)	Prov	NCD	NCD	na	na
	Total	32.8	32.0	na	na
	Prov	NCD	NCD	na	na
	Male	34.7	33.1	na	na
	Prov	NCD	NCD	na	na
	Female	29.4	30.3	na	na
Main source country (% of international migration)	Country	USA	Indonesia	na	na
	Total	16.5	48.4	na	na
	Country	Philippines	Australia	Australia	Australia
	Males	14.3	21.1	24.9	43.0
	Country	USA	Indonesia	Indonesia	Australia
	Females	22.5	28.0	31.8	43.8

Summary Indicators		PNG, 1980, 1990, 2000 and 2011 Censuses			
		PNG			
Urban citizen population		**2011**	**2000**	**1990**	**1980**
Migrants (% of population)	Total	40.4	59.9	na	na
	Male	41.6	61.3	na	na
	Female	39.1	58.2	na	na
Migrated less than 10 years ago (% of migrants)	Total	na	60.2	na	na
	Male	na	59.9	na	na
	Female	na	60.6	na	na
Interprovincial migrants (% of migrants born in PNG)	Total	79.8	70	..	..
	Male	80.6	71.2	..	..
	Female	78.8	68.5	..	..
Main gaining province (net internal migration)	Province	NCD	NCD	na	na
	Total	141,735	107,445	na	na
	Province	NCD	NCD	NCD	na
	Male	77,939	60,876	62,930	na
	Province	NCD	NCD	NCD	na
	Female	63,796	46,569	45,919	na
Main losing province (net internal migration)	Province	Chimbu	Central	na	na
	Total	-26550	-23404	na	na
	Province	Chimbu	Central	Central	na
	Male	-14182	-12489	-16258	na
	Province	Chimbu	Central	Central	na
	Female	-12368	-10915	-13067	na

Rural citizen population		**2011**	**2000**	**1990**	**1980**
Migrants (% of population)	Total	8.6	14.6	na	na
	Male	8.6	14.6	6.1	na
	Female	8.6	14.7	4.8	na
Migrated less than 10 years ago (% of migrants)	Total	na	na	na	na
	Male	na	na	na	na
	Female	na	na	na	na
Interprovincial migrants (% of migrants born in PNG)	Total	48.2	32.1	na	na
	Male	48.8	34.4	..	...
	Female	47.7	29.8	..	...
Main gaining province (net internal migration)	Province	Central	WHP	na	na
	Total	27,287	33,530	na	na
	Province	WNBP	WHP	WHP	na
	Males	15,343	17,060	19819	na
	Province	Central	WHP	WHP	na
	Females	12,351	16,470	16870	na
Main losing province (net internal migration)	Province	NCD	NCD	na	na
	Total	-33551	-30321	na	na
	Province	NCD	NCD	Chimbu	na
	Males	-17496	-15756	-12998	na
	Province	NCD	NCD	Chimbu	na
	Females	-16055	-14565	-11707	na

Summary Indicators		Provinces, 2011 Census					
		Southern Region					
Citizen population		Western	Gulf	Central	NCD	MBP	Northern
Migrants	Total	7.5	7.1	14.1	48.4	6.4	8.4
(% of population)	Male	7.9	7.4	14.5	49.5	6.8	8.7
	Female	7.2	6.8	13.7	47.1	6.0	8.0
Migrated less than 10 years ago	Total	na	na	na	na	na	na
(% of migrants)	Male	na	na	na	na	na	na
	Female	na	na	na	na	na	na
Interprovincial migrants	Total	81.4	89.2	86.5	89.3	44.7	65.2
(% of migrants born in PNG)	Male	81.6	89.8	87.1	89.7	43.9	68.2
	Female	81.1	88.4	85.9	88.8	45.7	61.6
Main gaining province	Province	NCD	NCD	NCD	..	NCD	NCD
(net internal migration)	Total	-1826	-8794	-569	..	-2778	-2468
	Province	NCD	NCD	NCD	..	NCD	NCD
	Male	-978	-4294	-109	..	-1571	-1310
	Province	NCD	NCD	NCD	..	NCD	NCD
	Female	-848	-4500	-460	..	-1207	-1158
Main losing province	Province	WSP	SHP	Gulf	EHP	Hela	SHP
(net internal migration)	Total	5,006	593	1,117	15,987	233	456
	Province	WSP	SHP	Gulf	EHP	Hela	Morobe
	Male	2,664	336	710	8,830	117	366
	Province	WSP	SHP	Gulf	EHP	Hela	SHP
	Female	2,342	257	407	7,157	116	176

Citizen Population		Highlands Region						
		SHP	Enga	WHP	Chimbu	EHP	Hela	Jiwaka
Migrants (% of population)	Total	3.8	2.5	14.7	3.9	6.4	28.5	26.1
	Male	3.6	2.5	13.1	3.6	6.1	28.3	26.8
	Female	4.0	2.6	16.2	4.3	6.7	28.8	25.4
Migrated less than 10 years ago	Total	na	na	na	na	na	na	na
(% of migrants)	Male	na	na	na	na	na	na	na
	Female	na	na	na	na	na	na	na
Interprovincial migrants	Total	48.0	39.7	76.7	48.8	44.8	6.3	34.1
(% of migrants born in PNG)	Male	48.0	40.7	80.5	48.2	45.4	6.5	30.3
	Female	48.0	38.7	73.6	49.4	44.2	6.1	38.3
Main gaining province	Province	NCD	NCD	NCD	NCD	NCD	NCD	NCD
(net internal migration)	Total	-11515	-11438	-9623	-13697	-15987	-3049	-2381
	Province	NCD	NCD	NCD	NCD	NCD	NCD	WHP
	Males	-6615	-6526	-5621	-7554	-8830	-1962	-1429
	Province	NCD	NCD	NCD	NCD	NCD	NCD	NCD
	Females	-4900	-4912	-4002	-6143	-7157	-1087	-1042
Main losing province	Province	Hela	ENBP	SHP	Hela	Chimbu	Manus	Chimbu
(net internal migration)	Total	1,605	158	8,962	719	3,990	45	9,049
	Province	Hela	SHP	SHP	Hela	Chimbu	ESP	Chimbu
	Males	893	123	4,285	340	1,919	42	4,059
	Province	Hela	ENBP	SHP	Hela	Chimbu	WSP	Chimbu
	Females	712	58	4,677	379	2,071	48	4,990

Citizen Population		New Guinea Islands Region				
		Manus	NIP	ENBP	WNBP	AROB
Migrants (% of population)	Total	6.6	8.6	16.3	18.6	3.7
	Male	6.6	9.7	16.2	19.8	3.8
	Female	6.6	7.5	16.4	17.2	3.6
Migrated less than 10 years ago (% of migrants)	Total	na	na	na	na	na
	Male	na	na	na	na	na
	Female	na	na	na	na	na
Interprovincial migrants (% of migrants born in PNG)	Total	94.8	80.3	42.0	93.2	42.6
	Male	95.8	82.5	43.8	93.9	42.7
	Female	93.8	77.2	40.2	92.3	42.6
Main gaining province (net internal migration)	Province	NCD	NCD	WNBP	NCD	NCD
	Total	-2127	-914	-6279	-817	-2520
	Province	NCD	NCD	WNBP	NCD	NCD
	Males	-1072	-458	-3457	-537	-1342
	Province	NCD	NCD	WNBP	NCD	NCD
	Females	-1055	-456	-2822	-280	-1178
Main losing province (net internal migration)	Province	ESP	ENBP	AROB	ESP	Hela
	Total	272	2,341	983	7,364	173
	Province	ESP	ENBP	ESP	ESP	Hela
	Males	190	1,484	710	4,152	77
	Province	ESP	ENBP	AROB	ESP	Hela
	Females	82	857	501	3,212	96

Summary Indicators		Provinces, 2011 Census			
		Momase Region			
Citizen population		Morobe	Madang	ESP	WSP
Migrants (% of population)	Total	16.9	9.0	7.3	6.2
	Male	17.5	9.0	7.1	6.6
	Female	16.4	8.9	7.4	5.6
Migrated less than 10 years ago (% of migrants)	Total	na	na	na	na
	Males	na	na	na	na
	Female	na	na	na	na
Interprovincial migrants (% of migrants born in PNG)	Total	60.2	64.2	50.7	48.0
	Male	61.8	65.0	51.3	48.9
	Female	58.3	63.4	50.0	46.8
Main gaining province (net internal migration)	Province	NCD	NCD	WNBP	Western
	Total	-5633	-2606	-7364	-5006
	Province	NCD	NCD	WNBP	Western
	Male	-3309	-1565	-4152	-2664
	Province	NCD	NCD	WNBP	Western
	Female	-2324	-1041	-3212	-2342
Main losing province (net internal migration)	Province	Chimbu	ESP	Enga	Chimbu
	Total	8,649	3,885	472	483
	Province	Chimbu	ESP	Enga	Chimbu
	Male	4,524	2,244	248	402
	Province	Chimbu	ESP	Enga	Chimbu
	Female	4,125	1,641	224	81

Glossary

In-migrant	A person who was born in a province other than his/her province of enumeration. This includes persons born overseas.
Migrant	A person whose place of birth and place of enumeration were different, or, if they were the same, someone who had not lived at their place of enumeration continuously since birth. All persons born overseas were classified as migrants.
Natural increase	The excess of births over deaths.
Net migration	The difference between the number of in-migrants and the number of out-migrants.
Out-migrant	A person who was enumerated in a province other than their province of birth. This excludes persons born in PNG but living overseas at the time of the census.
Private dwelling	A structure occupied by a person or group of persons, related or unrelated, for private purposes. This excludes such accommodation as hotels, motels, guesthouses, barracks, workers quarters, hostels, boarding schools, prisons and hospitals.
Type of migration	Migrants were classified to a type of migration based on the comparison of place of birth and place of enumeration:

- Inter-provincial or between provinces migrants – people born in PNG whose province of birth and province of enumeration were different;

- Intra-provincial or within province migrants – people born in PNG whose province of birth and enumeration were the same but district of birth and enumeration were different, or district of birth was not stated;

- Intra-district or within district migrants - all other migrants born in PNG. This category includes people who may have moved away from their place of birth but had since returned, regardless of where they had moved to;

- overseas or international migrants – all persons born overseas.

Migratory status

There were 7.2 million citizen population enumerated in private dwellings in 2011 census of which 902,000 (13%) were not born where they were enumerated and were therefore, classified as migrants as presented in Table 3.1.

Of the citizen migrants, 40% were enumerated in the urban sector, representing more than a third of the total urban population. This suggest that urban areas remain attractive destinations for migrants, a similar pattern reported in 2000.

Table 3.1 Citizen population in private dwellings by migratory status, PNG, 2011 Census

Sectors	Total	Non-Migrants	Migrants	Not stated
All Sectors				
Persons	7,229,880	6,323,501	902,316	4,063
Males	3,741,307	3,264,900	474,328	2,079
Females	3,488,573	3,058,601	427,988	1,984
Urban				
Persons	892,679	530,970	360,591	1,118
Males	467,919	272,756	194,563	600
Females	424,760	258,214	166,028	518
Rural				
Persons	6,337,201	5,792,531	541,725	2,945
Males	3,273,388	2,992,144	279,765	1,479
Females	3,063,813	2,800,387	261,960	1,466

Males were more likely than females to be migrants in both the urban and rural sector as reflected in the sex ratio of 117 and 107, respectively. Overall, the sex ratio for migrants was higher at 111 compared to 107 for non-migrants.

By province, NCD and Hela had the highest proportions of migrants accounting for 48% and 29%, respectively. Low proportions of migrants were reported in Enga (3%) and AROB, SHP and Chimbu with 4%, respectively.

The age distribution of migrants and non-migrants were quite different as shown in Figure 3.1. The peak age groups for the migrants in PNG was age group 25-29 years accounting for 11% of all migrants.

Figure 3.1 Total citizen population by age and migratory status, PNG, 2011 Census
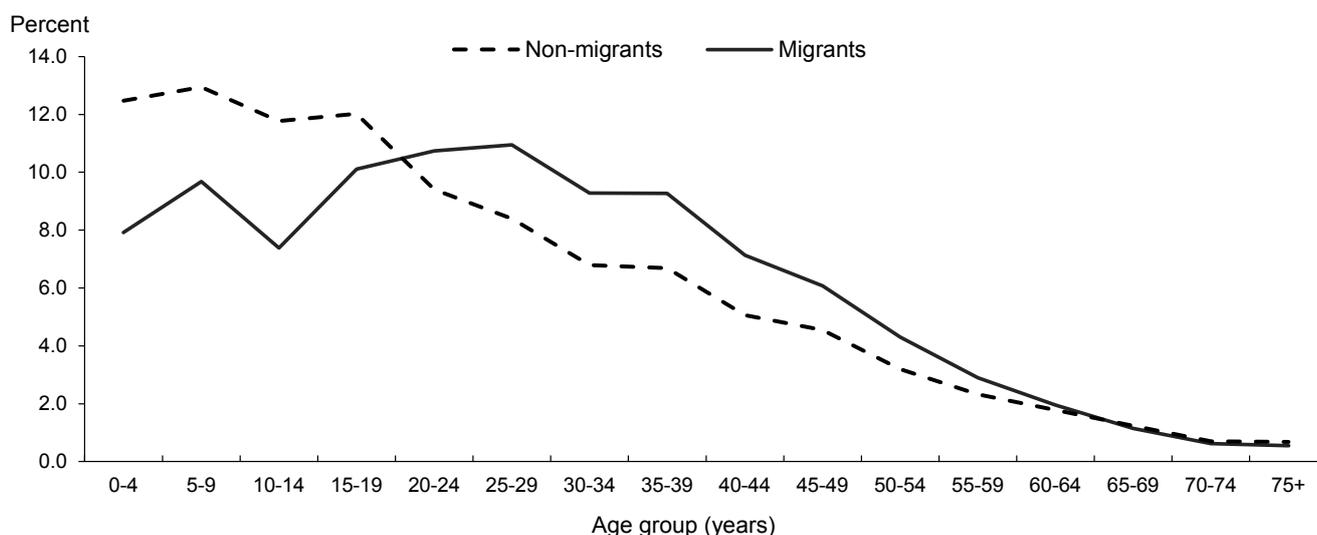
Furthermore, 25% of migrants were aged less than 15 years suggesting that migration was at the family unit. The proportion of migrants in the age group 30-34 years declined gradually up to age group 65-69 years where its proportion was slightly less than the non-migrants.

The sex ratio of migrants was more than 108 for age groups less than 25 years as shown in Figure 3.2. However, between age group 25-29 years and 35-39 years, the sex ratio remained constant at 100. The sex ratio increased significantly in the age group 40-44 years and thereafter.

Figure 3.2 Sex ratio of citizen population in private dwelling by age and migratory status, PNG, 2011 Census
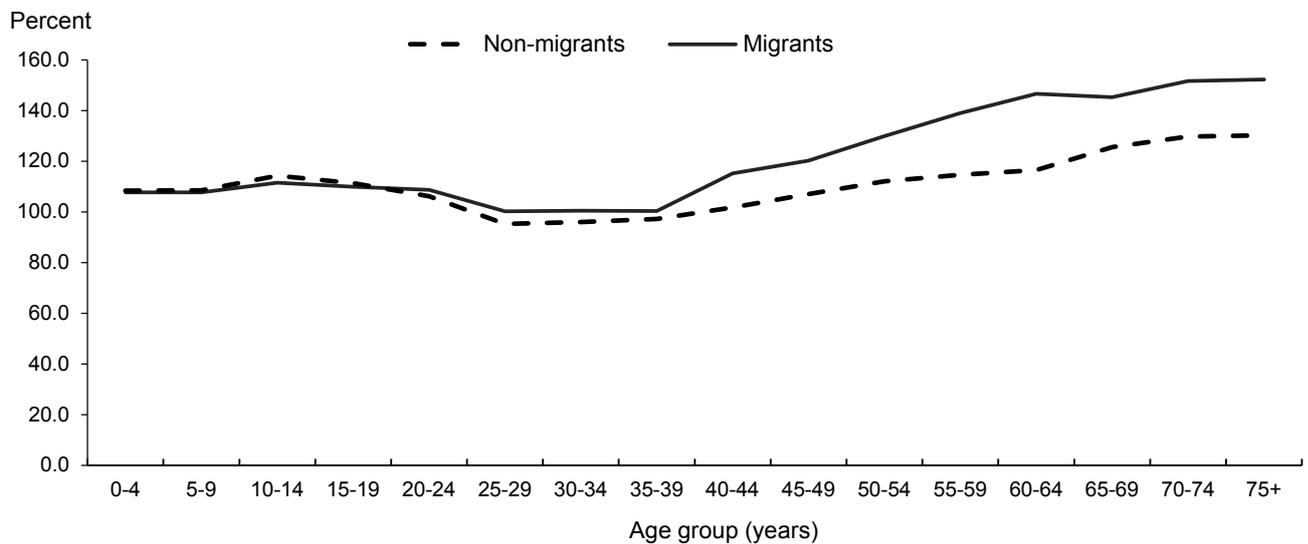
The pattern was similar for the non- migrants where the sex ratio decreased to less than 100 between the age group 25-29 years and 35-39 years old. The sex ratio started to increase gradually from age group 40-44 years and over, however, at lower levels than the sex ratio for migrants.

