2000 Census of Population and Housing

Luapula Province Analytical Report

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Preface

The 2000 Census of Population and Housing was undertaken from 16th October to 15th November, 2000. This was the fourth census since Independence in 1964. The other three were carried out in 1969, 1980 and 1990. The 2000 Census operations were undertaken with the use of Grade 11 pupils as enumerators, Primary School Teachers as supervisors, Professionals from within Central Statistical Office and other government departments being as Trainers and Management Staff. Professionals and Technical Staff of the Central Statistical Office were assigned more technical and professional tasks.

This report presents detailed analysis of issues on evaluation of coverage and content errors; population, size, growth and composition; ethnicity and languages; economic and education characteristics; fertility; mortality and disability.

The success of the Census accrues to the dedicated support and involvement of a large number of institutions and individuals. My sincere thanks go to Co-operating partners namely the British Government, the Japanese Government, the United States Agency for International Development (USAID), United Nations Population Fund (UNFPA), the Norwegian Government, the Dutch Government, the Finnish Government, the Danish Government, the German Government, University of Michigan, the United Nations High Commission for Refugees (UNHCR) and the Canadian Government for providing financial, material and technical assistance which enabled the Central Statistical Office carry out the Census.

Finally, we would like to show gratitude to the people of Luapula for co-operating in providing the valuable information, to the enumerators, supervisors, master trainers, provincial census officers, district census officers and to all others who contributed to the collection, processing and compilation of this valuable information in one way or another.

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Abbreviations/Acronyms

AIDS	Acquired Immune Deficiency Syndrome
ASFR	Age Specific Fertility Rate
CBR	Crude Birth Rate
CEB	Children Ever Born
CFS	Completed Family Size
CMR	Child Mortality Rate
CSO	Central Statistical Office
CWR	Child-Woman Ratio
EMIS	Education Management Information System
GDP	Gross Domestic Product
GFR	General Fertility Rate
GPI	Gender Parity Index
HIV	Human Immune Virus
ICF	International Classification of Functioning
IMR	Infant Mortality Rate
ISCED	International Standard Classification of Education
LCMS	living Conditions Monitoring Survey
NAC	National AIDS/STD/TB/ Council
NRR	Net Reproduction Rate
PAS	Population Analysis Spreadsheet
SAP	Structural Adjustment Programme
SADC	Southern African Development Community
TFR	Total Fertility Rate
UMR	Under-Five Mortality Rate
UN	United Nations
WHO	World Health Organisation
ZCS	Zambia Community School

Executive Summary

Luapula Province population recorded as at 16th October 2000 (Census Night), is 775,353, comprising 387,825 males and 387,528 females. The majority of the population, 87 percent or 674,187 lives in rural areas, while the urban areas have the remaining 13 percent or 101,166.

Of the total population, 46 percent are below the age of 15, resulting in a median age of 17 years. Hence Luapula Province has continued to have a young population with an in-built potential to grow for many years to come. Luapula Province's population grew at an average annual growth rate of 2.1 percent between 1969-1980, 2.2 percent between 1980-1990, and finally 3.2 percent during the period, 1990-2000. Thus the province's population has continued to grow.

The province's average population density stands at 15.3 persons per square kilometer, with the highest population density occurring in Nchelenge district, with 27.2 persons per square kilometer.

Though Household-Headship is still dominated by males, the results from the census show that one in five households or 20 percent is female headed. There is very little variation by rural or urban residence. Mwense district has the highest percentage of female-headed households at 22 percent.

A total of 674,049 persons reported their predominant language of communication in the 2000 census, with Bemba being the most spoken language, spoken by 61.3 percent of the population as their predominant language of communication, followed by Ushi spoken by 16 percent, Ngumbo is spoken by 5.6 percent, Kabende by 4.5 percent, Bwile by 2.4 percent, Unga by 1.8 percent and Lunda (Luapula) by 1.7 percent of the population. English is used by only 0.1 percent of the population, as their predominant language of communication, despite it being the country's official language.

Census results show that 48 percent of the population is literate i.e. is able to read and write in any language, with 56 of males and 41.2 percent of females able to read and write in any language. Literacy rates between in 2000 show that forty-five percent of the population in rural areas can read and write in any language compared to 68 percent of the population in urban areas.

The province's labour force population stands at 267,726. However, economic participation rates stand at 70 percent for males and 54 percent for females. The labour force has increased by 53 percent between 1990 and 2000. About 86.6 percent of the labour force is in rural areas, while 13.4 percent is in urban areas.

The employed population increased by 96 percent between 1990 and 2000. The female employed population increased by 162 percent, while the male employed population increased by 59.6 percent.

The number of the unemployed decreased by 183 percent between 1990 and 2000. The size of the male unemployed population decreased by 22 percent, while that of females decreased by 13 percent.

Economic activities are still organized around family labour as evidenced by the predominance (91.3 percent) of workers who are classified as either self-employed or unpaid family workers. In contrast, only 8.7 percent were classified as employees or employers. The transformation of the Zambian economy in the 1990's seems to have reduced employment opportunities in the formal sector, thereby forcing a large part of the labour force into the informal sector. There is a large concentration of workers (84.7 percent) in the Agricultural and related occupations.

Luapula province's fertility has continued to decline although at a slow pace. The drop in urban childbearing is the principle reason for the overall decline in fertility levels in the country. The Total Fertility Rate (TFR) for rural areas estimated at 7.3 is higher the 5.9 estimated for is the highest in the country.

Infant mortality rate has declined by about 18 percent in the period 1990-2000. However, the IMR is still high, with about one in every eight infants dying before reaching their first birthday. Similarly, childhood mortality

rate between has also declined by 21 percent in the period 1990 and 2000, from 131 to 103. Under-five mortality, however has recorded an increase of 12 percent in the period 1990 to 2000, with about one in four under-five children died before their fifth birthday. The decline in the IMR has led to an increase in the Life Expectancy at birth from 40 years in 1990 to 45.1 years in the year 2000. Adult survivorship levels have significantly deteriorated or increased between 1990-2000. Males have higher chances of surviving than females.

The disabled population forms 3.4 percent of total population of Luapula province. The proportion of the disabled is higher in rural than urban areas.

Physical disability is the most common type of disability affecting about 38 percent of the disabled population, while ex-mental is the least common type of disability accounting for five percent of the disabled population. Disease is the most common cause of disability reported by about 41 percent of the disabled population. About 41 percent of the disabled have never been to school and another 45 percent have completed primary education. Amongst all categories of disability, the largest proportions of the disabled are self-employed. The least proportion is among the employers. The most common occupation among the disabled is agriculture, which takes up about 88.5 percent.

Chapter1

BACKGROUND

1.1   Geography

Luapula Province has a landmass of 51,000 square kilometres. The province forms boundary with the Democratic Republic of Congo (DRC) on its southern, southwestern and northern sides, with Northern Province on the eastern side and Central Province on the southeastern side.   Administratively, the province is divided into seven districts, namely, Chienge, Kawambwa, Mansa, Milenge, Mwense, Nchelenge, and Samfya. Mansa is the Provincial Headquarters of the province.

The province has a lot of outstanding geographical features such as dambos, swamps, rivers and escarpment foothills. Numerous river tributaries cut the plateau flowing throughout the year and forming impressive waterfalls as they pass over the escarpment to the floor of the lower valley. Besides the two lakes (Lake Mweru and Lake Bangweulu), the province also has two waterfalls. Luapula River is the major river in the province.