Type of Migration

Of the citizen migrants enumerated in 2011 census, more than 894,000 had been born in PNG. Of this, 61% had moved between provinces while 39% had moved within the provinces. This pattern was also common among males (62% and 38%) and females (60% and 40%).

Differences in the type of migration between urban and rural sectors were evident with urban migrants more likely to have moved long distances. For example, 80% of urban migrants had moved between provinces and 20% within the provinces as shown in Figure 3.3. Of the rural migrants, 52% moved within the province and 48% moved between provinces.

Figure 3.3 Citizen migrants born in PNG by type of migration, PNG, 2011 Census
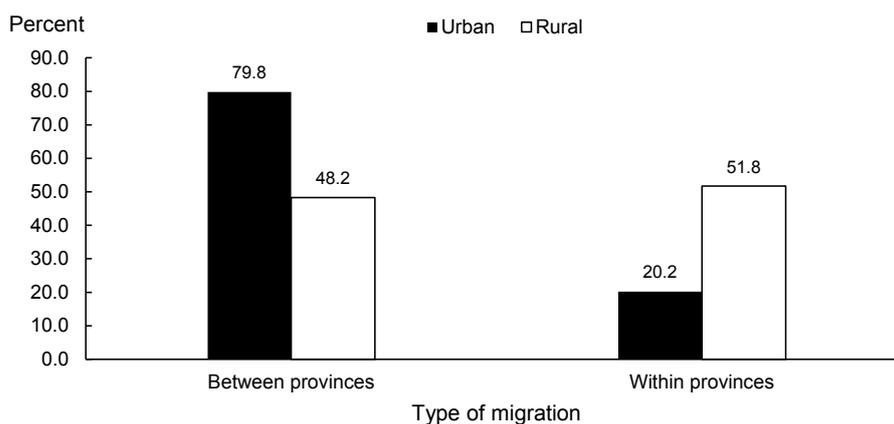
The proportion of migrants who have moved between provinces also varied considerably in each province from 6% in Hela province to 95% in Manus province. High proportions were also noted in WNBP with 93% including NCD and Gulf provinces with 89%, respectively. *(See Summary Indicators).*

There were 7,841 citizens enumerated in PNG in the 2011 Census who had been born overseas. Of these, 42% were born in Australia, 17% in Indonesia and 9% in Philippines. A further 16% were born in other Asian countries and 10% in other Pacific countries.

Interprovincial Migration

Apart from migration within the province (intra-provincial migration), PNG has also experienced interprovincial migration where persons move between provinces of PNG at varying numbers at different times.

A total of 543,800 citizen migrants born in PNG were not living in their province of birth at the time of the census as shown in Table 3.2 There were more male citizen migrants (289,800) than females (254,000).

Table 3.2 Interprovincial citizen migrants by province, PNG, 2011 Census

Total	In-migration	Out-migration	Net Migration
PNG	543,765	543,765	0
Western	11,149	7,480	3669
Gulf	9,864	17,855	-7991
Central	32,649	27,539	5110
NCD	152,373	44,189	108184
Milne Bay	7,790	10,931	-3141
Northern	10,053	10,069	-16
SHP	9,230	45,278	-36048
Enga	4,294	34,215	-29921
WHP	40,515	29,767	10748
Chimbu	7,136	55,211	-48075
EHP	16,437	43,064	-26627
Morobe	67,883	38,794	29089
Madang	28,017	24,456	3561
ESP	16,424	40,993	-24569
WSP	7,110	14,740	-7630
Manus	3,726	8,298	-4572
NIP	13,234	8,162	5072
ENBP	22,131	31,239	-9108
WNBP	44,960	11,392	33568
AROB	3,825	10,038	-6213
Hela	4,444	14,716	-10272
Jiwaka	30,521	15,339	15182

The four main destination provinces for in-migrants were NCD (152,300), Morobe (67,900), WNBP (45,000) and WHP (40,500). These provinces gained more than half (56%) of all interprovincial migrants.

The four provinces with high number of out-migrants were Chimbu (55,200), SHP (45,300), NCD (44,200) and EHP (43,100).

Net migration is the difference between in-migration and out-migration. It is an important factor that which impacts on population size and structure.

The four main net gaining provinces were; NCD (108,200), WNB (34,000), Morobe (29,100) and Jiwaka (15,200). Whereas, the four net losing provinces were; Chimbu (48,100), SHP (36,000), Enga (29,900,) and EHP (26,600).

A total of 60,800 citizens born in PNG were not enumerated at their place of residence one year before the census as shown in Table 3.3. There were more males (31,300) than females (29,500) whose place of enumeration was different from their place of residence one year before the census.

Table 3.3 Recent interprovincial citizen migrants by province, PNG, 2011 Census

Province	In-migration	Out-migration	Net Migration
Total	60,828	60,828	0
Western	2,042	2,639	-597
Gulf	1,161	1,940	-779
Central	1,808	2,393	-585
NCD	4,308	3,900	408
Milne Bay	935	632	303
Northern	684	495	189
SHP	9,114	3,727	5387
Enga	1,350	2,139	-789
WHP	9,257	6,891	2366
Chimbu	3,835	4,426	-591
EHP	2,837	2,282	555
Morobe	4,640	4,053	587
Madang	3,420	1,952	1468
ESP	2,756	1,739	1017
WSP	731	2,003	-1272
Manus	322	334	-12
NIP	1,375	686	689
ENBP	1,840	2,218	-378
WNBP	1,719	1,137	582
AROB	910	695	215
Hela	2,732	7,364	-4632
Jiwaka	3,052	7,183	-4131

The main net gaining provinces of recent migrants were SHP (5,400), WHP (2,400) and Madang (1,500). Whereas, the main net losing provinces of recent migrants were Hela (4,600), Jiwaka (4,100) and WSP (1,300).

Non-citizens

There were 18,200 non-citizens enumerated in private dwellings in the 2011 census; 50% were migrants, 100% of the 3,000 were born overseas and 20% were born in PNG. However, more than 55% of non-citizens did not state their place of birth, therefore, their migratory status were not specified.

As shown in Figure 3.4, 17% of overseas born non-citizen migrants enumerated in PNG were born in the United States of America (USA), 15% in Philippines and 13% in Indonesia. A further 12% had been born in Other Asian countries and Australia, respectively.

Figure 3.4 Non-citizens born overseas by country of birth, PNG, 2011 Census

Country	Percent
United States of America	16.5
Philippines	14.6
Indonesia	13.0
Other Asian Countries	11.8
Australia	11.5
Other European Countries	8.0
China	7.47
Other Pacific Countries	6.6
Malaysia	5.48
Other Countries	5.0
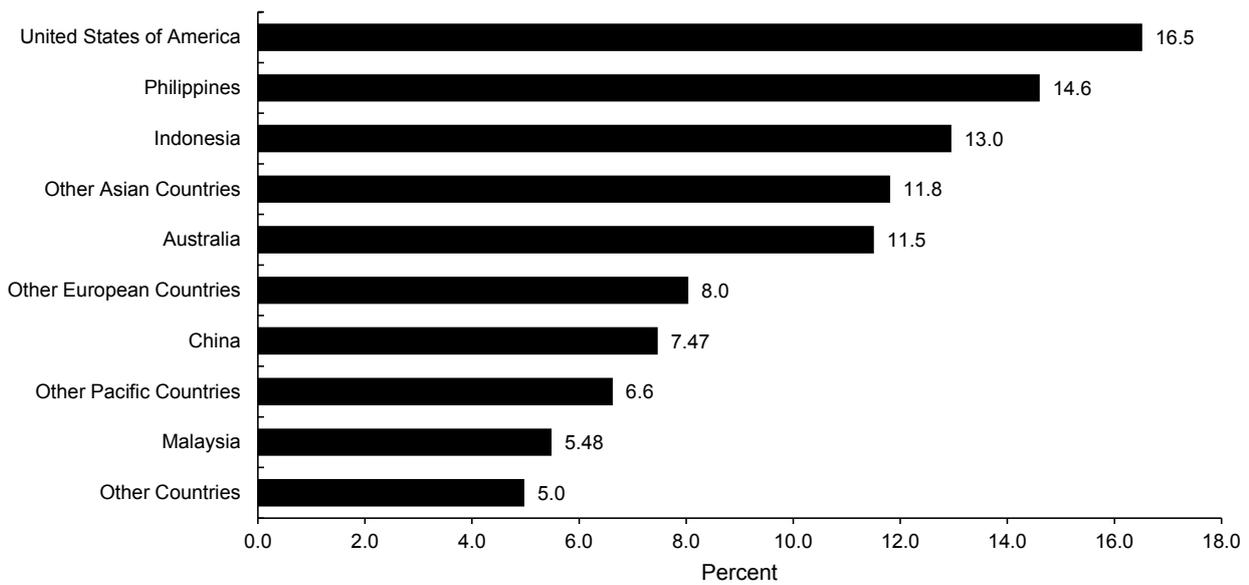
The non-citizens migrants who were born overseas and enumerated in PNG were mainly found in NCD (33%) and EHP (15%) as shown in Figure 3.5. A further 13% and 9% were found in Western and Morobe provinces, respectively. The remaining 30% were distributed between all other provinces. Most migrants from Indonesia were found in Western Province (73%), while those from Philippines and USA were found in NCD (53%) and EHP (52%), respectively.

Figure 3.5 Non-citizens born overseas by province of enumeration, PNG, 2011 Census

Province	Percent
National Capital District	32.8
Eastern Highlands	15.4
Western	12.7
Islands Region	10.9
Other Momase Region	9.3
Morobe	8.8
Other Southern Region	5.9
Other Highlands Region	4.1
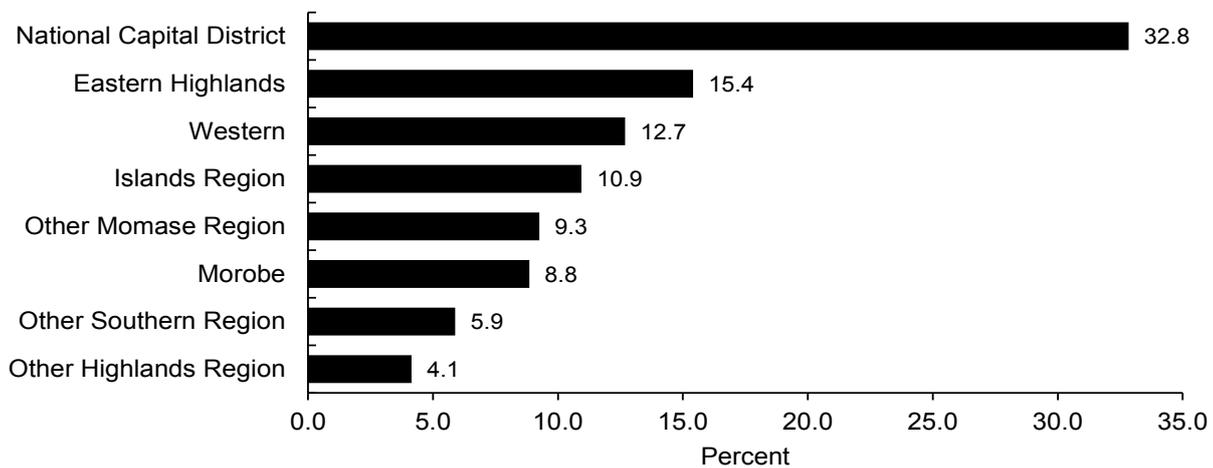
CHAPTER 4

EDUCATION AND LITERACY

Summary Indicators

Summary Indicators		PNG, 1980, 1990, 2000 and 2011 Censuses			
		PNG			
Citizen population		**2011**	**2000**	**1990**	**1980**
Attending school	Total	35.0	26.4	20.3	20.6(a)
(% of population aged 5-29 years)	Male	37.1	28.1	21.9	23.1(a)
	Female	32.8	24.7	18.4	17.8(a)
Ever been to school	Total	56.6	50.9	..	..
(% of population aged 5 years and over)	Male	60.1	55.4	na	na
	Female	52.7	46.2	na	na
Grade 10 highest completed	Total	22.1	17.7	..	..
(% of population aged 5 years and over	Male	24.1	20.0	na	na
who attended school in the past)	Female	19.6	14.8	na	na
Grade 12 highest completed	Total	6.6	2.4	..	..
(% of population aged 5 years and over	Male	8.0	3.2	na	na
who attended school in the past)	Female	4.9	1.4	na	na
With qualification	Total	5.5	5.3	..	..
(% of population aged 15 years and over)	Male	7.3	7.2	na	na
	Female	3.7	3.4	na	na
Literate	Total	67.6	56.2	45.1	..
(% of population aged 10 years and over)	Male	71.1	61.2	49.5	na
	Female	64.0	50.9	40.3	na

(a) Aged 5-24 years.

Non-citizen population		**2011**	**2000**	**1990**	**1980**
Attending school	Total	43.1	47.6	na	na
(% of population aged 5-29 years)	Male	41.6	47.2	na	na
	Female	45.2	48.1	na	na
Ever been to school	Total	66.2	86.7	na	na
(% of population aged 5 years and over)	Male	61.9	88.3	na	na
	Female	73.8	84.1	na	na
Grade 10 highest completed	Total	16.1	17.3	na	na
(% of population aged 5 years and over	Male	17.5	17.2	na	na
who attended school in the past)	Female	14.0	17.4	na	na
Grade 12 highest completed	Total	44.5	55.9	na	na
(% of population aged 5 years and over	Male	46.7	58.0	na	na
who attended school in the past)	Female	40.9	52.3	na	na
With qualification	Total	29.2	52.2	na	na
(% of population aged 15 years and over)	Male	28.9	56.6	na	na
	Female	29.7	44.6	na	na
Literate	Total	83.2	85.8	na	na
(% of population aged 10 years and over)	Male	85.9	87.0	na	na
	Female	79.4	83.7	na	na

(a) Aged 5-24 years.

Summary Indicators		PNG, 1980, 1990, 2000 and 2011 Censuses			
		PNG			
Urban citizen population		**2011**	**2000**	**1990**	**1980**
Attending school	Total	41.6	37.0	28.4	25.8(a)
(% of population aged 5-29 years)	Male	43.0	37.5	29.0	26.9(a)
	Female	40.1	36.5	27.6	24.2(a)
Ever been to school	Total	78.0	78.5	..	..
(% of population aged 5 years and over)	Male	80.5	81.1	na	na
	Female	75.3	75.3	na	na
Grade 10 highest completed	Total	33.8	33.0	..	..
(% of population aged 5 years and over	Male	35.4	35.2	na	na
who attended school in the past)	Female	31.9	30.0	na	na
Grade 12 highest completed	Total	15.9	7.1	..	..
(% of population aged 5 years and over	Male	18.6	9.0	na	na
who attended school in the past)	Female	12.7	4.6	na	na
With qualification	Total	16.6	17.0	..	..
(% of population aged 15 years and over)	Male	20.1	20.3	na	na
	Female	12.8	13.0	na	na
Literate	Total	88.9	86.2	71.2	..
(% of population aged 10 years and over)	Male	90.7	88.6	74.6	na
	Female	86.8	83.3	66.6	na

Rural citizen population		**2011**	**2000**	**1990**	**1980**
Attending school	Total	34.1	24.8	18.7	19.8 (a)
(% of population aged 5-29 years)	Male	36.2	26.6	20.5	22.5 (a)
	Female	31.8	22.9	16.7	16.8 (a)
Ever been to school	Total	53.5	46.9	..	..
(% of population aged 5 years and over)	Male	57.2	51.4	na	na
	Female	49.6	42.2	na	na
Grade 10 highest completed	Total	19.4	13.8	..	..
(% of population aged 5 years and over	Male	21.6	16.0	na	na
who attended school in the past)	Female	16.7	11.0	na	na
Grade 12 highest completed	Total	4.6	1.2	..	..
(% of population aged 5 years and over	Male	5.7	1.7	na	na
who attended school in the past)	Female	3.1	0.5	na	na
With qualification	Total	4.0	3.6	..	..
(% of population aged 15 years and over)	Male	5.4	5.0	na	na
	Female	2.5	2.1	na	na
Literate	Total	64.6	51.7	40.4	..
(% of population aged 10 years and over)	Male	68.2	56.8	44.5	na
	Female	60.7	46.3	36.0	na

(a) Aged 5-24 years.

Summary Indicators		Provinces, 2011 Census					
		Southern Region					
Citizen population		Western	Gulf	Central	NCD	MBP	Northern
Attending school	Total	37.6	24.0	34.3	40.3	32.7	35.5
(% of population aged 5-29 years)	Male	39.6	25.9	35.3	41.5	32.4	37.2
	Female	35.4	22.1	33.3	39.1	32.9	33.6
Ever been to school	Total	70.4	50.5	66.4	80.5	69.1	69.2
(% of population aged 5 years and over)	Male	73.2	54.3	69.0	82.7	70.1	71.9
	Female	67.3	46.4	63.6	77.8	68.1	66.2
Grade 10 highest completed	Total	19.6	18.3	23.9	34.2	15.6	16.2
(% of population aged 5 years and over	Male	22.9	20.4	26.7	35.5	15.4	17.7
who attended school in the past)	Female	15.8	15.7	20.6	32.6	15.9	14.4
Grade 12 highest completed	Total	3.8	4.1	4.8	20.6	2.8	2.4
(% of population aged 5 years and over	Male	4.8	4.8	5.9	23.8	3.2	2.9
who attended school in the past)	Female	2.5	3.2	3.4	16.8	2.3	1.8
With qualification	Total	5.5	4.4	6.5	19.8	4.9	5.7
(% of population aged 15 years and over)	Male	7.8	5.8	8.5	23.2	5.7	7.7
	Female	3.2	3.0	4.4	15.9	4.1	3.5
Literate	Total	86.4	60.7	80.1	92.4	82.2	78.4
(% of population aged 10 years and over)	Male	88.5	64.9	82.5	93.8	82.9	80.6
	Female	84.2	56.2	77.4	90.8	81.4	76.0

Citizen Population		Highlands Region						
		SHP	Enga	WHP	Chimbu	EHP	Hela	Jiwaka
Attending school	Total	34.1	28.4	38.9	41.3	34.0	24.9	36.1
(% of population aged 5-29 years)	Male	36.9	31.4	41.8	44.8	36.6	27.0	38.0
	Female	30.9	25.0	36.0	37.5	31.2	22.6	34.1
Ever been to school	Total	40.7	33.6	46.6	51.1	49.2	31.5	48.7
(% of population aged 5 years and over)	Male	45.2	38.3	51.2	56.3	53.9	35.1	51.9
	Female	35.8	28.6	42.0	45.4	44.2	27.7	45.3
Grade 10 highest completed	Total	27.9	29.6	26.3	28.2	21.8	24.2	25.7
(% of population aged 5 years and over	Male	29.9	32.4	28.1	31.1	24.4	26.6	29.0
who attended school in the past)	Female	25.2	25.4	24.0	24.1	18.3	20.8	21.5
Grade 12 highest completed	Total	10.1	10.6	10.3	7.7	5.9	9.1	8.9
(% of population aged 5 years and over	Male	12.4	13.0	12.1	9.6	7.2	11.1	10.8
who attended school in the past)	Female	6.9	7.1	8.0	5.1	4.2	6.2	6.6
With qualification	Total	3.3	2.8	4.0	3.9	3.3	3.2	3.7
(% of population aged 15 years and over)	Male	4.8	4.1	5.4	5.6	4.7	4.3	5.2
	Female	1.9	1.6	2.7	2.1	1.9	2.0	2.2
Literate	Total	49.8	49.2	54.1	60.8	60.2	43.1	66.2
(% of population aged 10 years and over)	Male	54.3	53.1	58.7	65.6	65.0	46.7	69.1
	Female	45.0	45.0	49.5	55.5	55.0	39.2	63.1

Summary Indicators		Provinces, 2011 Census			
		Momase Region			
Citizen population		**Morobe**	**Madang**	**ESP**	**WSP**
Attending school	Total	32.9	31.7	37.6	29.1
(% of population aged 5-29 years)	Male	35.0	33.7	40.3	31.8
	Female	30.7	29.7	34.9	26.2
Ever been to school	Total	58.4	57.2	61.0	53.0
(% of population aged 5 years and over)	Male	62.6	60.7	65.7	58.9
	Female	53.8	53.3	56.2	46.7
Grade 10 highest completed	Total	19.5	16.7	14.8	14.4
(% of population aged 5 years and over	Male	22.2	19.0	16.5	16.2
who attended school in the past)	Female	16.2	13.8	12.8	11.8
Grade 12 highest completed	Total	6.1	3.7	3.0	3.5
(% of population aged 5 years and over	Male	7.2	4.4	3.5	4.7
who attended school in the past)	Female	4.6	2.8	2.3	2.0
With qualification	Total	5.5	4.2	4.6	4.0
(% of population aged 15 years and over)	Male	7.4	5.7	6.5	6.0
	Female	3.5	2.7	2.9	2.1
Literate	Total	70.2	68.5	65.5	62.6
(% of population aged 10 years and over)	Male	74.2	72.1	70.8	68.8
	Female	65.8	64.6	60.3	56.2

Citizen Population		New Guinea Islands Region				
		Manus	**NIP**	**ENBP**	**WNBP**	**AROB**
Attending school	Total	45.6	41.1	41.7	36.7	40.3
(% of population aged 5-29 years)	Male	46.1	42.4	43.0	38.4	40.8
	Female	45.1	39.7	40.4	34.7	39.8
Ever been to school	Total	79.2	71.5	73.7	69.6	75.1
(% of population aged 5 years and over)	Male	79.4	73.7	73.9	71.5	75.3
	Female	79.0	69.1	73.5	67.5	74.9
Grade 10 highest completed	Total	25.6	25.9	23.3	21.5	16.6
(% of population aged 5 years and over	Male	27.5	26.8	23.8	23.6	17.8
who attended school in the past)	Female	23.6	24.8	22.7	19.0	15.4
Grade 12 highest completed	Total	4.4	3.9	5.0	4.7	3.0
(% of population aged 5 years and over	Male	5.4	4.6	6.0	5.9	3.8
who attended school in the past)	Female	3.4	3.1	4.1	3.3	2.2
With qualification	Total	8.9	7.8	10.6	6.9	6.2
(% of population aged 15 years and over)	Male	11.1	9.3	12.6	9.0	7.6
	Female	6.6	6.0	8.7	4.8	4.7
Literate	Total	86.4	81.4	86.6	83.5	85.7
(% of population aged 10 years and over)	Male	86.8	82.7	87.2	84.9	86.2
	Female	85.9	79.9	86.0	81.9	85.3

Glossary

Attended in the past	A person who was not attending school at the time of census but had attended in the past.
Current attendance rate	The percentage of the population who were attending school at the time of the census.
Ever attended school	A person who was either attending school at the time of the census or who had attended school in the past.
Formal schooling	Current or past participation in the formal school system of PNG, at a recognized government or non-government school.
Literacy rate	The percentage of the population who could read and write with understanding at least one of English, Pidgin, Motu or Tokples.
Literate	A person who could read and write with understanding at least one of English, Pidgin, Motu or Tokples.
Past attendance rate	The percentage of the population who had attended school in the past but were not currently attending school.
Qualification	A degree, diploma, certificate or professional title acquired on successful completion of a course lasting 3 months or longer, by full-time, part-time or private study, from PNG or overseas.
Qualification rate	The percentage of the population who had acquired a qualification.
Tokples	Pidgin word meaning "language of my place". The local language of a traditional area belonging to a tribe or clan. Also includes non-English languages of persons born overseas.

School Attendance

According to the 2011 census, 3.5 million persons or 57% of the citizen population aged 5 years and over had received some form of schooling either in the past (2,194,000) or currently attending (1,334,000) as shown in Table 4.1.

There were more males (1,939,000) than females (1,588,000) who have ever attended school with the most difference among those who have attended in the past. About 23% of males aged 5 years and over were currently attending school compared to 20% of females, while 37% and 33% attended in the past, respectively.

Table 4.1 Citizen population aged 5 years and over in private dwellings by sex, sector and school attendance, PNG, 2011 Census

| Sectors | Total | School attendance | | | |
		Attending now	Attended in the past	Never attended	Not stated
All sectors					
Persons	6,358,791	1,333,675	2,194,166	2,710,280	120,670
Males	3,288,709	731,837	1,207,516	1,287,292	62,064
Females	3,070,082	601,838	986,650	1,422,988	58,606
Urban					
Persons	788,837	200,879	401,175	169,654	17,129
Males	413,937	107,555	218,449	78,985	8,948
Females	374,900	93,324	182,726	90,669	8,181
Rural					
Persons	5,569,954	1,132,796	1,792,991	2,540,626	103,541
Males	2,874,772	624,282	989,067	1,208,307	53,116
Females	2,695,182	508,514	803,924	1,332,319	50,425

By sector, 78% of persons enumerated in the urban sector had received some schooling compared to 54% in the rural sector. The proportion of urban males (27%) currently attending school was slightly higher than for females (25%). The pattern was similar for those in the rural sector, however, with lower proportions among males (22%) and females (19%).

By province, NCD (81%), Manus (79%) and AROB (75%) had higher proportions of population aged 5 years and over who had ever attended school. The lowest ranked province was Hela province with 32%. Provinces in the Highlands region except Chimbu had the lowest proportions of school attendance of less than 50% compared to provinces in other regions. *(See Summary Indicators).*

The pattern of schooling by age was similar for both males and females; the peak age group was 15-19 years with 74% of males and 72% of females. In the older age groups, more males than females received some form of schooling as shown in Figure 4.1.

Figure 4.1 Proportion of the citizen population aged 5 years and over in private dwelling who had ever attended school by age and sex, PNG, 2011 Census
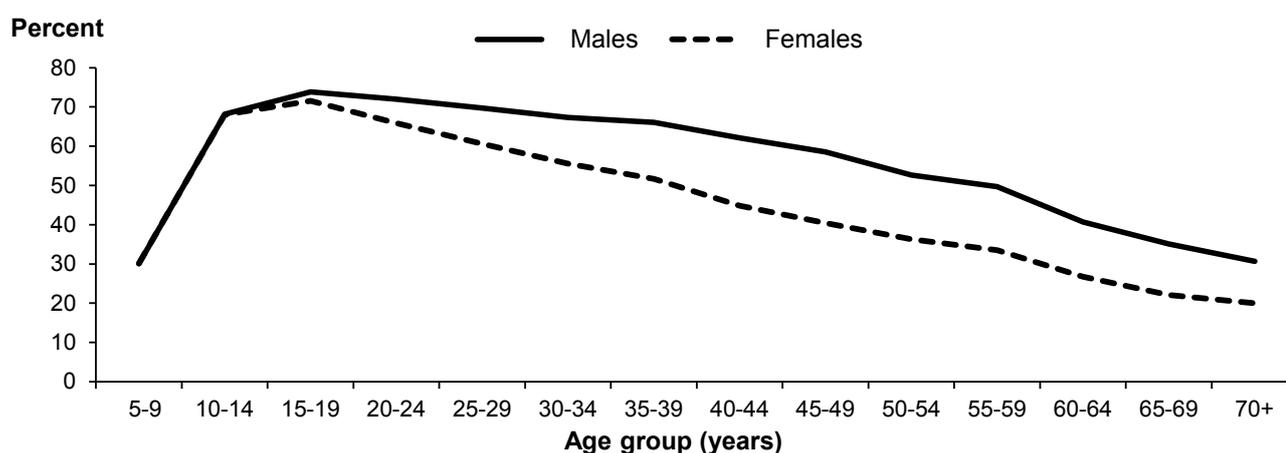
The general age pattern shows an increasing level of schooling over time where more than 58% of persons aged less than 40 years ever attended school compared to less than 43% of persons aged 55 years and over.

While the pattern was similar for both urban and rural sector, the levels in the urban sector were consistently higher than in the rural sector in all the age groups as seen in Figure 4.2.

Figure 4.2 Proportion of citizen population aged 5 years and over in private dwellings who had ever attended school by age and sector, PNG, 2011Census
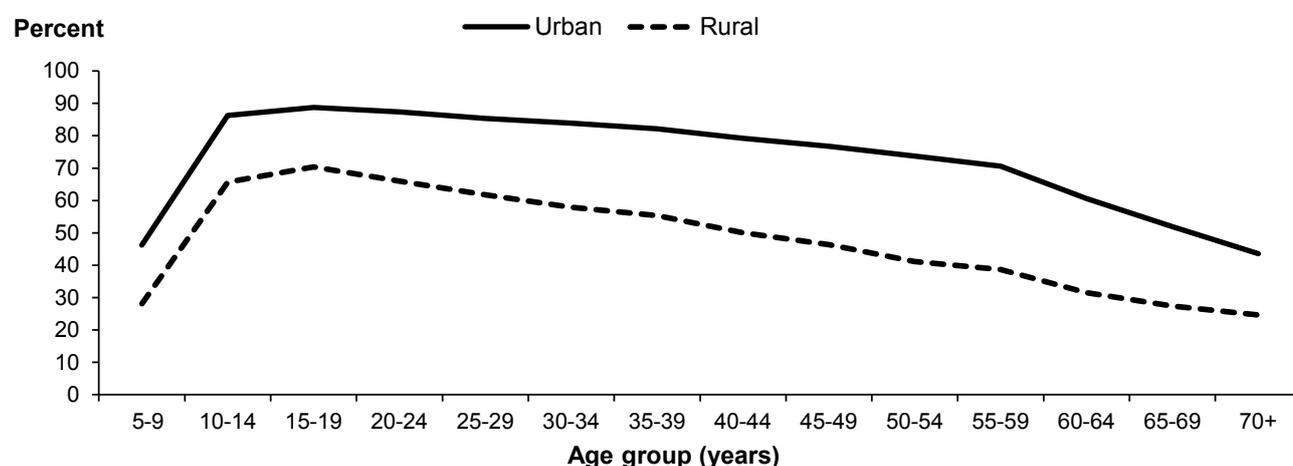
Highest Grade Completed

Information on citizen population aged 5-29 years currently attending school and the highest grade completed in 2011 is presented in Table 4.2. More than a third (35%) of persons aged 5-29 years were attending school in 2011, 42% in the urban sector and 34% in the rural sector.

There were more males attending school in the urban sector (43%) than in the rural sector (36%). There was little variation between the proportion of males and females currently attending school in the urban sector with 43% and 40%, respectively. Less than 9% of school age population currently attending school had not yet completed Grade 1 in both the urban and the rural sector.

Current attendance rate varied from a high of 46% in Manus province to a low of 24% in Gulf province. *(See Summary Indicators).*

Table 4.2 Citizen population aged 5-29 years in private dwellings attending school by highest grade completed, sex and sector, PNG, 2011 Census

Highest grade completed	Total			Urban			Rural		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
Total	1,333,675	731,837	601,838	200,879	107,555	93,324	1,132,796	624,282	508,514
Current attendance rate	35.0	37.1	32.8	41.6	43.0	40.1	34.1	36.2	31.8
None	8.4	8.1	8.7	8.0	7.9	8.2	8.5	8.2	8.8
Grade 1	13.9	13.5	14.4	12.1	12.0	12.3	14.2	13.7	14.7
Grade 2	11.4	11.1	11.8	9.8	9.6	10.0	11.7	11.4	12.1
Grade 3	10.5	10.3	10.8	9.0	8.9	9.2	10.8	10.6	11.1
Grade 4	9.6	9.5	9.6	8.3	8.2	8.4	9.8	9.7	9.9
Grade 5	8.6	8.6	8.7	7.8	7.5	8.0	8.8	8.7	8.9
Grade 6-7	16.3	16.3	16.3	15.3	15.1	15.5	16.5	16.6	16.4
Grade 8-9	12.3	12.8	11.8	14.4	14.5	14.2	12.0	12.5	11.4
Grade 10-12	8.9	9.8	7.8	15.3	16.3	14.2	7.8	8.7	6.6

Most school age population were clustered in the lower grades (Grades 1 and 2) particularly in the rural sector (26%) than in the urban sector (22%). In the highest grade completed, 14% of urban school age population completed Grades 8-9 compared to 12% in the rural sector.

This pattern was similar for those who have completed Grades 10-12. Males were more likely than females to have completed Grade 6 or higher in the rural sector and more likely to have completed Grade 10 or higher in the urban sector.

Overall, 35% of population aged 5 years and over had attended school in the past with 52% in the urban sector and 33% in the rural sector as shown in Table 4.3. The most common level of achievement was Grade 6-7.

Table 4.3 Citizen population aged 5 years and over in private dwellings who had attended school in the past by highest grade completed, PNG, 2011 Census

Highest grade completed	Total			Urban			Rural		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
Total	2,194,166	1,207,516	986,650	401,175	218,449	182,726	1,792,991	989,067	803,924
Past attendance rate	35.2	37.4	32.8	52.0	53.9	49.8	32.8	35.1	30.4
None	3.6	3.3	3.9	1.6	1.5	1.8	4.0	3.7	4.4
Grade 1-2	4.7	4.4	5.0	2.7	2.5	3.1	5.1	4.8	5.5
Grade 3-5	14.8	13.8	16.1	8.7	7.6	10.1	16.2	15.2	17.5
Grade 6-7	33.7	32.3	35.4	22.7	21.0	24.7	36.2	34.8	37.8
Grade 8-9	14.1	13.6	14.7	13.7	12.7	15.0	14.2	13.8	14.6
Grade 10-11	22.5	24.6	19.9	34.6	36.2	32.6	19.8	22.1	17.1
Grade 12	6.6	8.0	4.9	15.9	18.6	12.7	4.6	5.7	3.1

More than 36% of urban males had completed Grade 10 or 11 while a further 19% had completed Grade 12. In contrast, 33% of urban females had completed Grade 10 or 11 and 13% completed Grade 12. The proportion of males and females in the rural sector were much lower.

By province, NCD had the highest proportion of males (24%) and females (17%) who had completed Grade 12 while Northern had the lowest with 3% and 2%, respectively. *(See Summary Indicators).*

Qualifications

According to the 2011 census, 7% of males and 4% of females aged 15 years and over reported having qualifications as shown in Table 4.4. As expected the qualification rate in the urban sector (17%) was much higher than in the rural sector (4%).