Luapula has plateau soils, basin soils, red soils, red earth soils, acacia soils and escarpment soils. Three seasons can be distinguished in the province, which are: cool-dry season, hot dry season and the hot-wet season. The mean annual rainfall is over 1250 milimeters. The temperature ranges from 16°C in July to 24°C in October.

1.2   Population

The population of Luapula Province increased from 335,584 in 1969, 420,966 in 1980, and 564,493 in 1990 to 729,828 in 2000. This represents an increase in the annual growth rate to 3.2 during 1990-2000 intercensal periods from 2.1 and 2.2 in 1969 -1980 and 1980-1990 intercensal periods, respectively. This is the opposite of what is obtaining at the National Level where population growth rate was decreasing through the succeeding intercensal periods. Luapula's population growth rate is above that of the national average of 2.5 percent (1990-2000).

The provincial average population density has also increased, from 6.6 in 1969, 8.3 in 1980, and 11.6 in 1990 to 15.3 per square kilometre in 2000. This almost compares with the population density for the whole country, which stands at 13.1 in 2000. Currently, the province accounts for eight percent of the total population of the country an increase from 7.1 percent in 1990.

At District Level, Mansa accounts for the largest share of the population (23 percent) while Milenge one of the newest districts accounts for the smallest (4 percent). The population density ranges from 3 persons per square kilometres for Milenge District to 27 persons per square kilometres for Nchelenge. District (also a new district) (refer to Table 1.1 for details).

Table 1.1: Population Percentage Distribution Area, Density, and Annual Growth Rate by District, 1969, 1980, 1990 and 2000

District	Population				Percentage Distribution				Area (Sq.Km)	Density				Growth Rate (%)		
	1969	1980	1990	2000	1969	1980	1990	2000		1969	1980	1990	2000	1969-80	1980-90	1990-00
Chienge	-	-	47,290	83,824	-	-	8.4	10.8	3,965	-	-	11.9	21.1	-	-	5.9
Kawambwa	54,706	63,304	85,307	102,503	16.3	15	15.1	13.2	9,303	2.8	3.3	9.2	11.0	1.3	2.7	1.9
Mansa	80,342	111,427	132,500	179,749	23.9	26.5	23.5	23.2	9,900	5	6.9	13.4	18.2	3	2.5	3.1
Milenge	-	-	20,045	28,790	-	-	3.6	3.7	6,261	-	-	3.2	4.6	-	-	3.7
Mwense	52,974	65,552	86,326	105,759	15.8	15.6	15.3	13.6	6,718	7.9	9.8	12.8	15.7	2	2.1	2.1
Nchelenge	56,755	80,233	72,761	111,119	16.9	19.1	12.9	14.3	4,090	7.1	10	17.8	27.2	3.2	3.4	4.3
Samfya	90,807	100,440	120,264	163,609	27.1	23.8	21.3	21.1	10,329	8.8	9.7	11.6	15.8	0.9	0.7	3.1
Luapula	335,584	420,966	564,493	775,353	100	100	100	100	50,567	6.6	8.3	11.6	15.3	2.1	2.2	3.2
Zambia	4,056,995	5,661,801	7,759,117	9,885,591	100	100	100	100	752,612	5.4	7.5	10.3	13.1	3.1	2.7	2.5

Sources: CSO, 1969, 1980, 1990,2000 Census of Population and Housing

1.3   Economy

Fishing and farming are the main economic activities of the population in Luapula Province. The fish industry is growing on Lake Mweru while fish farming also goes on at subsistence level. An estimated 60 percent of the people in the province are directly or indirectly involved in the fishing industry. Cassava is the main food crop grown. The province has also diversified into maize production due to reliable rainfall pattern. Other crops include millet, tobacco and groundnuts.

Out of the total area of the province (50,567) 4,505,600 hectors or 69.7 percent is wooded area. An estimated 8.2 percent or 413,037 hectares constitute forest reserves and plantations. However, the resource is depleting due to poor management and inappropriate utilization practices. The rubber plantation trials in Nchelenge and Kawambwa have reached advanced stage. Assessments done in 2000 and 2001 show that high quality timber can be produced in Luapula on a commercial scale. Bee keeping activities are on going in Mansa and Kawambwa. Current production of honey is 3 tonnes and 260 farmers are involved.

1.4   Tourism

The province has a lot of unexploited tourism. The beach on Lake Bangweulu in the district of Samfya has attracted foreign investors in the field of tourism. Besides the two lakes, the province also has two waterfalls. The Bangweulu Game Management is home to black lechwes in Samfya District. There is also Lusenga Plain National Park. Other tourist attractions are Mutomboko Ceremony in Kawambwa and Kwanga Ceremony in Samfya.

1.5   Education

The province has 360 government schools (basic), 18 high schools, one Teacher Training College and Trades Training Institute. The total enrolment for basic schools (grade 1-7) increased from 109,703 in 1997 to 127,430 in 2000 and dropped to 123,843 in 2001 representing a 3.7 percent decline (MOE 2003).

1.6   Health

The province has six hospitals out of which two are government owned (Mansa and Kawambwa) and the rest are mission hospitals. There are also two nursing schools. Mansa General Hospital is the only Level II Hospital and it serves as the only major referral hospital in the province. The province has 106 health centres mostly owned by the government.

Table 1.2:   Number of Health Facilities by District , Luapula Province, 2004

District	Government	Mission	Private	Total	Beds	Cots
Chienge	6	-	-	6	79	5
Kawambwa	19	1	1	21	242	9
Mansa	26	-	2	28	448	117

Milenge	3	2	1	6	64	6
Mwense	17	2	1	20	302	42
Nchelenge	8	1	-	9	230	51
Samfya	19	3	-	22	347	34
Total	98	9	5	112	1,712	264

Source: Ministry of Health, 2004.

1.7   HIV/AIDS

HIV/AIDS is prevalent in the province. According to the 2001 ZDHS estimates, the HIV prevalence level is 11 percent for the adult population aged between 15 and 49 years (refer to Table 1.3 for details).

Table 1.3:   HIV Prevalence Among Men and Women Aged 15-49 Years by Province

Province	Percent Positive			Number Tested
	Men	Women	Total	
Central	13.4	16.8	15.3	306
Copperbelt	17.3	22.1	19.9	775
Eastern	11.0	16.1	13.7	471
Luapula	8.6	13.3	11.2	299
Lusaka	18.7	25.0	22.0	559
Northern	6.2	10.0	8.3	517
North-Western	9.5	8.8	9.2	166
Southern	14.6	20.2	17.6	408
Western	8.3	16.9	13.1	306
Zambia	12.9	17.8	15.6	3,807

Source: CSO, CboH and ORC Macro: 2001/2002 ZDHS, February 2003, Page 236

Chapter 2

EVALUATION OF COVERAGE AND CONTENT ERRORS

2.1   Introduction

Data evaluation is the assessment of the quality of data. In evaluating the data, sometimes it is adjusted in order to ensure that it is of acceptable standard. The adjustment is done on the basis of the responses to the following questions that were asked during the Census:

- Sex of members of household
- Age (in completed years) of members of household
- Residential status of household
- Children still living (with household or elsewhere), and
- Children dead

2.2   Concepts and Definitions

Listed below are the definitions of the major concepts used in this chapter.

- **Census of Population:** Complete enumeration of persons during a specified period in a demarcated geographical area.

- **Child-Woman Ratio:** Number of children aged 0-4 years in a population to every 1,000 women aged 15-49 years in the same population.

- **Content Error:** Mistake made in the recorded information in the census questionnaire either by the respondent or by the interviewer.