Table 4.4 Qualification rate of citizen population aged 15 years and over in private dwelling by age, sex and sector, PNG, 2011 Census

Age group (years)	Total			Urban			Rural		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
Total with qualification	222,493	148,008	74,485	82,904	52,217	30,687	139,589	95,791	43,798
Total	5.5	7.3	3.7	16.6	20.1	12.8	4.0	5.4	2.5
15-19	0.9	1.0	0.8	3.2	3.6	2.7	0.7	0.7	0.6
20-24	3.6	4.1	3.2	10.8	11.7	9.8	2.4	2.8	2.1
25-29	6.0	7.3	4.8	17.1	19.1	15.1	4.2	5.3	3.2
30-34	6.8	8.5	5.0	19.3	22.2	16.3	4.9	6.4	3.4
35-39	6.6	8.8	4.4	19.0	23.0	14.9	4.8	6.6	3.0
40-44	6.9	9.6	4.2	21.3	26.6	15.2	4.9	7.0	2.8
45-49	7.1	9.8	4.0	22.0	27.5	15.4	5.1	7.3	2.6
50-54	7.7	10.7	4.3	24.4	30.9	16.0	5.5	7.8	2.9
55-59	7.5	10.7	3.7	23.4	29.8	14.4	5.4	8.0	2.5
60-64	5.6	8.2	2.5	17.5	22.9	9.6	4.3	6.4	1.9
65-69	4.0	6.0	1.4	11.4	15.8	5.1	3.3	5.1	1.1
70-74	3.3	5.1	0.9	9.0	13.1	3.0	2.8	4.4	0.8
75 and over	2.5	3.8	0.8	7.3	10.1	3.6	2.1	3.3	0.6

The qualification rate by age shows that persons in the age group 50-54 years were likely to have obtained qualifications. This was true for males in the urban sector with 31%. Females aged 30-34 years old in the urban and rural sector had the highest qualifications with 16% and 3%, respectively.

NCD had relatively higher proportions of males (23%) and females (16%) with qualifications than in all other provinces. *(See Summary Indicators).*

As can be seen from Table 4.5, the type of qualifications held by PNG's qualified population varied considerably between sexes and sectors. Overall, 21% of males held teaching qualifications, 15% with university degree qualification and 13% with vocational college while 29% of females held teaching qualifications and 21% held business and secretarial qualifications.

Table 4.5 Citizen population aged 15 years and over in private dwellings with qualification by type of qualification, sex and sector, PNG, 2011 Census

Type of qualification	Total			Urban			Rural		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
Total	222,493	148,008	74,485	82,904	52,217	30,687	139,589	95,791	43,798
Protective services	2.7	3.5	0.9	2.9	4.1	0.8	2.5	3.2	1.0
Vocational college	10.9	13.0	6.6	7.3	9.4	3.6	13.1	15.0	8.8
Technical college	8.4	10.9	3.4	8.7	12.1	2.9	8.2	10.2	3.7
Tradesman/ apprenticeship	3.8	5.4	0.6	4.2	6.2	0.7	3.6	5.0	0.5
Business and secretarial college	12.6	8.3	21.3	19.1	12.5	30.3	8.8	5.9	15.0
Teachers college	23.7	20.9	29.1	12.0	9.0	17.1	30.6	27.5	37.7
Health college	5.0	2.7	9.5	4.1	1.7	8.1	5.6	3.3	10.6
University/public admin. College	8.3	8.6	7.6	10.8	10.9	10.7	6.8	7.3	5.4
University degree	13.3	14.8	10.4	20.8	23.6	16.1	8.8	9.9	6.4
Other miscellaneous	11.4	11.8	10.5	10.2	10.5	9.7	12.0	12.5	11.0

There were marked differences in the pattern of qualification held by males and females between the sectors. In the urban sector, 24% of males held university degree qualifications and 13% held business and secretarial qualifications whereas, in the rural sector, 28% held teaching qualifications and 15% held vocational qualifications.

More than 30% of females in the urban sector held business and secretarial qualifications and 17% with teaching qualifications while 38% of females in the rural sector held teaching qualifications and 15% held business and secretarial qualifications.

Literacy

Literacy is defined as the ability to read and write in a language with understanding. There are more than 800 languages spoken in PNG and they are referred to as 'tokples' including Motu.

Pidgin (Tok Pisin) is widely spoken throughout the country while English remains the official language of business and commerce. Information on the literacy rate of citizen population in PNG is presented in Table 4.6.

According to the 2011 census, the overall literacy rate (literate in at least one language) for PNG was 68%, an increase of 11% since 2000. Pidgin had the highest literacy rate of 57% while English had a literacy rate of 49% and Tokples was 56%. Males had higher literacy rates than females in all languages.

Table 4.6 Literacy rate of citizen population aged 10 years and over in private dwellings by language, sex and sector, PNG, 2011 Census

	Total			Urban			Rural		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
Total	67.6	71.1	64.0	88.9	90.7	86.8	64.6	68.2	60.7
Literate in English	48.9	53.0	44.5	75.9	78.9	72.4	45.1	49.2	40.6
Literate in Pidgin	57.4	61.6	52.9	81.0	83.6	78.1	54.0	58.4	49.3
Literate in Motu	4.7	5.3	4.1	13.9	14.7	12.9	3.4	3.9	2.8
Literate in Tokples	55.8	50.3	43.7	68.3	65.2	59.4	54.0	48.1	41.4

The pattern was similar by sectors. In the urban sector, 84% of males and 78% of females were literate in Pidgin compared to 58% and 49% in the rural sector respectively. English literacy rate was high in the urban sector (76%) and low in the rural sector (45%).

NCD had the highest literacy rate of 94% for males and 91% for females while Hela province had the lowest with 47% and 39%, respectively. The literacy rate in all other provinces was more than 52% for males and more than 44% for females. *(See Summary Indicators).*

Non-citizens

Of the 6,100 non-citizen population aged 5 years and over who received some form of schooling, 1,800 were currently attending school while 4,300 attended school in the past. Among the 4,300 who attended school in the past, 45% had completed Grade12 with higher proportion among the males (47%) than females (41%).

Among the 4,700 non-citizen population aged 5 to 29 years, over 43% were currently attending school while 26% attended in the past. More than 29% of non-citizen aged 15 years and over held various qualifications with slightly higher proportion among the females (30%) than males (29%). *(See Summary Indicators).*

The overall literacy rate among the non-citizen population aged 10 years and over was 86% for males and 79% for females as shown in Table 4.7. About 65% were literate in English, 55% were literate in Tokples and 54% were literate in Pidgin.

Table 4.7 Literacy rate of non citizen population aged 10 years and over by language and sex, PNG, 2011 Census

	Total		
	Persons	Males	Females
Total	83.2	85.9	79.4
Literate in English	65.0	68.2	60.5
Literate in Pidgin	54.2	55.5	52.4
Literate in Motu	5.7	5.6	5.9
Literate in Tokples	54.9	51.4	45.4

CHAPTER 5
ECONOMIC ACTIVITIES

Summary Indicators

Summary Indicators		PNG, 1980, 1990, 2000 and 2011 Censuses			
		PNG			
Citizen population		**2011**	**2000**	**1990**	**1980**
Labour force participation rate	Total	61.4	67.5	68.8	63.8
(% of population aged 10 years and over)	Male	62.2	68.4	76.7	65.5
	Female	60.5	66.7	60.1	62.0
Unemployment rate	Total	2.6	2.8	7.7	2.9
(% of labour force)	Male	3.7	4.3	9.1	3.9
	Female	1.4	1.3	5.9	1.7
Subsistence employment	Total	58.3	67.4	37.8	43.3
(% of employed population)	Male	50.2	60.8	34.8	35.4
	Female	67.0	74.3	41.9	51.5
Wage job employment	Total	11.3	10.4	14.7	15.1
(% of employed population)	Male	15.8	15.2	20.9	24.8
	Female	6.5	5.3	6.2	4.1
Main activity studying	Total	41.1	26.4	44.3	32.2
(% of population not in labour force)	Male	45.2	29.8	65.4	39.5
	Female	37.0	22.9	30.7	24.8
Main activity housework	Total	30.3	29.4	35.1	15.8
(% of population not in labour force)	Male	23.7	20.0	7.0	1.0
	Female	37.1	38.9	53.3	30.5

Non-citizen population		**2011**	**2000**	**1990**	**1980**
Labour force participation rate	Total	51.4	65.5	65.2	67.1
(% of population aged 10 years and over)	Male	50.9	75.3	78.0	84.7
	Female	52.1	48.9	46.8	42.3
Unemployment rate	Total	2.5	1.7	6.2	0.3
(% of labour force)	Male	2.9	1.7	4.1	0.2
	Female	1.8	1.6	11.1	0.6
Subsistence employment	Total	31.8	24.0	16.8	0.0
(% of employed population)	Male	24.1	19.2	11.6	0.0
	Female	45.8	36.5	30.4	0.0
Wage job employment	Total	44.0	63.1	70.5	92.4
(% of employed population)	Male	51.6	68.3	77.5	93.1
	Female	30.3	49.6	52.4	90.4
Main activity studying	Total	24.2	25.5	43.9	39.9
(% of population not in labour force)	Male	19.9	32.2	68.1	78.5
	Female	32.4	20.0	29.6	25.3
Main activity housework	Total	19.3	34.3	34.1	49.8
(% of population not in labour force)	Male	10.2	17.6	1.9	0.5
	Female	36.8	48.1	53.3	68.3

Summary Indicators		PNG, 1980, 1990, 2000 and 2011 Censuses			
		PNG			
Urban citizen population		**2011**	**2000**	**1990**	**1980**
Labour force participation rate (% of population aged 10 years and over)	Total	46.1	48.4	56.2	48.0
	Male	53.1	58.7	72.4	65.1
	Female	38.3	36.2	34.8	21.9
Unemployment rate (% of labour force)	Total	11.3	16.2	30.1	8.4
	Male	13.4	19.4	28.6	8.4
	Female	7.9	10.2	34.3	8.5
Subsistence employment (% of employed population)	Total	18.2	14.6	5.1	5.2
	Male	12.8	9.2	3.3	2.6
	Female	25.9	24.0	10.5	17.0
Wage job employment (% of employed population)	Total	53.4	64.2	80.8	85.5
	Male	63.6	74.7	86.4	89.5
	Female	38.8	46.2	64.2	67.2
Main activity studying (% of population not in labour force)	Total	40.7	32.5	44.5	36.1
	Male	47.9	41.0	70.9	57.4
	Female	34.7	26.0	29.8	21.7
Main activity housework (% of population not in labour force)	Total	40.0	43.7	40.2	36.2
	Male	28.1	25.5	5.4	0.9
	Female	50.0	57.6	59.7	60.1

Rural citizen population		**2011**	**2000**	**1990**	**1980**
Labour force participation rate (% of population aged 10 years and over)	Total	63.5	70.4	71.1	66.0
	Male	63.5	69.9	77.5	65.5
	Female	63.6	70.9	64.3	66.6
Unemployment rate (% of labour force)	Total	1.7	1.5	4.5	2.3
	Male	2.5	2.3	5.4	3.1
	Female	0.9	0.7	3.4	1.4
Subsistence employment (% of employed population)	Total	62.1	72.0	41.3	46.5
	Male	54.3	66.4	39.3	40.5
	Female	70.3	77.5	43.8	52.7
Wage job employment (% of employed population)	Total	7.4	5.7	7.7	8.4
	Male	10.6	8.8	11.6	14.8
	Female	4.0	2.7	2.8	1.9
Main activity studying (% of population not in labour force)	Total	41.2	24.8	44.3	31.4
	Male	44.6	27.3	64.1	36.6
	Female	37.5	22.0	30.9	25.7
Main activity housework (% of population not in labour force)	Total	28.3	25.7	33.7	11.4
	Male	22.9	18.8	7.4	1.1
	Female	34.0	33.2	51.5	22.6

Summary Indicators		Provinces, 2011 Census					
		Southern Region					
Citizen population		**Western**	**Gulf**	**Central**	**NCD**	**MBP**	**Northern**
Labour force participation rate	Total	51.6	56.3	59.7	44.9	63.5	61.4
	Male	53.5	58.7	62.8	53.3	66.3	63.9
(% of population aged 10 years and over)	Female	49.6	53.7	56.2	35.2	60.5	58.7
	Total	3.3	3.1	2.9	13.7	1.3	1.5
Unemployment rate	Male	4.9	4.7	4.1	15.3	1.8	2.1
(% of labour force)	Female	1.5	1.2	1.4	10.9	0.6	0.8
	Total	64.6	72.9	67.8	8.9	81.0	72.8
Subsistence employment	Male	56.8	68.3	59.9	6.2	76.3	65.0
(% of employed population)	Female	73.0	78.1	77.4	13.5	86.5	82.0
	Total	11.5	9.0	13.8	65.3	8.7	9.8
Wage job employment	Male	17.2	12.1	19.1	73.3	11.4	13.5
(% of employed population)	Female	5.3	5.5	7.3	52.2	5.5	5.5
	Total	42.7	23.4	41.9	42.1	37.0	44.3
Main activity studying	Male	47.3	26.9	46.9	49.5	39.9	49.4
(% of population not in labour force)	Female	38.3	20.1	37.2	35.9	34.4	39.4
	Total	34.5	35.2	34.5	39.2	34.4	28.3
Main activity housework	Male	28.0	25.6	25.5	27.0	26.9	20.2
(% of population not in labour force)	Female	40.8	44.3	42.9	49.4	41.2	36.1

Citizen Population		Highlands Region						
		SHP	**Enga**	**WHP**	**Chimbu**	**EHP**	**Hela**	**Jiwaka**
Labour force participation rate	Total	61.4	63.0	65.2	65.6	71.7	72.5	67.9
(% of population aged 10 years and over)	Male	59.2	61.3	64.8	64.4	70.7	71.5	67.7
	Female	63.6	64.9	65.6	67.0	72.7	73.6	68.2
Unemployment rate	Total	2.0	1.9	2.3	2.1	1.7	2.2	1.3
(% of labour force)	Male	2.9	2.8	3.2	2.9	2.5	3.5	1.7
	Female	1.1	0.9	1.5	1.2	1.0	0.9	0.8
Subsistence employment	Total	72.6	72.6	49.6	58.0	50.9	71.0	54.5
(% of employed population)	Male	67.6	68.2	42.2	50.0	41.9	66.7	47.5
	Female	77.4	77.1	57.0	66.4	60.1	75.4	61.9
Wage job employment	Total	6.3	6.8	11.3	6.2	5.9	6.1	10.6
(% of employed population)	Male	9.6	10.7	15.9	9.2	8.6	9.3	14.1
	Female	3.1	2.8	6.8	3.0	3.1	2.9	7.0
Main activity studying	Total	44.3	36.3	45.7	48.0	44.5	34.9	52.1
(% of population not in labour force)	Male	47.4	39.7	49.7	51.2	47.7	37.1	55.5
	Female	40.6	32.3	41.5	44.2	40.9	32.3	48.3
Main activity housework	Total	28.3	37.5	27.3	21.6	22.4	31.5	23.5
(% of population not in labour force)	Male	24.7	33.5	21.6	17.5	17.8	27.9	19.2
	Female	32.5	42.3	33.2	26.6	27.7	35.6	28.3

Summary Indicators		Provinces, 2011 Census			
		Momase Region			
Citizen population		Morobe	Madang	ESP	WSP
Labour force participation rate (% of population aged 10 years and over)	Total	61.6	58.0	59.8	59.0
	Male	63.2	58.9	59.9	60.7
	Female	60.0	57.1	59.6	57.3
Unemployment rate (% of labour force)	Total	3.3	2.7	1.4	2.0
	Male	4.6	3.7	2.1	3.0
	Female	1.9	1.5	0.7	0.8
Subsistence employment (% of employed population)	Total	51.1	54.5	53.0	66.1
	Male	42.7	43.5	40.7	56.5
	Female	60.3	66.5	65.1	76.4
Wage job employment (% of employed population)	Total	13.3	9.2	6.6	8.7
	Male	18.8	12.3	9.4	13.6
	Female	7.2	5.7	3.8	3.3
Main activity studying (% of population not in labour force)	Total	36.7	35.7	28.3	32.8
	Male	41.5	39.1	31.5	37.9
	Female	31.9	32.2	25.2	27.9
Main activity housework (% of population not in labour force)	Total	31.3	30.3	32.1	32.5
	Male	23.3	24.2	25.5	23.4
	Female	39.4	36.7	38.5	41.1

Citizen Population		New Guinea Islands Region				
		Manus	NIP	ENBP	WNBP	AROB
Labour force participation rate (% of population aged 10 years and over)	Total	53.7	58.5	56.9	57.3	56.4
	Male	57.6	59.7	58.6	60.9	56.7
	Female	49.7	57.0	55.2	53.3	56.0
Unemployment rate (% of labour force)	Total	1.9	2.8	2.2	3.3	1.9
	Male	2.6	4.0	3.0	4.5	3.0
	Female	1.0	1.3	1.3	1.8	0.8
Subsistence employment (% of employed population)	Total	59.0	60.6	51.3	49.0	58.4
	Male	54.2	52.9	43.6	37.4	43.9
	Female	64.6	69.3	59.6	63.3	73.3
Wage job employment (% of employed population)	Total	10.9	14.4	15.1	20.6	7.4
	Male	13.3	19.3	19.6	27.5	9.8
	Female	8.0	8.8	10.3	12.0	5.0
Main activity studying (% of population not in labour force)	Total	46.5	47.9	54.1	42.5	47.7
	Male	51.8	51.1	58.4	48.5	49.7
	Female	41.9	44.6	50.1	36.9	45.6
Main activity housework (% of population not in labour force)	Total	29.5	24.5	24.9	31.4	29.8
	Male	20.5	18.5	18.6	21.5	25.2
	Female	37.4	30.8	30.9	40.7	34.4

Glossary

Economically active	See labour force.
Employed	Population aged 10 years and over in private dwellings who, during the reference period, worked in a job or business for pay or profit or who worked without pay in a family business or subsistence activity.
Labour force	Population aged 10 years and over in private dwellings who, during the reference period, were either employed or unemployed.
Labour force participation rate	The percentage of the population aged 10 years and over in private dwellings who were in the labour force (economically active).
Main activity	The activity persons who were not in the labour force during the reference period spent most time on.
Monetary activity	Employment for pay or profit, comprising gardening/fishing for money, business with paid help, business without paid help, and wage job.
Non-monetary activity	Employment without pay comprising helping in a family business without pay, and gardening/fishing for own/family use only.
Not economically active	See not in the labour force.
Not in the labour force	Population aged 10 years and over in private dwellings who were neither employed nor unemployed during the reference period.
Subsistence	Gardening/agricultural activity, hunting or fishing for own or family use only, and not for sale.
Unemployed	Population aged 10 years and over in private dwellings who, during the reference period, were either actively looking for work or waiting to start a new job.
Unemployment rate	The percentage of the labour force who were unemployed.