- **Coverage Error:** Under or over-enumeration in a population census due to either omission or duplication.

- De facto Population: **This refers to the usual household members present and visitors who spent the census night at any given household. This however excludes:**

    (a)   Foreign diplomatic personnel accredited to Zambia; and

    (b) Zambian nationals accredited to foreign embassies and their family members who live with them abroad and, Zambian migrant workers and students in foreign countries who were not in the country at the time of the census.

- De jure Population: **This refers to usual household members present and usual household members temporarily absent at the time of the census. These include institutional populations in places such as hospitals/health centers, prisons and academic institutions (universities, colleges and boarding schools).**

    Thus, the de facto and the de jure population can be diagrammatically represented as follows:
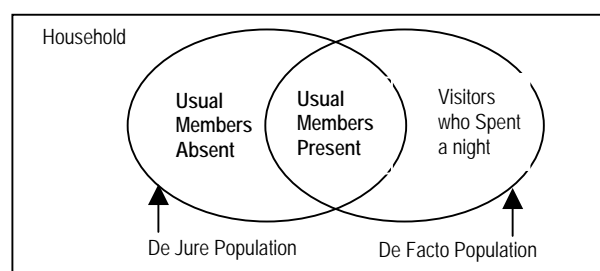
- **Dependency Ratio:** Ratio of children aged 0-14 and persons aged 65 years and older, per 100 persons in the age-group 15-64 years old.

- **Digit Preference:** Reporting of age by respondents often ending in certain preferred digits. This results in heaping of population in ages ending with certain digits.

- **Evaluation of Census Data:** Measurement of the quality of Census data.

- **Sex-ratio:** Number of males per 100 females in a population.

2.3   Type of Population used in Evaluating the Coverage and Content Errors

In the analysis of the coverage and content errors, the de facto population has been used. This is so because we would like to analyse the information obtained from the people who gave us their details and not those we did not talk to or collect the information from.

2.4   Methods of Evaluation

During enumeration, checks and controls are instituted to minimise errors in the census. Despite instituting data control measures, there are usually several errors in the census data. For instance, some people may be completely omitted, others may be enumerated more than once, or some characteristics of an individual such as age, sex, fertility and economic activity of the canvassed individual may be incorrectly reported or tabulated. In general, two approaches are used to evaluate the quality of data, direct and indirect methods.

The direct method basically involves the carrying out of what is referred to as a Post Enumeration Survey (PES). In a PES, a sample of households is revisited after the census and data are again collected but on a smaller scale and later compared with that collected during the actual census. The matching process of the two sets of data can then be used to evaluate the quality of the census data. With regard to the 2000 Census of Population and Housing, the PES was carried out between February and March 2001. PES information is, however, only available for use at National Level, and therefore, will not be used to evaluate data quality at the Provincial Level.

Indirect methods usually employ the comparison of data using both internal and external consistency checks. Internal consistency checks compare relationships of data within the same census data, whereas external consistency checks compare census data with data generated from other sources. For instance, one can compare data on education obtained during a census with administrative data maintained by the Ministry of Education.

2.4.1   Coverage Error

This type of error is made when omission or duplication resulting in under- or over-enumeration occurs. Some factors, which contribute to this, include errors arising from inaccessibility and co-operation with respondents. Difficulties in communication and lack of proper boundary descriptions also contribute to coverage errors. Examining certain statistics such as growth rate, age composition, child-woman ratio and dependency ratio usually highlights coverage errors.

2.4.1.1 Age Composition

Table 2.1 shows the age composition of the population of Luapula Province for 1980, 1990 and 2000 Censuses.

Table 2.1: Population Distribution by Broad Age Groups, Luapula Province, 1980, 1990, and 2000

Age Group	Population					
	1980	Percent	1990	Percent	2000	Percent
0-14	212,823	50.6	238,557	45.4	346,465	47.5
15-64	195,986	46.6	271,391	51.7	362,789	49.7
65+	12,158	2.9	15,212	2.9	20,574	2.8
Total	420,966	100.0	525,160	100.0	729,828	100.0

Sources: CSO, 1980, 1990, and 2000 Censuses of Population and Housing

The proportion of children 0-14 years dropped from 50.6 percent in 1980 to 45.4 percent in 1990 and rose to 47.5 percent in 2000. There was a reduction in the proportion of adults (15-64) from 51.7 percent in 1990 to 49.7 percent in 2000. There was no change in the proportion of persons aged 65 years or older in 1980 and 1990, but a slight decline in 2000 (see Table2.1 for details).

Generally, there is still a bigger proportion of the population in the age group 0-14 and 15-64 for all the three censuses. A shift in the population from older age groups (15-64 and 65+) to the young age group (0-14) was observed between 1990 and 2000. The population distribution shows that the quality of age data by broad age groups is acceptable.

2.4.1.2 Child-Woman Ratio

The child-woman ratio dropped from 454.3 in 1980 to 367.5 in 1990 and increased to 817.0 per 1000 women age 15-49 years in 2000. The increase in the proportion of the population 0-14 between 1990 and 2000 and the increase in the child-woman ratio (see Figure 2.1) could have been caused by the decline in child mortality.

Figure 2.1: Child-Woman Ratio, Luapula Province, 1980, 1990, and 2000
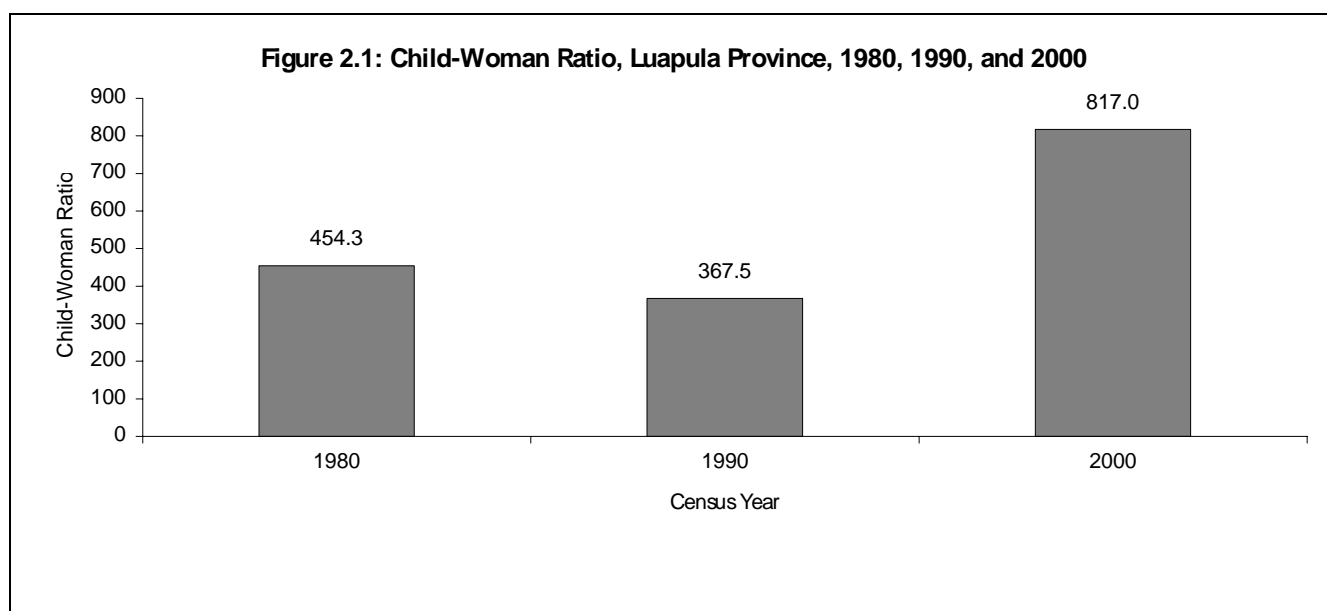
Sources: CSO, 1980, 1990, and 2000 Censuses of Population and Housing

2.4.1.3 Dependency Ratio

The overall dependency ratio for the population of Luapula Province for 1980, 1990, and 2000 Censuses were 114.8, 93.5 and 101.2 persons, respectively, per 100 persons in the age group 15-64 years. This means that for

every 100 persons in the age range 15-64 years in 2000, there were 101.2 persons in the age groups 0-14 and 65 years or older. The aged dependency ratio dropped from 6.2 in 1980 to 5.6 in 1990 but increased to 5.7 in 2000. The increase in dependency ratios between 1990 and 2000 could be attributed to a decrease in the proportion of the population aged 15-64 years (See Figure 2.2 for details).