Labour force status

There were 5.5 million citizen population aged 10 years and over enumerated in private dwellings in 2011 census. More than 3.3 million persons were classified as being in the labour force; 3.2 million persons were employed and 88,000 persons were unemployed as shown in Table 5.1. There were more males (52%) than females (48%) in the labour force.

In 2000 census, the labour force numbered 2.4 million persons of which 2.3 million persons were employed and 69,000 persons were unemployed. Between 2000 and 2011 censuses, the proportion of males and females in the labour force had remained constant at 52% and 48%, respectively. However, there was a decrease in the proportion of unemployed males from 78% to 74%. Conversely, there was an increase in the proportion of unemployed females from 22% to 26%.

The proportion of males and females not in the labour force were 51% and 49%, respectively. Between 2000 and 2011 censuses, the proportion of males not in the labour force slightly increased by 1% from 49% to 50% in 2011, while for females, the rate decreased by 1% from 50% to 49% in 2011.

Table 5.1 Citizen population aged 10 years and over in private dwellings by labour force status, and sex, PNG, 2011 and 2000 Censuses

Labour force status	2011			2000		
	Persons	Males	Females	Persons	Males	Females
Total	5,453,542	2,817,954	2,635,588	3,691,933	1,903,119	1,788,814
In the labour force	3,336,007	1,746,837	1,589,170	2,413,257	1,256,887	1,156,470
Employed	3,248,463	1,682,132	1,566,331	2,344,734	1,203,233	1,141,501
Unemployed	87,544	64,705	22,839	68,623	53,654	14,969
Not in the labour force	2,101,348	1,062,353	1,038,995	1,160,229	581,704	578,525
Not stated	16,187	8,764	7,423	118,347	64,528	53,819

Labour force participation

The overall labour force participation rate (economically active) for citizen population aged 10 years and over in 2011 was 61% as shown in Table 5.2. This rate was slightly higher for males (62%) than females (61%). The labour force participation rate in 2000 was much higher (68%) than that recorded in 2011.

Table 5.2 Citizen labour force participation rate by sector and sex, PNG, 2011 and 2000 Censuses

Sectors	2011			2000		
	Persons	Males	Females	Persons	Males	Females
Total	61.4	62.2	60.5	67.5	68.4	66.7
Urban	46.1	53.1	38.3	48.4	58.7	36.2
Rural	63.5	63.5	63.6	70.4	69.9	70.9

There was marked difference in the labour force participation rate between sectors with proportion higher in the rural sector (64%) than in the urban sector (46%). Labour force participation rate was lower for females in the urban sector (38%) and higher for females in the rural sector (64%), a pattern similar to that in 2000. Between 2000 and 2011 censuses, there was decreasing labour force participation rate for males from 68 % to 62% and for females from 67% to 61%.

By province, the male labour force participation rate varied from a high of 72% in Hela to a low of 53% in NCD. The female labour force participation was particularly low in NCD (35%). In all other provinces, the female labour force participation rate varied from about 50% in Western and Manus provinces to 74% in Hela province. (*See Summary Indicators).*

The pattern of labour force participation rate between the urban and rural sectors is shown in Figure 5.1 and 5.2. In the urban sector, the labour force participation rates for males peaked between 35-39 years and 45-49 years and declined, thereafter.

Similarly, for females, labour force participation rate peaked between 30-34 years and 40-44 years and declined

gradually, thereafter. Generally, male labour force participation rate was higher than females in the urban sector for all age groups.

Figure 5.1 Urban citizen labour force participation rate by age and sex, PNG, 2011 Census
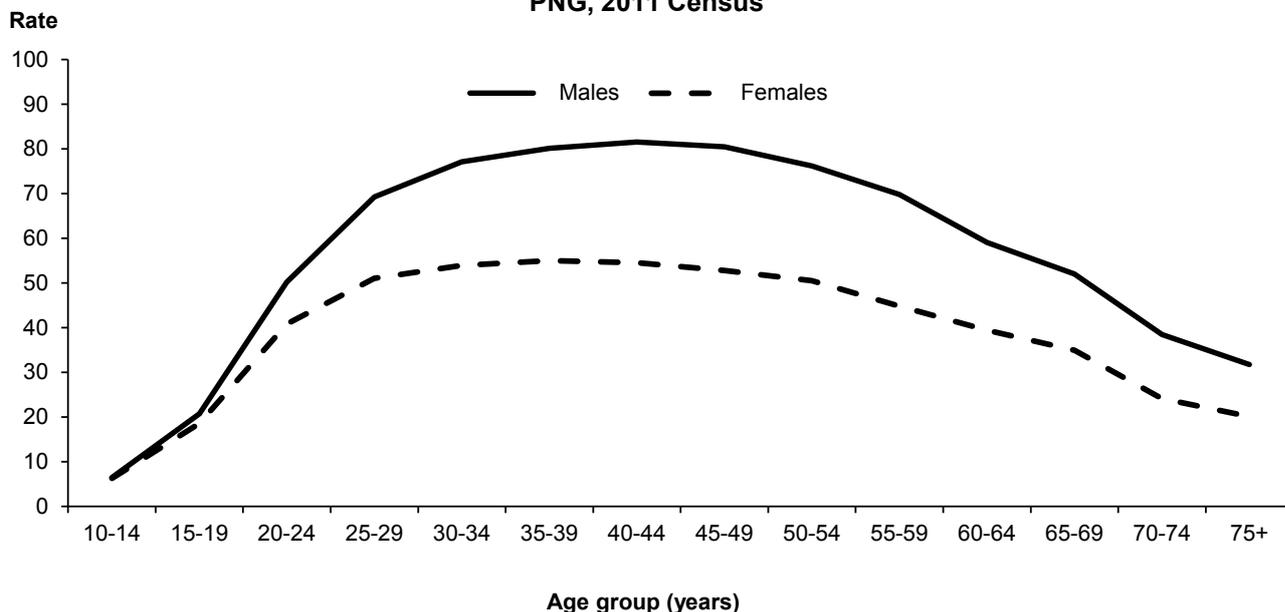
In the rural sector, the labour force participation rate for females aged between 10-14 years and 20-24 years was slightly higher than their male counterparts. For all other age groups, the male labour force participation rate was higher than females.

Figure 5.2 Rural citizen labour force participation rate by age and sex, PNG, 2011 Census
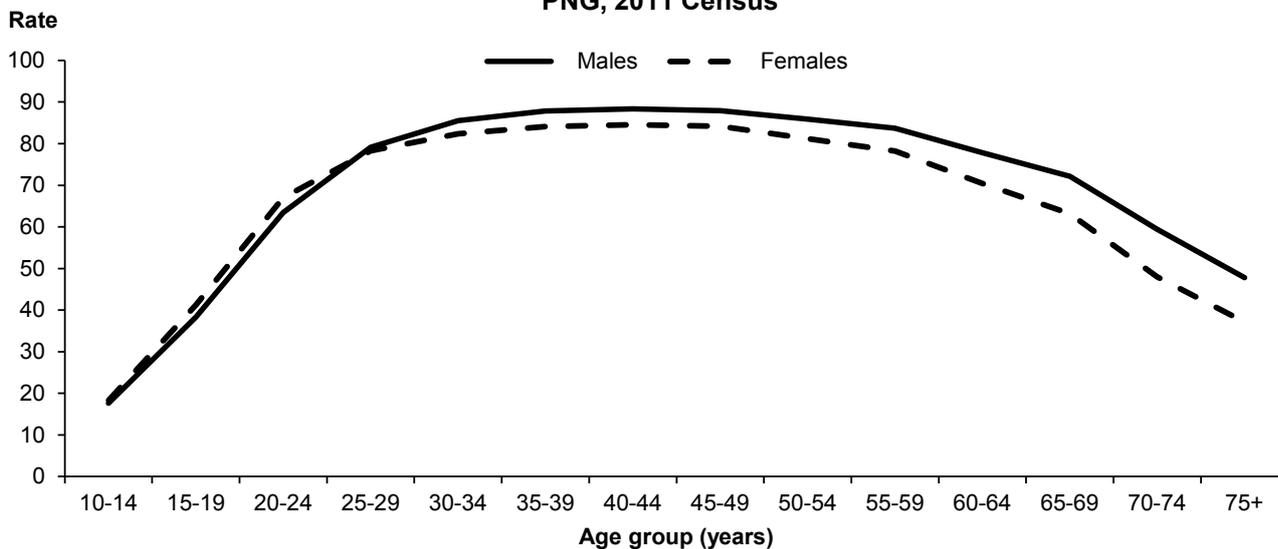
Employment

Employment takes in a number of forms which can be broadly defined as monetary activity and non-monetary activity. There were twice as many employed citizen population aged 10 years and over in non-monetary activity (67%) than in monetary activity (33%) as shown in Table 5.3. This is due to high proportion of citizen population in the rural sector involved in non-monetary activity such as gardening and fishing for own use (subsistence employment).

In the urban sector, monetary activity was nearly three times as common as non-monetary activity. Females were more likely than males to engage in non-monetary activity regardless of sector.

Table 5.3 Employed citizens by sector and type of employment activity, PNG, 2011 Census

Sectors	Persons		Males		Females	
	Monetary	Non-monetary	Monetary	Non-monetary	Monetary	Non-monetary
Total	1,079,079	2,169,384	676,930	1,005,202	402,149	1,164,182
Urban	207,594	71,528	134,320	30,657	73,274	40,871
Rural	871,485	2,097,856	542,610	974,545	328,875	1,123,311

At the national level, subsistence employment (gardening/fishing for own use) was a major activity for both males and females accounting for 50% and 67% of total employment. This was followed by wage job among males (16%) and gardening/fishing for money among females (13%).

In the urban sector, wage employment was a major activity for both males and females with higher proportions among males (64%) than females (39%) as shown in Figure 5.3. In the rural sector, subsistence employment was common among 54% of males and 70% of females as shown in Figure 5.4.

Figure 5.3 Type of urban employment by sex, PNG, 2011 Census
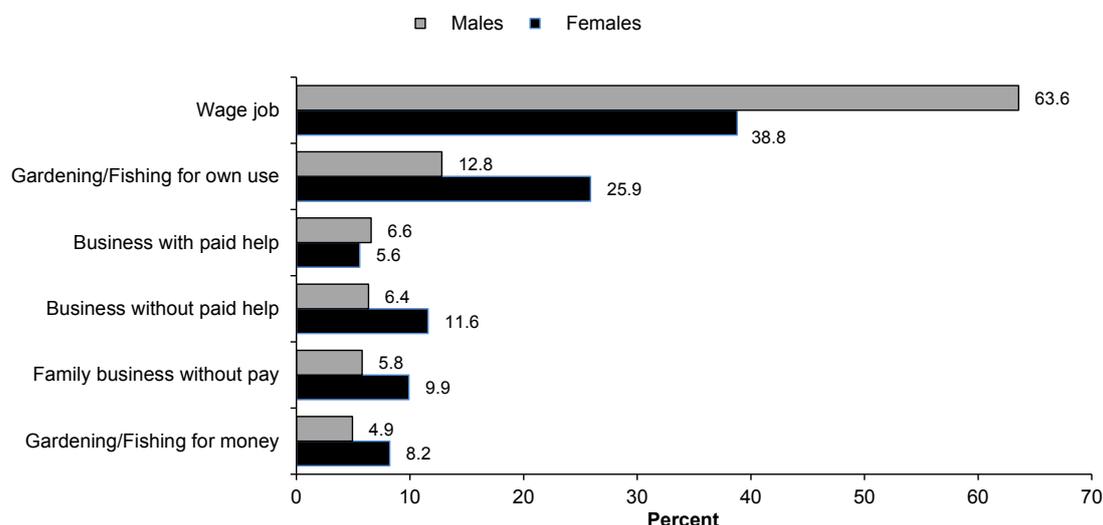
Figure 5.4 Type of rural employment by sex, PNG, 2011 Census
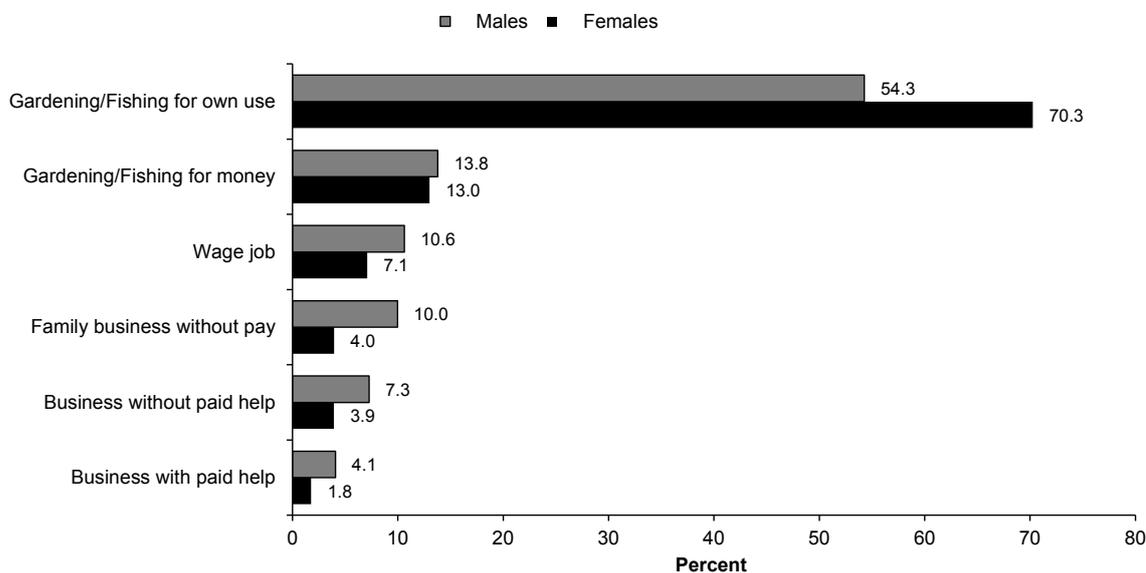
By province, subsistence employment in NCD was the lowest for both males and females due to its urban status. Conversely, wage job employment accounted for 73% of males and 52% of females. Milne Bay province had the highest proportion of males and females in subsistence employment with 76% and 87%, respectively. *(See Summary Indicators).*

Occupation

Occupation was dominated by agricultural, animal and fishery workers accounting for 81% of all employed persons. This was more pronounced in the rural sector with 86%. In the urban sector, the range of occupation was more diverse particularly for wage earners.

Overall, 26% of the urban population employed were agricultural, animal and fishery workers, 21% were elementary occupation workers and a further 11% were craft and building trade workers as shown in Table 5.4.

Table 5.4 Percentage distribution of employed urban citizens by occupation, by type of employment and sex, PNG, 2011 Census

Occupation	Total employed			Employed in wage job		
	Persons	Males	Females	Persons	Males	Females
Total	100	100	100	100	100	100
Legislators and senior officials & managers	4.3	5.5	2.7	5.9	6.3	5.1
Professionals	9.9	9.5	10.4	17.5	14.0	25.7
Teaching & associate professionals	5.4	6.1	4.4	8.8	8.2	10.2
Office clerks	6.0	4.1	8.7	10.5	5.9	21.3
Service workers, shop & market sales workers	10.4	9.8	11.3	13.5	11.8	17.6
Agricultural, animal & fishery workers	26.4	20.0	35.8	1.2	1.3	1.2
Craft & building trade workers	11.3	17.3	2.7	17.3	22.8	4.2
Plant & machine operators & assemblers	5.0	8.0	0.8	7.8	10.3	1.7
Elementary occupations	21.2	19.8	23.2	17.5	19.4	13.0

These occupation groups were also common among the urban employed males; 20% were agricultural animal and fishery workers, 20% were elementary occupation workers, and 17% were craft and building trade workers.

Among the urban employed females, 36% were agricultural, animal and fishery workers, 23% were elementary occupation workers and a further 11% were service workers, shop & market sales workers.

The pattern for urban persons employed in wage job was quite different; 18% were professionals and elementary occupation workers, respectively, 17% were craft and building trade workers and 14 % were service workers, shop and market sales workers.

The proportion also varied between males and females. Males were five times more likely than females to be craft and building trade workers while females were twice likely than males to be in professional occupations.

Industry

Similar to occupation, the largest industrial grouping was agriculture, hunting and forestry accounting for 77% of all employed persons. This was followed by wholesale and retail trade sale and repair motor vehicle personal and household goods with 11%.

In the rural sector, 82% of all employed persons were in agriculture, hunting and forestry and 10% in wholesale and retail trade sale and repair motor vehicle, personal and household goods. These industrial groupings were also common among the urban employed with 26% and 23%, respectively as shown in Table 5.5.

Table 5.5 Percentage distribution of employed urban citizens by industry, by type of employment and sex, PNG, 2011 Census

Industry	Total employed			Employed in wage job		
	Persons	Males	Females	Persons	Males	Females
Total	100.0	100.0	100.0	100.0	100.0	100.0
Agriculture, hunting & forestry	25.7	20.2	33.4	3.9	4.2	3.4
Fishing	0.7	0.9	0.5	0.3	0.3	0.4
Mining & quarrying	1.2	1.7	0.5	1.7	2.1	0.9
Manufacturing	3.7	4.4	2.7	5.8	6.0	5.4
Electricity, gas, steam & hot water supply	0.8	1.2	0.2	1.4	1.7	0.5
Construction	7.3	11.9	0.8	11.8	16.2	1.7
Whole sale & retail trade sale & repair motor vehicle, personal & household goods	23.3	16.7	32.5	11.3	8.7	17.5
Hotel & restaurants	1.5	1.2	1.9	2.6	1.8	4.6
Transport, storage & communications	5.6	8.4	1.7	8.4	10.4	3.9
Financial Intermediation	1.3	1.1	1.5	2.2	1.6	3.8
Real estates renting & business services activties	11.2	14.5	6.6	19.4	20.9	15.8
Public administration & defence compulsory social security	6.4	8.1	4.0	11.6	12.4	9.8
Education	4.8	4.2	5.7	8.8	6.4	14.3
Health	2.4	1.7	3.4	4.3	2.5	8.4
Other community social & personal service activities	2.6	2.9	2.2	4.0	3.7	4.6
Private households with employed persons	1.5	0.8	2.6	2.3	1.1	5.1
Extra-territorial organizations & bodies	0.0	0.1	0.0	0.1	0.1	0.0

Among urban persons employed in wage job, 19% were in the real estate renting and business service activities and 12% were in construction and public administration and defence compulsory social security, respectively. The pattern was similar for males employed in wage job.

Among urban females, whole sale & retail trade sale motor vehicle, personal & household goods (18%) and real estate renting and business service activities (16%) were important sources of employment.

Unemployment

According to the 2011 census, about 88,000 citizen population aged 10 years and over were classified as unemployed; 65,000 (74%) were looking for work and 23,000 (26%) were waiting to start a new job. The unemployment rate for citizen population was 3% with higher proportion among males (4%) than females (1%) as presented in Table 5.6.

Table 5.6 Citizen unemployment rate by sector and sex, PNG, 2000 and 2011 Censuses

Sectors	2011			2000		
	Persons	Males	Females	Persons	Males	Females
Total	2.6	3.7	1.4	2.8	4.3	1.3
Urban	11.3	13.4	7.9	16.2	19.4	10.2
Rural	1.7	2.5	0.9	1.5	2.3	0.7

Of the total unemployed, 41% were in the urban sector, giving an urban unemployment rate of 11%, a decrease of 5% since 2000. In the rural sector, the rate was low at 2% due to the high level of non-monetary subsistence activity. More than a quarter (26%) of the unemployed in 2011 census were aged 20-24 years.

By province, NCD had the highest unemployment rate of 14% while Milne Bay, Jiwaka and ESP had the lowest rate of 1%, respectively. *(See Summary Indicators).*

The male urban unemployment rate in 2011 was higher than the rate for females at all ages and was highest for persons aged 20-24 years; 26% for males and 16% for females as shown in Figure 5.5.

Figure 5.5 Urban citizen unemployment rate by age and sex, PNG, 2011 Census
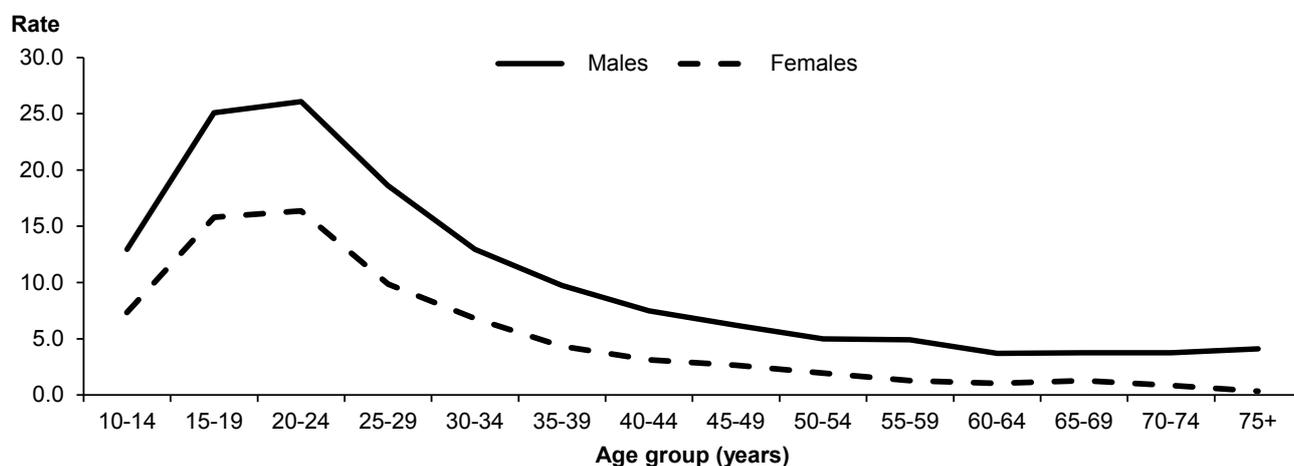
Although, the older age groups had lower unemployment rates, it was among age group 35-39 years and older that male unemployment dropped below 10% and for females below 5%.

Not in the labour force

Of the 2.1 million persons not in the labour force in the 2011, 30% had spent most of their time on housework and 41% spent most of their time studying.

The proportion varied by sex and age with 52% of males and 74% of females aged 30-39 years reporting their main activity as housework while 58% of males and 57% of females in the age group 10-19 years spent most of their time studying as shown in Table 5.7.

Tables 5.7 Percentage distribution of citizen not in the labour force by main activity, sex and age, PNG, 2011 Census

Main activity	Total	Age group (years)					
		10 - 19	20 - 29	30 - 39	40 - 49	50 - 59	60+
Total males	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Housework	23.7	14.5	36.6	51.7	48.7	36.8	16.1
Student	45.2	58.3	42.7	13.0	7.9	5.8	3.9
Too young	12.2	19.7	1.5	0.0	0.0	0.0	0.0
Too old / retired	4.1	0.0	0.0	0.0	0.0	21.0	60.7
Sick	4.4	1.9	5.0	9.9	13.4	15.9	9.7
Permanently disabled	1.0	0.4	1.1	2.4	2.7	3.0	2.1
Others	9.5	5.2	13.1	23.0	27.2	17.5	7.5
Total females	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Housework	37.1	18.7	58.9	73.7	69.8	53.6	21.4
Student	37.0	56.6	25.3	7.6	5.9	4.7	3.5
Too young	9.8	18.0	0.8	0.0	0.0	0.0	0.0
Too old / retired	4.4	0.0	0.0	0.0	0.0	20.5	61.8
Sick	3.8	1.7	4.4	5.9	8.2	10.4	6.9
Permanently disabled	0.6	0.3	0.7	0.9	1.2	1.5	1.3
Others	7.3	4.7	9.9	11.9	15.0	9.3	5.0

By province, the proportion of students varied from a high of 54% in ENBP to a low of 23% in Gulf province. Housework ranged from a high of 39% in NCD to a low of 22% in Chimbu and EHP.

Non-citizens

The economic activity of non-citizen population aged 10 years and over enumerated in private dwellings in PNG was quite different from the citizen population. Of the 5,500 non-citizen males, 51% were in the labour force mainly employed in wage jobs. The female labour force participation rate was 52%.

More than one third (37%) of non-citizen females not in the labour force were involved in housework, while 20% of males not in the labour force spent most of their time studying. *(See Summary Indicators).*

CHAPTER 6

HOUSEHOLD ACTIVITIES
AND HOUSING STATUS

Summary Indicators

Summary Indicators	PNG, 1980, 1990, 2000 and 2011 Censuses			
	PNG			
Citizen households	**2011**	**2000**	**1990**	**1980**
Total households	1,323,061	943,767	na	na
Average household size (persons)	5.5	5.4	na	na
Home ownership (% of households)	92.9	90.9	na	na
Traditional dwellings (% of households)	76.1	75.5	na	na
Household engaged in growing food crops, vegetables and root crops (% of households)	73.9	73.5	na	na
Household engaged in growing betelnut (% of households)	41.5	38.6	na	na
Household engaged in selling food crops and cooked food (% of households)	62.2	49.7	na	na
Household engaged in selling betelnut/mustard (% of households)	43.5	32.8	na	na

Non- Citizen households	**2011**	**2000**	**1990**	**1980**
Total households	3,590	5,889	na	na
Average household size (persons)	4.4	3.7	na	na
Home ownership (% of households)	33.5	32.5	na	na
Traditional dwellings (% of households)	15.5	21.2	na	na
Household engaged in growing food crops, vegetables and root crops (% of households)	11.5	15.7	na	na
Household engaged in growing betelnut (% of households)	3.8	4.8	na	na
Household engaged in selling food crops and cooked food (% of households)	6.7	9.5	na	na
Household engaged in selling betelnut/mustard (% of households)	1.9	3.2	na	na

Summary Indicators	PNG, 1980, 1990, 2000 and 2011 Censuses			
	PNG			
Urban Citizen households	**2011**	**2000**	**1990**	**1980**
Total households	120,676	100,392	85,555	56,919
Average household size (persons)	7.4	6.5	6.5	5.6
Home ownership (% of households)	68.2	59.8	42.2	35.6
Traditional dwellings (% of households)	18.9	10.1	7.1	10.8
Household engaged in growing food crops, vegetables and root crops (% of households)	23.3	23.7	na	na
Household engaged in growing betelnut (% of households)	19.6	18.8	na	na
Household engaged in selling food crops and cooked food (% of households)	28.6	22.6	na	na
Household engaged in selling betelnut/mustard (% of households)	32.4	25.0	na	na

Rural Citizen households	**2011**	**2000**	**1990**	**1980**
Total households	1,202,385	843,375	na	na
Average household size (persons)	5.3	5.3	na	na
Home ownership (% of households)	95.3	94.6	na	na
Traditional dwellings (% of households)	81.9	83.2	na	na
Household engaged in growing food crops, vegetables and root crops (% of households)	79.0	79.4	49.2	na
Household engaged in growing betelnut (% of households)	43.7	40.9	7.9	na
Household engaged in selling food crops and cooked food (% of households)	65.6	52.9	na	na
Household engaged in selling betelnut/mustard (% of households)	44.6	33.7	na	na

	Summary Indicators- Provinces 2011 Census					
Citizen households	Southern Region					
	Western	**Gulf**	**Central**	**NCD**	**MBP**	**Northern**
Total households	29,548	24,217	40,112	42,399	52,723	33,370
Average household size (persons)	6.7	6.5	6.7	8.5	5.2	5.6
Home ownership (% of households)	88.6	94.2	91.3	66.0	90.6	91.6
Traditional dwellings (% of households)	70.7	83.0	31.9	8.5	82.0	78.9
Household engaged in growing food crops, vegetables and root crops (% of households)	66.7	73.4	65.6	9.5	81.6	73.0
Household engaged in growing betelnut (% of households)	31.3	69.6	57.5	9.1	81.5	78.1
Household engaged in selling food crops and cooked food (% of households)	53.0	49.3	38.1	17.5	64.1	56.1
Household engaged in selling betelnut/mustard (% of households)	28.5	66.5	55.7	25.1	69.5	67.4

	Highlands Region						
Citizen households	**SHP**	**Enga**	**WHP**	**Chimbu**	**EHP**	**Hela**	**Jiwaka**
Total households	86,639	75,114	83,787	74,983	132,192	64,375	64,468
Average household size (persons)	5.9	5.7	4.3	5.0	4.4	3.9	5.3
Home ownership (% of households)	97.4	96.2	95.5	97.0	96.4	97.3	95.6
Traditional dwellings (% of households)	94.0	93.0	87.8	86.8	89.6	96.3	92.8
Household engaged in growing food crops, vegetables and root crops (% of households)	79.5	78.8	75.5	82.7	79.5	86.5	80.9
Household engaged in growing betelnut (% of households)	7.7	10.8	7.7	11.0	20.5	7.3	13.0
Household engaged in selling food crops and cooked food (% of households)	73.2	65.0	71.4	80.6	73.7	83.6	78.7
Household engaged in selling betelnut/mustard (% of households)	17.2	22.8	22.5	35.4	32.3	22.2	28.6

Citizen households	Momase Region			
	Morobe	Madang	ESP	WSP
Total households	123,754	83,238	84,800	42,010
Average household size (persons)	5.4	5.9	5.3	5.9
Home ownership (% of households)	92.1	94.2	94.0	94.5
Traditional dwellings (% of households)	72.4	86.2	87.5	87.0
Household engaged in growing food crops, vegetables and root crops (% of households)	69.7	75.4	77.2	74.1
Household engaged in growing betelnut (% of households)	53.0	75.9	80.8	73.6
Household engaged in selling food crops and cooked food (% of households)	55.6	57.4	55.5	52.3
Household engaged in selling betelnut/mustard (% of households)	55.0	70.5	61.5	53.9

Citizen households	New Guinea Islands Region				
	Manus	NIP	ENB	WNB	ARoB
Total households	9,762	27,224	53,210	48,651	46,485
Average household size (persons)	6.1	7.0	6.1	5.4	5.3
Home ownership (% of households)	87.0	89.7	89.7	80.7	94.4
Traditional dwellings (% of households)	47.9	47.0	23.5	35.8	65.3
Household engaged in growing food crops, vegetables and root crops (% of households)	63.2	73.9	75.1	62.3	73.0
Household engaged in growing betelnut (% of households)	64.1	70.9	73.3	64.8	71.7
Household engaged in selling food crops and cooked food (% of households)	60.0	53.3	62.0	44.5	54.1
Household engaged in selling betelnut/mustard (% of households)	58.9	63.4	58.0	53.8	51.7

Glossary

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 seashells), any other major crops or livestock.
Average household size	Total population in households divided by total number of households.
Average number of persons per room	Total population in households divided by total number of rooms in dwellings.
Citizen household	A regular household where the head of household is a PNG citizen.
Dwelling	A place where persons live which may be a private dwelling occupied by a household or a non-private dwelling.
Housing status	The ownership or rental status of a household in a private dwelling with respect to the home they occupy.
Income generating activity	Households who receive money from involvement in any of the following: selling food crops/cooked food at the market or roadside; selling fish, including crabs and shells; selling meat at the market or roadside; selling things they make eg carvings, bilums, mats; selling betel nut, mustard and lime; running a PMV (a public motor vehicle for transporting paying passengers); hiring boats; running a trade store; other major income generating activity.
Non-private dwelling	A dwelling such as a school, institution, barracks, hotel, prison or hospital with common cooking facilities.
Number of rooms	The number of rooms in a dwelling used for sleeping.
Private dwelling	A dwelling occupied by a regular household. There are a number of types of private dwelling:

- high cost house – large house, often built on high posts, usually of fibro, timber, brick or weatherboard, with a metal roof and usually found in urban areas;

- low cost house – similar to a high cost house but of lesser quality and usually built on low posts;

- flat – a unit of not more than two living quarters in one block, usually found in urban areas;

- duplex – two houses joined together by a common wall;

- domestic or workers' quarters – flats, quarters or rooms, usually found behind shops or factories;

- dormitory – a large building with cubicles for sleeping in, usually found in a school or college;

- makeshift – a house made largely of scrap materials such as cardboard, metal sheets etc.;

- traditional – a house made of traditional materials such as grass, bamboo, pit pit or wood;

- self-help high cost – similar to a high cost house but usually built by an individual or group of individuals for personal use;

- self-help low cost – similar to self-help high cost but of lesser quality.

Regular household   People who live together in a private dwelling and who share cooking arrangements. Household members may, or may not, be related.