Figure 2.2: Dependency Ratio, Luapula Province, 1980, 1990, and 2000
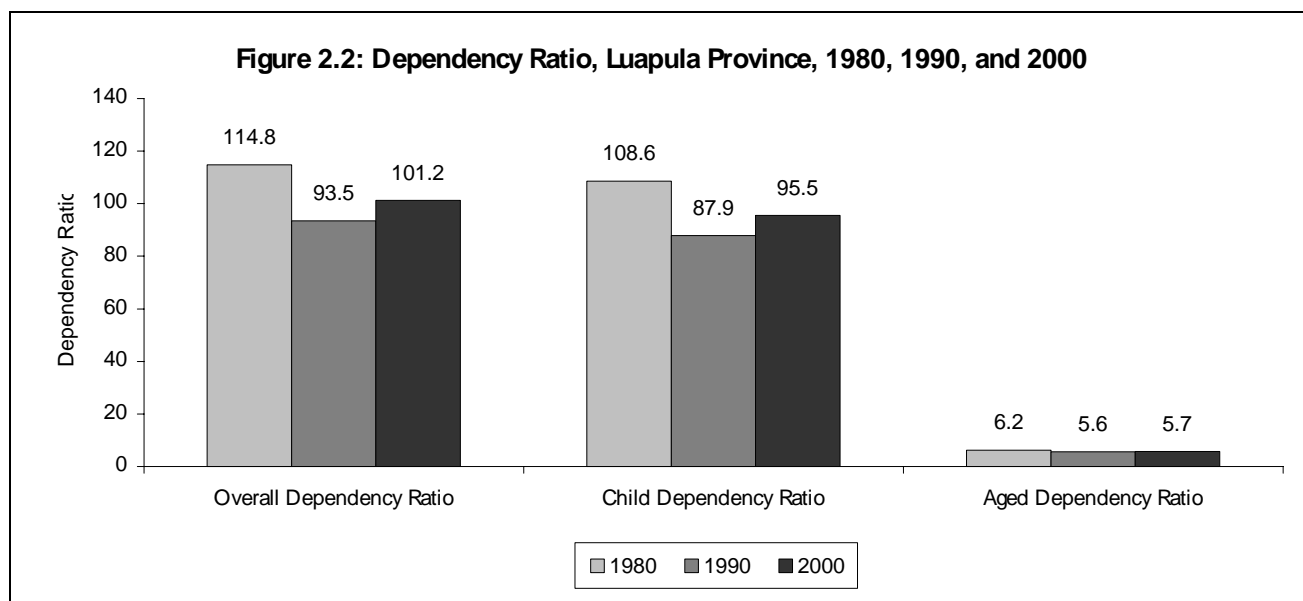
Sources: CSO, 1980, 1990, and 2000 Censuses of Population and Housing

2.5   Content Error

Content errors refer to instances where characteristics such as age, sex, marital status, and economic activity of a person enumerated in a census or survey are incorrectly reported or tabulated. Content errors are caused by either a respondent giving a wrong response or by the enumerator recording an incorrect response. For instance, a question about age in a census can be solicited by asking either the "date of birth" or "completed number of years". These two questions may yield different ages. During the 2000 Census, age was recorded in completed years. Some content errors are being estimated by the use of the Myers' Index, Sex-ratios, Age-ratios and Survival-ratios.

2.5.1   Digit Preference

Digit preference is the tendency of respondents to report ages ending with certain digits in preference to other digits. Digit preference is most pronounced among population subgroups having a low educational status. The causes and patterns of digit preference vary from one culture to another. Age misreporting, net under-enumeration and non-reporting or misclassification of age contributes to heaping (Shryock, et.al. 1976).

Investigation of age heaping in Luapula Province is done through the calculation of the Myers' Index. This index has been calculated for 1980,1990 and 2000 Censuses data using the United Nations Population Analysis Software (PAS) for single age data (SINGAGE) and is presented in Figure 2.3. A high Myers' Index implies poor age reporting whereas a low Myers' Index indicates good age reporting. The maximum value of Myers' Index is 90 and the minimum value is 0.

Figure 2.3: Myers' Index by Residence, Luapula Province, 1980, 1990, and 2000
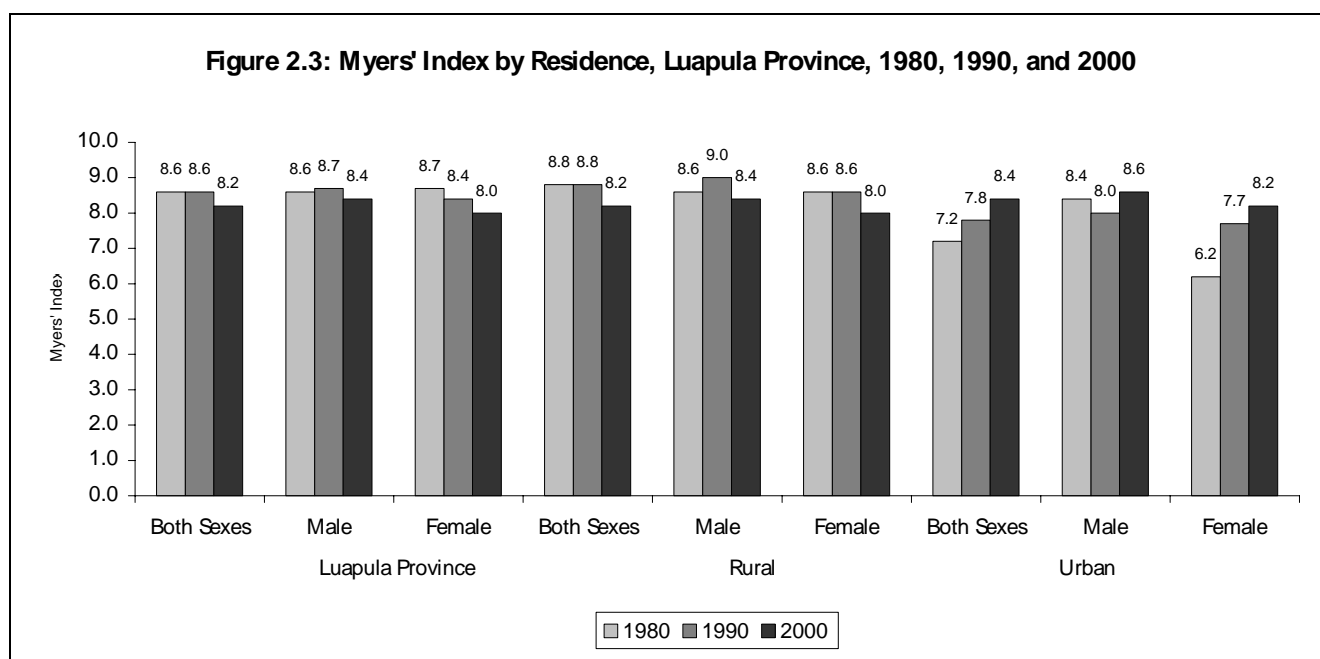
Sources: CSO, 1980, 1990, and 2000 Censuses of Population and Housing

Figure 2.3 and Table 2.2 show the results of digit preference in age data for Luapula Province using Myers' Index. Results from Figure 2.3 show that the index for females is higher than that of males in 1980 but the reverse is true for 1990 and 2000. Myers' Index for males rose slightly from 8.6 in 1980 to 8.7 in 1990 and later dropped to 8.4 in 2000 while that of females declined from 8.7 in 1980 to 8.4 in 1990 and to 8.0 in 2000. In as far as the Myers' Index is concerned, Luapula Province experienced a decline between 1990 and 2000 for the province as a whole and in rural areas except for urban areas. The downward trend in the Myers' Index shows an improvement in age data reporting in rural areas while the increase in the Myers' Index in urban areas indicates the deterioration of the quality of the age data. Generally, the Index shows that age reporting was better in rural areas due to the small Index observed than in urban areas in 2000. Results from Figure 2.3 show that age was more accurately reported for females than for males in 1990 and 2000 but it was opposite in 1980. Overall, in all the three censuses, the index is less than 10 implying that age reporting has been good.

Table 2.2: Most Preferred Digits, Luapula Province, 1980, 1990, and 2000

Residence		Most Preferred Digits and Census Year		
	Sex	1980	1990	2000
Luapula	Both Sexes	0, 8, 2	0, 8, 2	0, 8,5
	Male	0, 8, 2	0, 8,5 2	0, 8, 5,2
	Female	0, 8, 2	0, 8, 2	0, 8
Rural	Both Sexes	0, 8, 2	0, 8, 2	0, 8, 5
	Male	0, 8,6, 2	0, 8,5, 2	0, 8, 5,2
	Female	0, 8, 2	0, 8, 2	0, 8
Urban	Both Sexes	0, 8, 2	0, 8, 2	0, 8,5, 2
	Male	0, 8,5, 2	0, 8,5, 2	0, 8,5
	Female	0, 8, 2	0, 8, 2	0, 8,5,2

Sources: CSO, 1980, 1990, and 2000 Censuses of Population and Housing

Table 2.2 shows the most preferred digits in decreasing order of preference for the three censuses. This shows that there was age heaping in Luapula Province. Preference for digits 0, 2, and 8 among males was observed in all the three censuses with 5 being preferred in 1990 and 2000.

Age misreporting errors are also presented in Figures 2.4 to 2.9. The graphs provide a quick inspection of the nature of the data. It is usual to find relative high percentages recorded on ages ending in 0,5 and even numbers. The peaks on the curves indicate the most preferred ages in reporting while the troughs indicate the under reported ages. A comparison of Figures 2.4, 2.5, and 2.6 shows that the peaks and troughs are higher for ages reported below age 60 in all census years. There is no noticeable difference in the height of the peaks and troughs for ages reported after age 60 in 1980, 1990, and 2000 Censuses.

Figure 2.4: Population Distribution in Single Years, Luapula Province , 1980
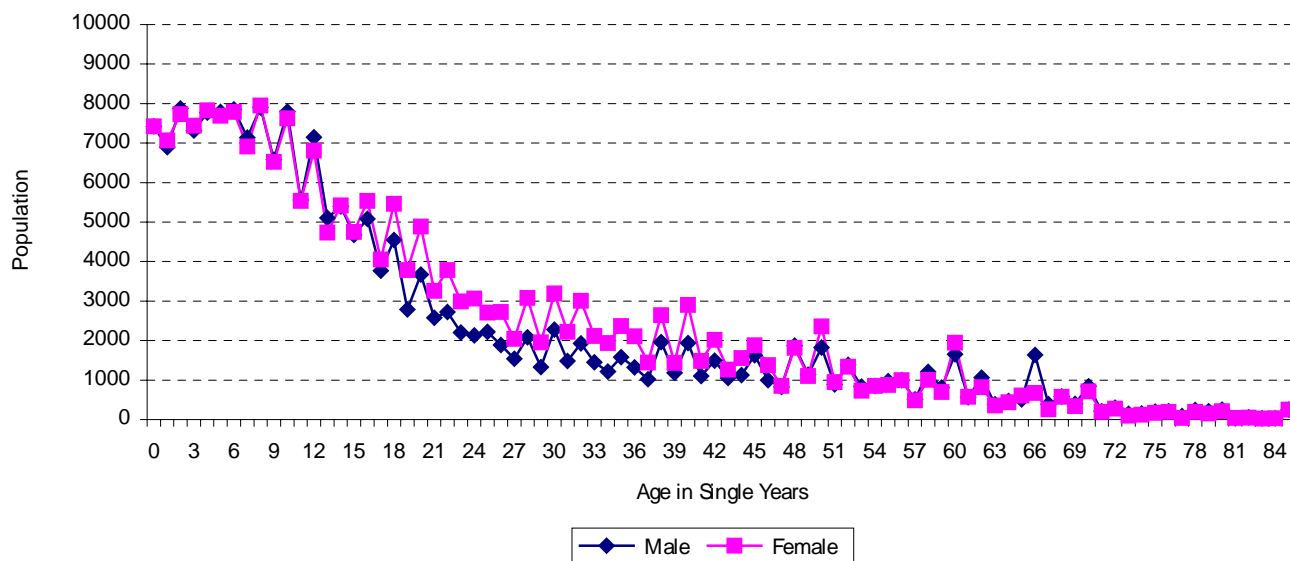
Source: CSO, 1980 Census of Population and Housing

Figure 2.5: Population Distribution in Single Years, Luapula Province , 1990
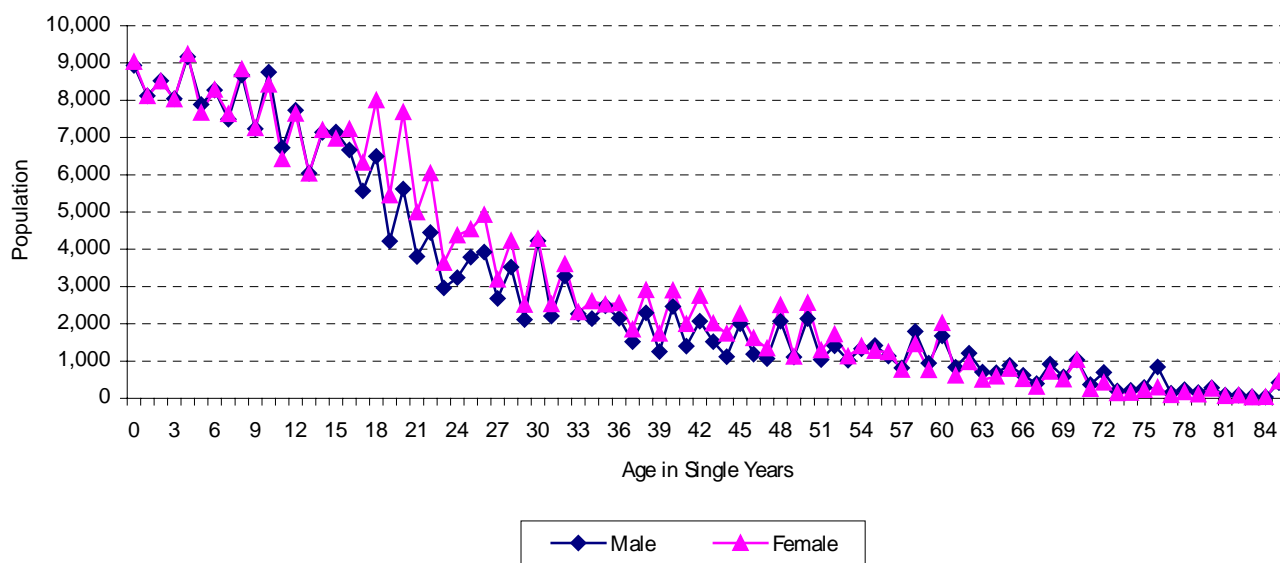
Source: CSO, 1990 Census of Population and Housing