Agricultural activities

Information about households engaged or not engaged in various types of agricultural activities is presented in Table 6.1. Growing food crops, vegetables and roots crops and rearing livestock were the main activities that 74% and 44% of households were engaged in, respectively. For the households engaged in growing food crops, vegetables and root crops, 77% did so for their own consumption.

Other agricultural activities such as betel nut (42%), coffee (40%) and coconut (35%) were also important to the households. More than 94% of households engaged in growing coffee or cocoa did so for cash.

Table 6.1 Citizen households by type and purpose of agricultural activities and sector, PNG, 2011 Census

Type of activity	Total			Urban			Rural		
	Engaged	Cash	Own use	Engaged	Cash	Own use	Engaged	Cash	Own use
Total ACTIVITIES(**)	4,199,723	45.5	54.5	121,159	48.1	51.9	4,078,564	45.4	54.6
Cocoa	21.8	97.1	2.9	5.7	90.8	9.2	23.5	97.2	2.8
Cofee	39.6	94.8	5.2	5.5	87.5	12.5	43.1	94.8	5.2
Rubber	2.0	72.2	27.8	1.2	59.1	40.9	2.1	72.9	27.1
Oil Palm	2.8	74.6	25.4	1.6	63.8	36.2	2.9	75.2	24.8
Coconut	34.6	29.3	70.7	16.2	30.4	69.6	36.4	29.2	70.8
Betel Nut	41.5	45.3	54.7	19.6	54.1	45.9	43.7	44.9	55.1
Livestock	44.3	33.5	66.5	8.0	48.5	51.5	48.0	33.3	66.7
Poultry	24.6	39.4	60.6	7.7	60.5	39.5	26.3	38.7	61.3
Food,vegetables & root crops	73.9	22.6	77.4	23.3	30.4	69.6	79.0	22.4	77.6
Fishing	19.3	26.0	74.0	6.3	38.9	61.1	20.6	25.6	74.4
Other	13.0	54.3	45.7	5.4	56.3	43.7	13.8	54.2	45.8

Note: ** Households can have multiple activities

Household agricultural activities in the urban and rural sector were similar but at different levels. Food crops, vegetables and root crops, and coconut were the main crops grown by 70% of urban households for their own consumption.

In the rural sector, 78% of households were engaged in growing food crops, vegetables and root crops for their own consumption. More than 97% of rural households were engaged in growing cocoa mainly for cash and 74% of households were engaged in fishing for own use.

By province, with the exception of NCD, the proportion of households engaged in growing food crops, vegetables and root crops varied from a low of 62% in WNBP to a high of 87% in Hela province. *(See Summary Indicators).*

Income generating activities

Selling food crops and cooked food (62%) and selling betel nut and mustard (44%) were the common income generating activities for citizen households. Selling meat at market or roadside was the third most common activity accounting for 28%.

The pattern was similar in both urban and rural sector as shown in Figure 6.1. More than 32% of urban households were engaged in selling betel nut and mustard while 29% were engaged in selling food crops and cooked food.

In the rural sector, 66% of households were engaged in selling food crops and cooked food and 45% were engaged in selling betel nut and mustard.

Figure 6.1 Citizen households in private dwellings by income generating activities and sector, PNG, 2011 Census

■ Rural ■ Urban

Category	Urban	Rural
Selling food crops / cooked food	28.6	65.6
Selling betelnut / mustard	32.4	44.6
Selling meat at market / roadside	6.3	30.5
Selling things they made (handicrafts)	9.4	23.0
Selling fish	7.0	14.7
Other	10.6	14.0
Running a trade store	4.1	6.6
Running a PMV	2.9	2.7
Hiring boats	1.1	1.2

Percent
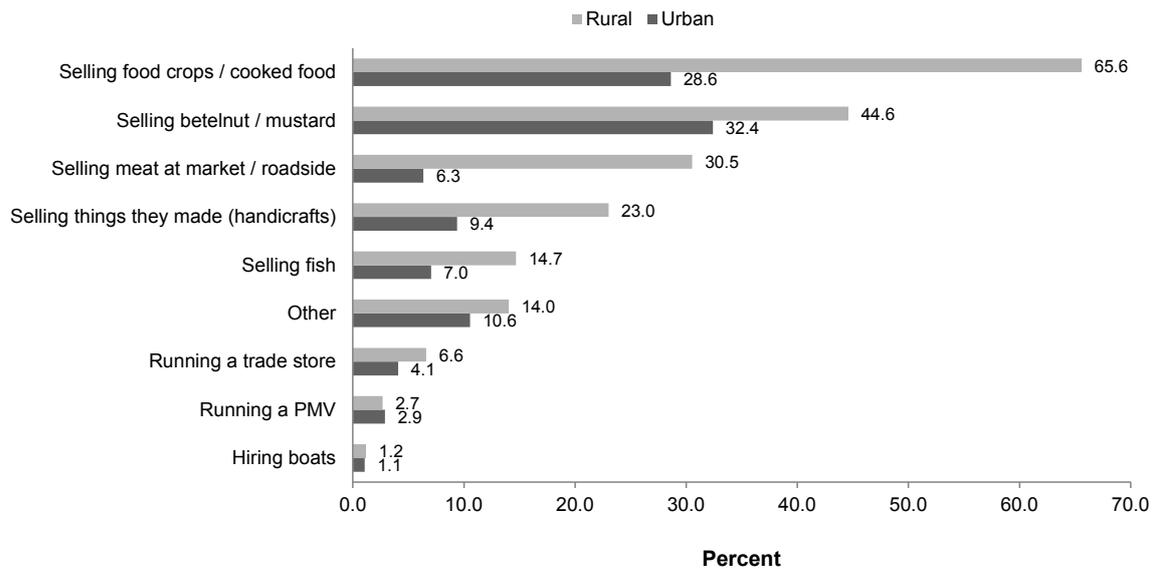
Housing Ownership and Rental Status

Owning a house was common in PNG as shown in Table 6.2. About 93% of citizen households owned their dwelling. Most traditional, makeshift, self-help low cost and self-help high cost houses were owned. About 69% of households living in flats and 52% living in duplexes rented their homes.

Table 6.2 Citizen households by dwelling type and ownership or rental status, PNG, 2011 Census

Dwelling Type	Total Persons	Total Households	Owned	Rented	Not rented	Average household size
Total	7,231,746	1,322,897	92.9	4.9	2.2	5.5
High cost	153,715	21,611	56.5	35.7	7.8	7.1
Low cost	250,178	36,276	53.0	34.0	13.0	6.9
Flats	42,397	6,653	20.3	68.9	10.8	6.4
Duplex	50,635	8,050	29.9	51.6	18.5	6.3
Domestic/workers quarters	93,726	17,003	39.8	35.5	24.7	5.5
Dormitories	10,776	1,903	51.8	35.4	12.7	5.7
Makeshift	861,419	142,011	94.0	3.9	2.1	6.1
Traditional	5,212,917	1,006,872	97.4	1.6	1.0	5.2
Self Help High cost	199,380	27,824	86.6	9.2	4.2	7.2
Self Help Low cost	356,603	54,694	86.9	8.9	4.1	6.5

A total of 7.2 million persons were enumerated in 1.3 million citizen households in PNG. This gives an average household size of 5.5 persons per household. Average household size varied by the dwelling type from 7.2 persons per household in self help high cost houses to 5.2 persons per household in traditional dwellings.

By provinces, home ownership was over 80% in all provinces except NCD with 66%. Average household size varied between 3.9 persons per household in Hela province and 8.5 persons per household in NCD. *(See Summary Indicators).*

In the urban sector, more than a quarter (26%) of citizen households rented their homes, however, this varied considerably by dwelling type as shown in Table 6.3. About 79% and 64% of households rented flats and duplexes, respectively.

Table 6.3 Urban citizen households by dwelling type and ownership or rental status, PNG, 2011 Census

Dwelling Type	Total	Owned	Rented	Not rented
Total	120,675	68.2	26.0	5.9
High cost	12,326	44.7	47.6	7.6
Low cost	18,115	51.5	40.2	8.3
Flats	5,472	14.4	78.5	7.1
Duplex	4,512	21.4	63.7	14.9
Domestic/workers quarters	5,302	33.8	46.5	19.7
Dormitories	673	39.2	52.6	8.2
Makeshift	33,725	90.0	7.5	2.5
Traditional	22,760	83.5	12.5	4.0
Self Help High cost	7,183	76.8	18.2	4.9
Self Help Low cost	10,607	81.9	14.7	3.4

Among the urban households who rented their dwellings, 52% rented from other private agencies and 21% rented from other government organizations as presented in Table 6.4. With the exception of low cost house (39%), more than 43% of urban households rented from other private agencies regardless of dwelling type. Less than 11% rented from National Housing Corporation.

Table 6.4 Urban citizen households renting private dwellings by type of dwelling and rental agency, PNG, 2011 Census

Dwelling Type	Renting Households	Housing Corporation	Semi-government	Other government	Other / private
Total	31,015	10.7	16.4	21.0	51.9
High cost	5,803	9.9	16.9	28.0	45.3
Low cost	7,211	10.8	21.9	28.0	39.3
Flats	4,220	14.7	10.8	14.4	60.1
Duplex	2,842	9.7	23.2	23.0	44.1
Other	10,939	9.7	13.0	14.7	62.6

Average number of person per room

Information on the number of rooms in the households is presented in Table 6.5. About half of the citizen households in PNG had one or two rooms and less than 28% had 3 rooms. Information on the number of rooms per household used for sleeping was also collected. On average, there were 2.1 persons to a room. In the urban sector, there were 2.7 persons to a room compared to 2 persons in the rural sector.

Table 6.5 Citizen households by number of rooms and average number of persons per room, PNG, 2011 Census

Number of rooms	Total		Average number of persons per room		
	Persons	Households	Total	Urban	Rural
Total	7,232,381	1,323,061	2.1	2.7	2.0
One room	1,065,449	229,683	4.6	5.7	4.6
Two rooms	2,098,361	425,823	2.5	3.3	2.4
Three rooms	2,024,951	353,628	1.9	2.6	1.8
Four rooms	1,427,385	226,705	1.6	2.1	1.5
Five rooms	349,439	50,077	1.4	1.9	1.3
Six rooms	131,056	16,870	1.3	1.7	1.2
Seven rooms	27,309	3,216	1.2	1.5	1.1
Eight rooms or more	19,947	2,172	1.1	1.3	1.1
Not Reported	88,484	14,887	..	..	..

Non-citizen households

The household activity and housing characteristics of non-citizen households were quite different from the citizen households. About 12% of non-citizen households were engaged in growing food crops, vegetables and root crops and and 7% were involved in selling food crops/cooked food. They were more likely to live in high cost houses (28%) than in traditional dwellings (16%) and had smaller average household size of 4.4 persons. *(See Summary Indicators)*

Appendix 1 – General information on the 2011 Census

Introduction

The National Population and Housing Census of PNG is one of the important national events on the calendar of the country every ten years. The country's fourth full National Population and Housing Census was supposed to be held in July 2010. However, the event was deferred to July 2011 to provide sufficient preparation time. The Government of PNG, through the National Executive Council (NEC) endorsed the need to conduct a National Population and Housing Census in 2010. The first three censuses of the country were held in 1980, 1990 and 2000.

Census Questionnaire

The design of the 2011 census questionnaire was extensively discussed, tested and evaluated by stakeholders who were members of the Users Advisory Committee before endorsement by the Inter-Departmental Census Steering Committee (IDCC). The IDCC approved the 2011 census questionnaire in March 2011.

Basic demographic, social and economic information on age; sex, marital status, religion, migration, economic activity, occupation, industry, fertility, mortality and household income generating activities were collected. A total of 33 questions were asked using a one-page census questionnaire.

Census Operations

The official census date was Sunday 11th July 2011, with counting in most parts from the 11th to 17th of July 2011. More than 40,000 field officers including interviewers, supervisors and quality controllers were engaged for the census operation. House-to-house interview method of collecting census information was used nationwide.

A total of 22 Provincial Census Co-coordinators (PCCs) were appointed in early 2010 to co-ordinate census activities in their provinces.

Census Geography

In PNG, a Local Level Government (LLG) area does not necessarily have official geographic boundaries. For this reason, a special census concept was created for both counting and producing statistical results. This is referred to as a statistical LLG area.

Data Limitations

This report contains population figures based on where people were counted at census time, which may not have been where they usually lived. Although census procedures and operations are designed to count each person, inevitably some people are missed and others are counted more than once. The information in this report is not adjusted for the possible net undercount.

Appendix 2 – Technical notes

1   Exponential growth

The exponential growth formula is

$$P_2 = P_1 e^{rn}$$

Where P_1 and P_2 are the size of the population at 2 points in time, r is the annual growth rate of the population between point 1 and 2, n is the length of the period between point 1 and 2 (inter-censal period) and e is the base of the natural (Naperian) logarithm system.

The exponential growth formula is illustrated using the citizen population of PNG in 2000 and 2011.

The numbers of citizens enumerated during the 2000 and 2011 censuses were 5,171,548 and 7,254,442 respectively. The census night in 2000 was 9th July whereas in 2011 it was 11th July.

i   The first step is to calculate the interval between the two censuses (n). This interval is obviously between 11 and 12 years but quite close to 11 years. The number of days between 9th July and 11th July 2011 is 367 days. These 367 days are part of a full year and few days:

   367/365 = 1 year, and 2 days

   Therefore

   2/365 = 0.01

   The intercensal period is therefore 11.01 years.

ii   The formula $P_2 = P_1 e^{rn}$ can be rewritten as:

   $$P_2 / P_1 = e^{rn}$$

   Where P_2 / P_1 can be considered as a growth ratio. In our example,

   $$P_2 / P_1 = 7{,}254{,}442/5{,}171{,}548 = 1.40276.$$

   Consequently, $e^{rn} = 1.40276$.

iii   Next, the natural logarithm is taken on both sides of the equation:

   $$Ln\ 1.40276 = Ln\ e^{rn}$$

   A characteristic of the logarithm system is that rn can be brought before the Ln sign:

   $$Ln\ 1.40276 = rn\ Ln\ e$$

   However, Ln e is the natural logarithm of e and equals 1

   The equation can therefore be written as:

   $$Ln\ 1.40276 = rn$$

iv   Finally, r can be calculated from the above equation:

   $$r = Ln\ 1.40276/n$$

   Since n is 11.01 years, the equation becomes:

   $$r = Ln\ 1.40276/11.01$$

   Since Ln 1.40276 = 0.3384419

   $$r = 0.3384419/11.01 = \underline{0.0307395\ per\ year}$$

However, the annual growth rate is usually expressed as a percentage or per thousand. In the case of the citizen population of PNG, the average annual intercensal growth rate between 2000 and 2011 was therefore, 3.1% or 30.7 per thousand.

2   Measurement of the accuracy of age reporting

A minimum evaluation of the sex-age data is necessary to establish some degree of confidence in the data presented. Age heaping and number preferences in reporting are likely errors that may occur in census data. In developing countries, there is a tendency to underreport young children. At the same time, there is a tendency to prefer figures ending with 0 and 5 when reporting. Findings from the past censuses in PNG indicate that there is a significant preference for ages ending in 0 and, to a lesser extent, 5. A preference for digit 8 is also considered as significant and this is the trend found in most Pacific countries. The United Nations Secretariat Index, Whipple's Index and Myer's Index are three known indices widely used for detecting possible errors and digital preferences. These indices have been applied to the data to provide some assessment of the data. Each of the methods is illustrated by way of calculations. Methods for the measurement of the accuracy of age reporting are explained in detail in *United Nations Manual II, 1950.*

The computational procedures for each of these indices are illustrated below using the citizen population of PNG in 2011.

i   *UN Secretariat Index*

The UN Secretariat Index, often referred to as the UN sex-age accuracy index, can be used to evaluate the quality of grouped data. This index consists of scoring sex ratios and age ratios for 5-year age groups over the range of 0-74 years. It measures the overall distribution of the sex-age structure supplied in the most commonly adopted form of 5-year age groups by sex. For analysis of sex ratios, successive differences between one age group and the next are computed and their average, ignoring sign, is used as the base sex ratio score

The age ratio is defined as the ratio of the number of persons in an age group to the average of the number in the two adjoining age groups, as follows:

$$\text{Age ratio:} \qquad \frac{P_x}{(P_{x-1} + P_{x+1})/2} * 100 = \frac{2\,P_x}{P_{x-1} + P_{x+1}} * 100$$

$$\text{where} \quad P_x \qquad = \text{Population of a given age group, eg 15-19}$$

$$P_{x-1} \qquad = \text{Population of the preceding age group, 10-14}$$

$$P_{x+1} \qquad = \text{Population of the subsequent age group, 20-24}$$

Age ratios are expected to be very close to 100 in a non-distorted age distribution. Deviations from 100 are therefore calculated and their average is taken, irrespective of sign, as a base age ratio score for each sex separately. Joint scores are used to give greater weight to age. This is obtained by adding 3 times the base sex ratio score to the sum of the base male age ratio score and the base female age ratio score. A sex ratio score or age ratio score above 10 may empirically be regarded as in the high range, and the sex-age data should be suspected of being very much affected by some errors other than actual fluctuations in population trends. In terms of joint score, a borderline level of high range may be defined as

$$10 * 3 + 10 + 10 = 50$$

Table I UN Secretariat Method applied to the data for citizen population of PNG, 2011 Census

Age group	Males	Females	Sex ratio	Succ.Diff	Age ratios Males Ratio	Age ratios Males Dev.100	Age ratios Females Ratio	Age ratios Females Dev.100
0 - 4	447,006	412,982	108.2	-	-		-	
5 - 9	471,138	434,890	108.3	0.1	107.2	7.2	109.9	9.9
10 - 14	431,595	378,642	114.0	5.6	93.8	-6.2	90.2	-9.8
15 - 19	449,544	404,250	111.2	-2.8	113.7	13.7	113.1	13.1
20 - 24	359,168	336,474	106.7	-4.5	94.5	-5.5	92.7	-7.3
25 - 29	310,521	321,715	96.5	-10.2	101.3	1.3	107.6	7.6
30 - 34	253,753	261,280	97.1	0.6	90.3	-9.7	90.4	-9.6
35 - 39	251,624	256,163	98.2	1.1	111.7	11.7	113.9	13.9
40 - 44	196,740	188,625	104.3	6.1	91.3	-8.7	89.8	-10.2
45 - 49	179,410	164,026	109.4	5.1	110.1	10.1	109.0	9.0
50 - 54	129,156	112,218	115.1	5.7	94.4	-5.6	92.1	-7.9
55 - 59	94,184	79,579	118.4	3.3	94.0	-6.0	92.8	-7.2
60 - 64	71,329	59,335	120.2	1.9	99.2	-0.8	100.3	0.3
65 - 69	49,556	38,785	127.8	7.6	99.5	-0.5	96.1	-3.9
70 - 74	28,255	21392	132.1	4.3	86.6	-13.4	84.9	-15.1
75 - 79	15679	11595	135.2	-	-	-	-	-
80 and over	11741	9110	128.9	-	-	-	-	-
Sum (a)	-	-	-	58.8		100.5		124.7
Mean (b)	-	-	-	4.2		7.2		8.9

(a) This is the sum of the successive differences or deviations from 100, irrespective of sign.