Figure 2.6: Population Distribution in Single Years, Luapula Province , 2000
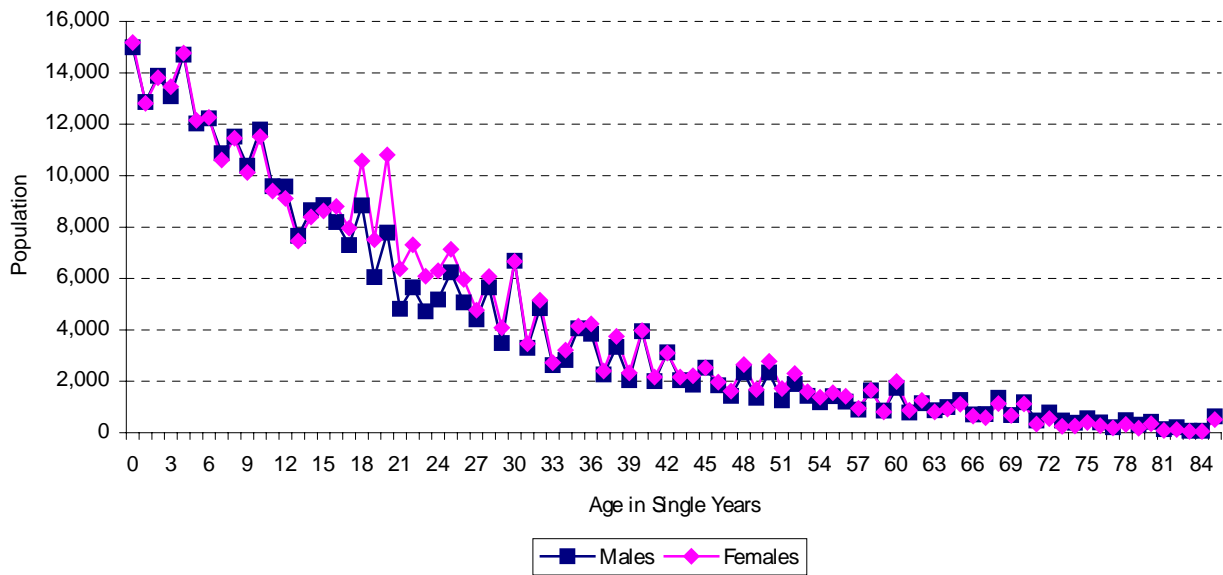
Source: CSO, 2000 Census of Population and Housing

The smoothness of the curves in Figures 2.7 to 2.9 show that grouping single year age data into five-year age groups improves irregularities in age data arising from age misreporting.

Figure 2.7: Population Distribution by 5-Year Age Group, Luapula Province , 1980
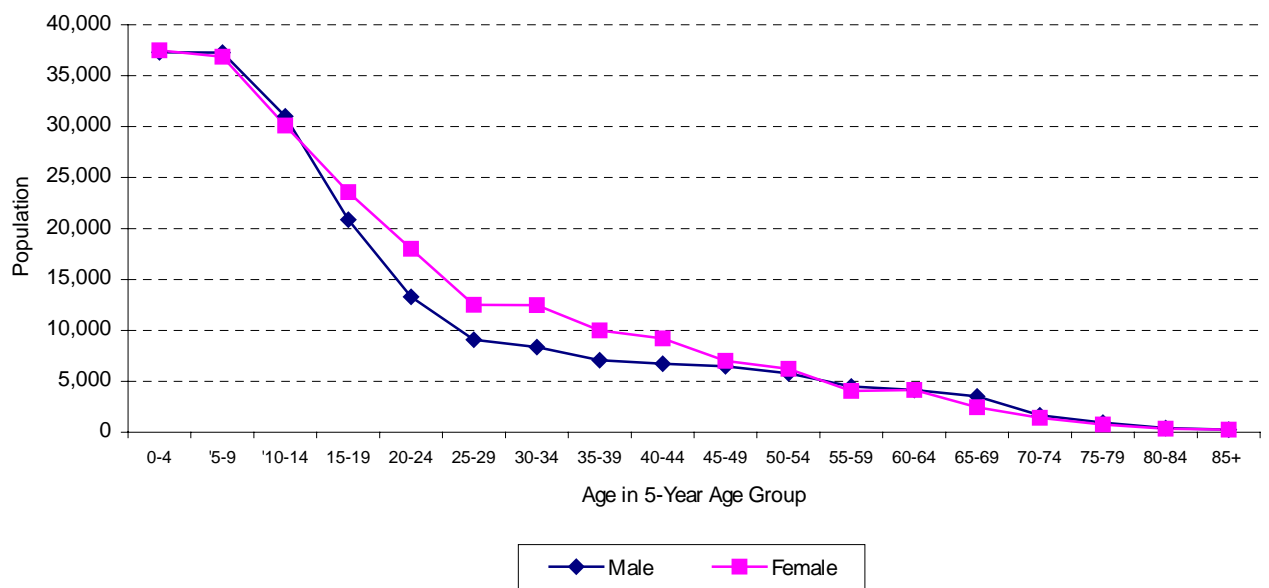
Source: CSO, 1980, Census of Population and Housing

Figure 2.8: Population Distribution by 5-Year Age Group, Luapula Province , 1990
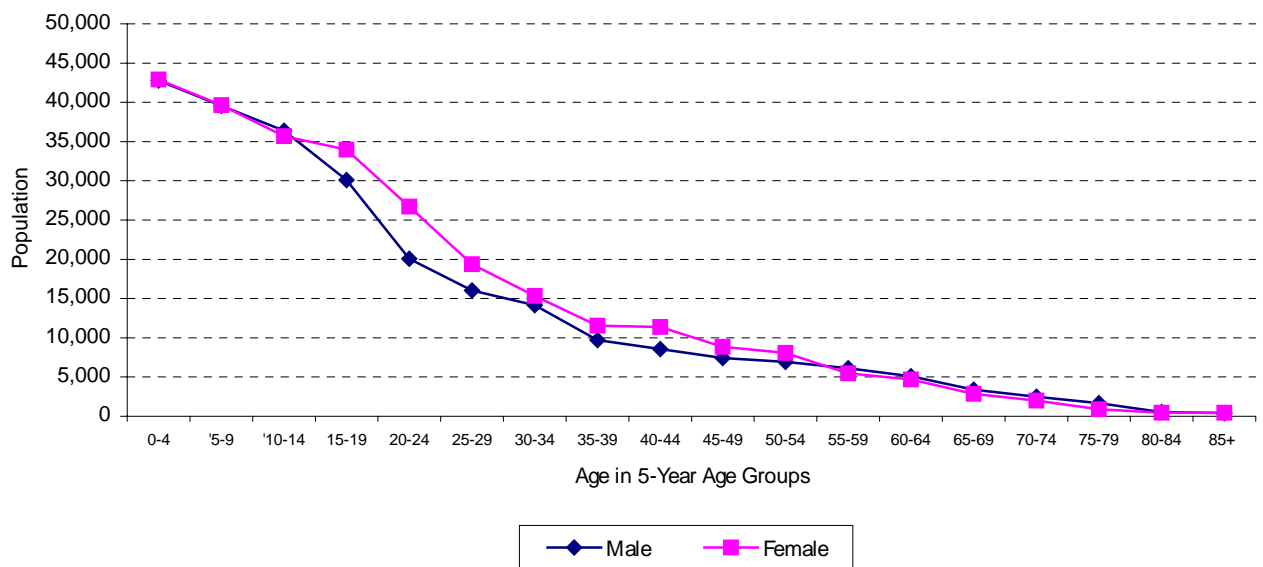
Source: CSO, 1990, Census of Population and Housing

Figure 2.9: Population Distribution by 5-Year Age Group, Luapula Province , 2000
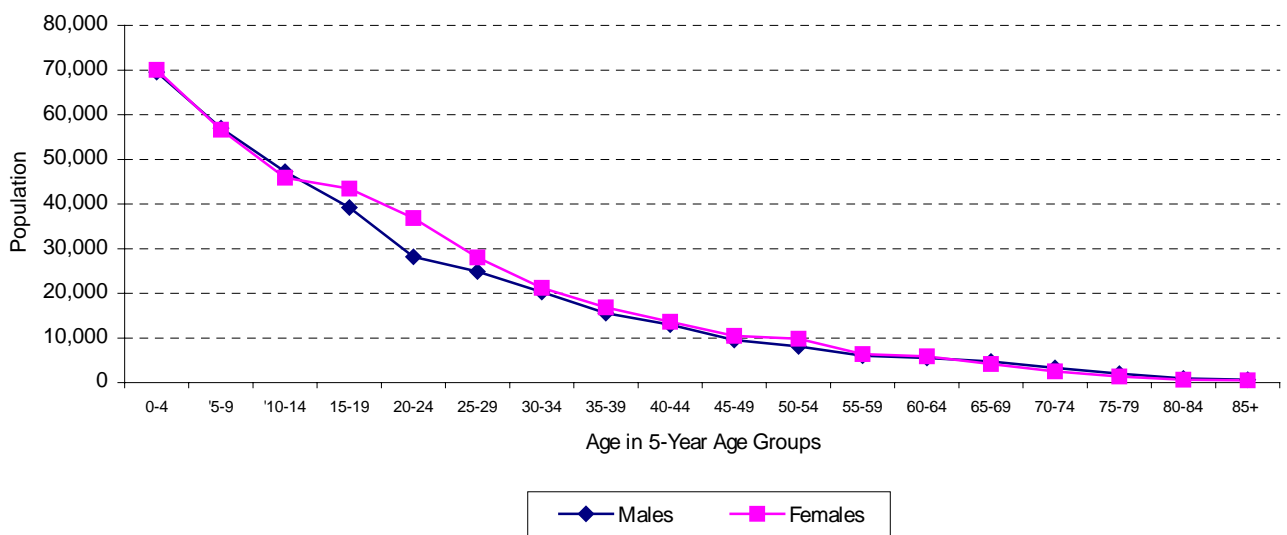
Source: CSO, 2000 Census of Population and Housing

2.5.2   Sex-ratio

A sex-ratio is the number of males per 100 females. A sex-ratio of more than 100 shows that there are more females than males and a sex-ratio of 100 indicates an equal number of males and females. In the absence of big fluctuations in births, deaths and migration, the sex-ratios are expected to be high at infant ages because the sex-ratio at birth is favourable to males. After early childhood, the ratios are expected to decline continuously to reach very low levels at the highest ages when female mortality is much lower than the male mortality.

In a natural process where data on population is accurately recorded, the sex-ratios by age group are expected to start from about 102 to 106 at birth depending on the cultural set up being examined and gradually decline progressively until the lowest is recorded in the oldest age group. Although more males than females are born, there is sex difference in mortality as the population grows older such that males die off faster than females and this leads to the reversal of the sex-ratio from above 102 at birth to below 100 and sometimes even below 90 in older age groups. Departure from this expected norm suggest errors in the data.

Looking at the pattern of sex-ratios in Table 2.3 assesses manifestation of errors of omission and age misreporting. The overall sex-ratio for Luapula Province using the 1980, 1990, and 2000 Census data shows an increase from 91.1 to 92.9 and to 94.9 males per 100 females, respectively, see Figure 2.10. The pattern of sex-ratios cannot only be attributed to errors in the data but also to high mortality which could be due to HIV/AIDS as well as due to the age-sex selective migration.

Figure 2.10: Sex Ratios by Residence, Luapula Province, 1980, 1990, and 2000
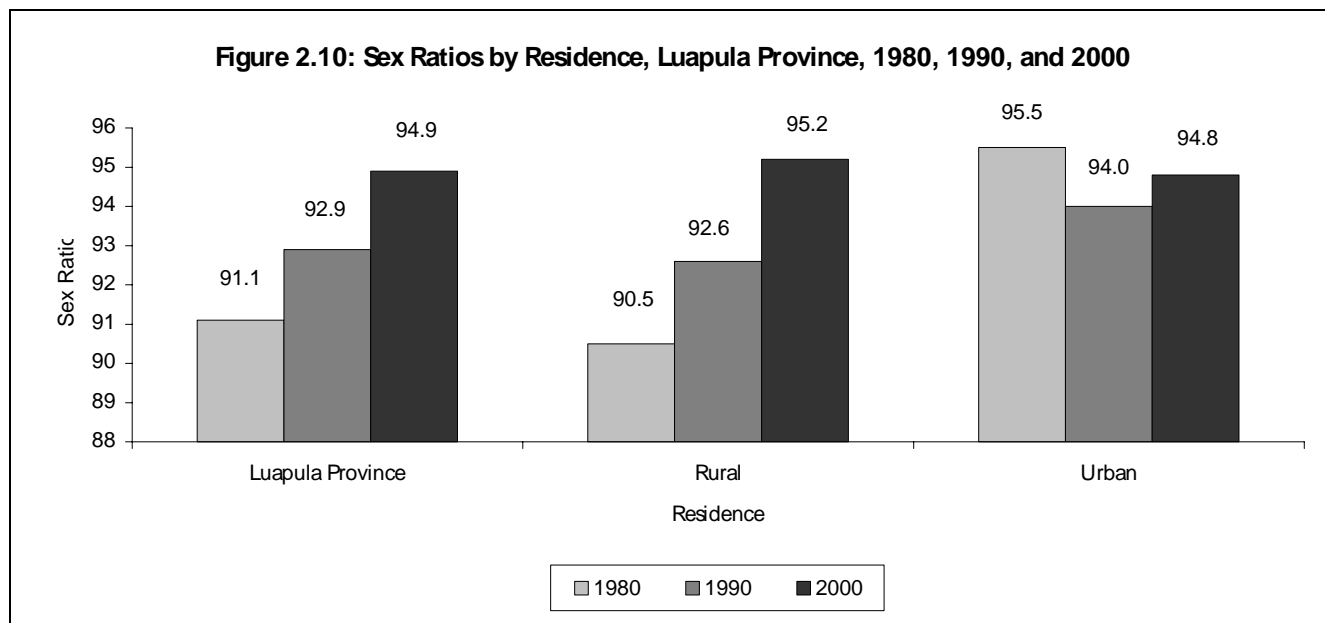
Sources: CSO, 1980, 1990, and 2000 Census of Population and Housing

An analysis of age-specific sex-ratios for 1990 reveals a deficit of males in age range 0-9 and 15-54 whereas that for 2000 reveals a deficit of males in the age range 0-4 and 20-64 years. There are many possible factors to explain this, including high male mortality. The tendency by men to over estimate their age could have shifted men into older ages while the tendency by women to under-state their age could have shifted them into younger ages, hence, causing errors in age and sex data.