(b) This is the sum of the successive differences or deviations from 100, irrespective of sign, divided by the number of terms, in this case 14.

The UN Secretariat Index for this population is:

$$(3 * 4.2) + 7.2 + 8.9 = 28.7$$

This is below high range cut off point of 50. The age sex distribution of this population is therefore considered acceptable.

ii   Whipple's Index

Whipple's Index is a way of evaluating the degree of age heaping or digit preference. It expresses total persons reporting ages ending in 0 and 5 in the age range of 23-62 years as a percentage of one-fifth of the total population in this range. Range 23-62 years is selected because age heaping is likely to occur in this range and data at younger and older ages are often subject to errors and irregularities of other types.

The value of Whipple's Index is very close to 100 when there is no particular concentration of digit preferences. In extreme cases, when only ages ending in 0 and 5 are reported, the index is 500, the theoretical maximum. When the index is more than 150, it is highly suspected that the age data are very much affected by age heaping.

Table II Whipple's Index applied to the data for the citizen population of PNG, 2011 Census

Age (years)	Number Persons	Number Males	Number Females	Age (years)	Number Persons	Number Males	Number Females
23	114,460	58,496	55,964	25	145,851	73,298	72,553
24	127,190	64,044	63,146	30	157,603	76,557	81,046
25-29	632,236	310,521	321,715	35	116,496	59,110	57,386
30-34	515,033	253,753	261,280	40	125,543	63,014	62,529
35-39	507,787	251,624	256,163	45	84,590	45,227	39,363
40-44	385,365	196,740	188,625	50	77,665	41,180	36,485
45-49	343,436	179,410	164,026	55	38,018	20,335	17,683
50-54	241,374	129,156	112,218	60	45,376	24,810	20,566
55-59	173,763	94,184	79,579				
60	45,376	24,810	20,566	Sum	791,142	403,531	387,611
61	23,131	12,624	10,507				
62	24,668	13,648	11,020				
Sum 23-62	3,133,819	1,589,010	1,544,809				

Whipple's Index for persons is: {(5*791142):3133819*100 = 126.2

Whipple's Index for males is: {(5*403531):1589010*100 = 127.0

Whipple's Index for females is: {(5*387611):1544809*100 = 125.5

These values are below the cut off point of 150. The age-sex distribution of this population therefore shows no significant digit preference.

ii _Myer's Index_

Myer's Index is based on blended population figures in which almosyalmost equal numbers are expected at each terminal digits for a non-distorted age distribution. Hence each digit should be 10% of the total blended population. Deviation of the percentage for any digit from 10 indicates either a preference (more than 10) or avoidance (less than 10) for that specific digit. One half the sum of the deviations from 10, without regard to sign, gives a summary index of digit preference, which is known as Myer's Index. If the value is greater than 10, the age date are suspected to be questionable reliability in regard to age reporting.

The theoretical range of Myer's Index extends from a minimum of 0, when there is neither preference for, nor avoidance of, any particular digit, to a maximum of 90, when all ages are reported with one single digit.

Table III Myer's Index applied to the data for the female citizen population, PNG, 2011 Census

Terminal digit	Numbers at ages specified					Sum	
	13 - 22	23 - 32	33 - 42	43 - 52	53 - 62	13 - 52	23 - 62
3	67453	55964	37258	29400	16314	190,075	138,936
4	73069	63146	43015	23264	17698	202,494	147,123
5	76478	72553	57386	39363	17683	245,780	186,985
6	79173	61596	51701	29875	15769	222,345	158,941
7	70991	59695	42188	28287	13895	201,161	144,065
8	97507	67645	55472	35360	17072	255,984	175,549
9	80101	60226	49416	31141	15160	220,884	155,943
0	90538	81046	62529	36485	20566	270,598	200,626
1	62529	44179	32216	20190	10507	159,114	107,092
2	64297	55782	41216	21531	11020	182,826	129,549
Sum	762,136	621,832	472,397	294,896	155,684	2,151,261	1,544,809

Terminal Digit	Ages 13-52		Ages 23-62		Blended	%	Dev.
	Sum	Factor	Sum	Factor	Sum (a)	dist.	10%
3	190,075	1	138,936	9	1,440,499	7.65	-2.35
4	202,494	2	147,123	8	1,581,972	8.40	-1.60
5	245,780	3	186,985	7	2,046,235	10.87	0.87
6	222,345	4	158,941	6	1,843,026	9.79	-0.21
7	201,161	5	144,065	5	1,726,130	9.17	-0.83
8	255,984	6	175,549	4	2,238,100	11.89	1.89
9	220,884	7	155,943	3	2,014,017	10.70	0.70
0	270,598	8	200,626	2	2,566,036	13.63	3.63
1	159,114	9	107,092	1	1,539,118	8.18	-1.82
2	182,826	10	129,549	0	1,828,260	9.71	-0.29
Sum	2,151,261	-	1,544,809	-	18,823,393	-	14.2

(a) Blended sum for the digit 3 is (1x 190075) + (9x138936) = 1,440,499

Myer's Index is half of the sum of the deviations from 10% irrespective of sign; 14.2/2 = 7.1.
The minimum percentage which reported age with inaccurate terminal digits is 7.1%.
This is less than the cut off point of 10. The age distribution therefore shows no significant digit preference.

Preference Sequence: 0 8 5 9 6 2 7 4 1 3

Digit 0-4	8,955,885	: 47.6	%
Digit 5-9	9,867,508	: 52.4	%

Summary explanations of the age–sex data

The UN Secretariat Index as shown in Table III suggest that PNG age data has remained adequate with joint scores below 50. However, over the census years age reporting has not improved with joint scores increasing from 25 in 2000 to 28.7 in 2011.

Table IV Indices based on the age-sex structure, PNG, 2011 Census

Census	Sectors	UN Secreatariat Index	Whipple's Index		Myers' Index	
			Male	Female	Male	Female
2011	Total	28.7	127.0	125.5	6.7	7.1
	Urban	29.5	122.9	119.0	5.0	4.8
	Rural	29.6	127.6	126.4	7.2	7.5
2000	Total	22.0	134.4	134.0	7.2	7.4
	Urban	37.9	134.1	128.4	6.4	5.8
	Rural	25.5	134.4	134.7	7.4	7.7
1990	Total	29.8	140.5	137.9	8.6	8.8
	Urban	44.5	141.7	132.1	8.4	7.1
	Rural	32.7	140.2	138.8	8.7	9.2
1980	Total	38.4	121.9	125.1	4.1	5.1
	Urban	71.2	na	na	na	na
	Rural	41.2	na	na	na	na

The Whipple's Index suggests there is some concentration in the ages ending 0s and 5s in 2011. Between 2000 and 2011 census, the Whipple's index has increased from 118 to 127. However, the index remains less than 150 therefore; the data are of acceptable quality.

The Myer's Index was higher among the rural population than urban population in 2011 but still less than 10. However, the Myer's Index declined between 2000 and 2011 implying that the quality of census age data had improved in this period.

3   Computation of the median age

The computation of the median age is illustrated below, using data for the male citizen population of PNG in 5-year age groups as enumerated during the 2011 census.

The total male citizen population was 3,750,399. If it were possible to 'line up' these 3,750,399 males in order of increasing age, the age of the person standing exactly in the middle, that is number 1,875,200, would have the median age of this population; 50% of the population would be younger and 50% would be older than this person. This method is of course not feasible in practice. An approximation of the median age of this population can be made using grouped data.

The age composition of the male citizen population of PNG at the 2011 Census was as follows:

Age	Number
0-4	447,006
5-9	471,138
10-14	431,595
15-19	449,544
20-24	359,168

This can be expressed as a cumulative age distribution:

Age less than:	Number
5	447,006
10	918,144
15	1,349,739
20	1,799,283
25	2,158,451

The person 'standing in the middle of the line' is number 1,875,200. Checking with the cumulative age distribution, it is clear that the age of this person must be more than 20 years, but less than 25 years. An approximation of the age of this person is obtained by means of linear interpolation.

<20 years	Median	<25 years
1,799,283	*1,875,200*	*2,158,451*

75,917   283,252
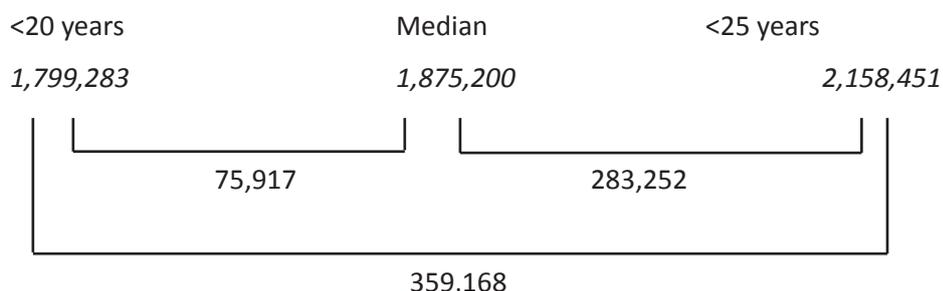
359,168

The difference between 1,799,283 and 2,158,451 is 359,168.0. The difference between 1,799,283 and 1,875,200 is 75,917 and between 1,875,200 and 2,158,451 is 283,252.

Proportion 1 (between 1,799,283 and 1,875,200) is: 75,917/359,168

=0.2114

Proportion 2 (between 1,875,200 and 2,158,451) is: 283,252/359,168

 = 0.7886

The two proportion should of course add up to 1.

The median age is now determined through interpolation:

$$(0.2114 * 25) + (0.7886 * 20)$$

or   5.285 + 15.772

= 21.057

or rounded to 21.1 years.

A similar process can be applied to data by single years of age, as follows:

Age (years)	Number
'0 - 4	447,006
'5 - 9	471,138
'10 - 14	431,595
'15 - 19	449,544
20	99,135
21	69,104

This can be expressed as a cumulative age distribution:

Age less than (year)	Number
5	447,006
10	918,144
15	1,349,739
20	1,799,283
21	1,898,418

The person 'standing in the middle of the line' is number 1,875,200. Checking with the cumulative age distribution, it is clear that the age of this person must be more than 20 years, but less than 21 years. An approximation of the age of this person is obtained by means of linear interpolation.

<20 years	Median	<21 years
1,799,283	1,875,200	1,898,418

75,917   23,218
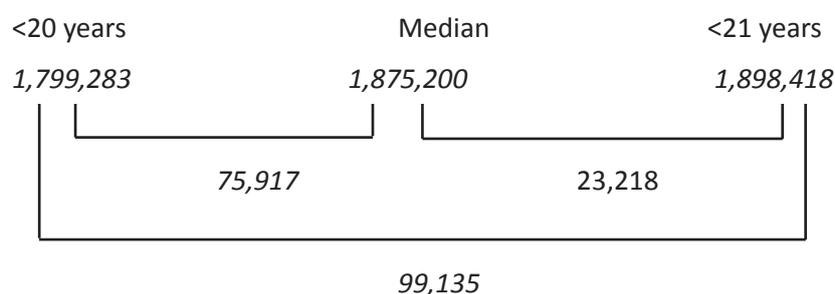
99,135

Proportion 1 (between 1,799,283 and 1,875,200) is: 75,917/99,135 = 0.7658

Proportion 2 (between 1,875,200 and 1,898,418) is: 23,218/99,135 = 0.2342

The median age is now determined through interpolation:

$$(0.7658 * 21) + (0.2342 * 20)$$

or   16.1 + 4.7

= 20.7 years or rounded to 21.0 years

4   Computation of singulate mean age at marriage (SMAM)

Hajnal's method to calculate the singulate mean age at marriage (SMAM) is explained in detail in *United Nations Manual X, 1950.* The computational procedure is illustrated using data for the never married citizen population of PNG in 2011.

Table V Computation of the Singulate Mean Age at Marriage (SMAM) by sex for the citizen population of PNG, 2011 Census.

I	Age Group (years)	Males			Females		
		Number (a)	Number Single	Prop. Single U (I)	Number (a)	Number Single	Prop. Single U (I)
1	10-14	431,186	430,990	0.9995	378,270	377,958	0.9992
2	15-19	447,502	430,323	0.9616	402,634	349,399	0.8678
3	20-24	355,814	281,810	0.7920	334,176	150,737	0.4511
4	25-29	307,936	138,395	0.4494	320,647	50,671	0.1580
5	30-34	252,152	52,557	0.2084	260,635	16,039	0.0615
6	35-39	250,203	25,860	0.1034	255,699	7,483	0.0293
7	40-44	195,712	12,496	0.0638	188,276	3,611	0.0192
8	45-49	178,626	8,567	0.0480	163,744	2,422	0.0148
9	50-54	128,689	5,649	0.0439	112,017	1,523	0.0136
Sum		-	-	3.6262	-	-	2.6008

(a) Total minus those whose marital status was not stated

(b) Total for i = 1 - 8

$$SMAM = \frac{10 + 5 * \sum_{i=1}^{8} U_i - 50 * (U_8 + U_9)/2}{1 - (U_8 + U_9)/2}$$

For males, $SMAM = \dfrac{10 + 5 * 3.6262 - 50 * (0.0480 + 0.0439)}{1 - (0.0.0480 + 0.0439)/2} = 27.1$ years

For females, $SMAM = \dfrac{10 + 5 * 2.6008 - 50 * (0.0148 + 0.013)}{1 - (0.0148 + 0.0136)/2} = 22.6$ years

Appendix 3 – 2011 Census Form

Appendix 4 – PNG 2011 Census Products

PNG 2011 Census Final Figures – summary data for persons and households at national, provincial, district and statistical LLG area level.

Price: K 20.00

PNG 2011 Census Unit Register – a listing of all Census Units (villages) in a province along with the number of households and persons by sex.

Price: K20.00 per province

PNG 2011 Census Ward Population Profile – a listing of all wards by local level government (LLG) areas and districts in each province along with the number of households and persons by sex.

Price: K30.00 per region

PNG 2011 Census Basic Tables – a set of 31 cross-classified tables covering the main census topics at national and provincial level for all sectors, urban sector and rural sector.

Price: K40.00 per set

PNG 2011 Census Table Retrieval System (TRS) – a CD-ROM containing the basic tables at national and provincial level and by urban/rural sector, and at district and statistical LLG area level, along with software which allows users to select, retrieve, display, print and copy the table(s) for geographic level(s) of their choice.

Price: K2,000.00

PNG Census 2011 Community Profile System (CPS) – a CD-ROM containing basic population counts by age and sex and a statistical profile for all geographic levels from Census Unit upwards, along with software which allows users to retrieve, display and print the profile for any geographic area or aggregation of areas.

Price: K2,000.00

PNG Census 2011 Provincial Report – an easy to read commentary with accompanying statistical tables and graphs, designed to inform users of the key findings of the census at provincial level, and to assist in the interpretation of the findings.

Price: K40.00 per province

PNG Census 2011 National Report – an easy to read commentary with accompanying statistical tables and graphs, designed to inform users of the key findings of the census at the national level, and to assist in the interpretation of the findings.

Price: K50.00

PNG Census 2011 Thematic Mapping System (TMS) – a CD-ROM containing map layers and statistical indicators for all geographic levels, which allows users to create thematic maps from census data using their own mapping software.

Price: K2,000.00

PNG Census 2011 User Service – a data service whereby NSO will prepare specialized tables to a user's specifications.

Price: on application
For more information, or to purchase any of the products, contact:
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