The sex-ratios are higher than 100 for age groups 10-14, 55-59, 60-64, 65-69, 70-74, 75-79, and 80-84 years in 1990 and age groups 5-9, 10-14, 65-69, 70-74, 75-79, 80-84, and 85+ years in 2000. This means that these age groups (Table 2.3 and Figure 2.11) have more males than females.

Figure 2.11: Population Distribution by Sex, Luapula Province, 1980, 1990 and 2000

	0-4.	5-9.	10-14.	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
1980	98.9	100.6	102.4	88	73.6	72.1	66.5	70.5	72.4	91.6	92.6	110.4	99.4	142.1	117.3	127.4	112	98.3
1990	99.6	99.6	101.8	88.5	75	82.6	92.1	83.7	75.2	84	85.6	111.2	108.8	119.5	126	187.8	114	91.1
2000	99.3	100.7	103	90.5	76.7	88.9	95.3	92.3	94.8	90.7	82.2	93.2	93.1	112.3	128.9	143.2	133.9	123.3

Five Year Age Group
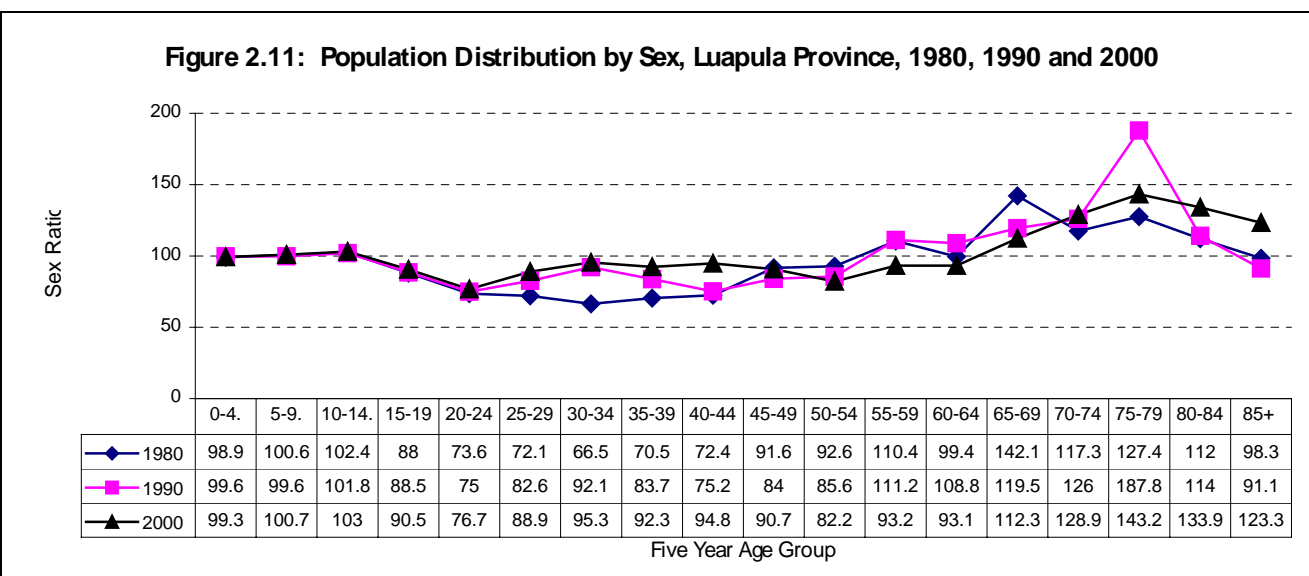
Sources: CSO, 1980, 1990, and 2000 Census of Population and Housing

Table 2.3: Sex ratios by Residence, Luapula Province 1980,1990 and 2000

Age Group	1980			1990			2000		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
0-4	98.9	99.0	98.6	99.6	99.5	99.7	99.3	98.9	102.3
5-9	100.6	100.6	100.2	99.6	99.6	99.3	100.7	101.2	99.3
10-14	102.4	103.8	94.2	101.8	102.7	97.2	103.0	104.7	96.7
15-19	88.0	87.8	89.4	88.5	88.2	89.8	90.5	89.9	91.8
20-24	73.6	74.2	70.1	75.0	75.3	73.7	76.7	76.1	78.1
25-29	72.1	70.3	81.7	82.6	82.5	82.8	88.9	87.9	92.2
30-34	66.5	62.2	96.6	92.1	92.9	88.0	95.3	95.8	95.4
35-39	70.5	66.9	97.0	83.7	81.6	95.4	92.3	92.5	94.5
40-44	72.4	69.4	96.7	75.2	71.6	98.8	94.8	96.1	89.9
45-49	91.6	87.5	132.5	84.0	80.8	105.7	90.7	90.1	101.1
50-54	92.6	88.3	145.9	85.6	82.9	107.7	82.2	81.6	89.6
55-59	110.4	106.6	164.4	111.2	108.9	131.0	93.2	93.2	99.6
60-64	99.4	98.1	117.6	108.8	106.3	136.2	93.1	94.1	91.8
65-69	142.1	144.0	118.1	119.5	119.2	122.2	112.3	114.1	109.2
70-74	117.3	117.9	106.2	126.0	126.8	118.4	128.9	131.8	125.6
75-79	127.4	125.9	149.1	187.8	195.4	125.2	143.2	158.2	112.5
80-84	112.0	112.3	106.0	114.0	118.8	80.8	133.9	141.4	122.2
85+	98.3	97.8	108.5	91.1	97.1	65.2	123.3	132.9	73.7
Total	91.1	90.5	95.5	92.9	92.6	94.0	94.9	95.2	94.8

Sources: CSO, 1980, 1990, and 2000 Census of Population and Housing

2.5.3 Age-ratio

An age-ratio may be defined as the ratio of the population in a given age group to one-third of the sum of the populations in the age group itself, the preceding and the following age groups, times 100 (Shryock et al, 1976). In normal circumstances, when there are no major changes in fertility, mortality or migration, the age-ratios do not deviate much from 100, hence, any substantial deviation is explained in terms of age misreporting. Results from the 1980 Census show that age groups with age-ratios less than 100 in 1980 for males are 15-19, 20-29, 35-39,40-44 and 55-59 and for females, the age groups are 10-24, 35-39, 45-59 and 65-69. In 1990, age groups with ratios less than 100 are 5-9, 20-29, 35-49,50-54 and 65-69 for males. For females, the same pattern is reflected except for the age group 60-64. In 2000 the age groups with ratios less than 100 are 5-14,20-24,35-39,45-49 and 55-59 for males. For females 5-14,25-39,45-49,55-59 and 65-69. The substantial deviations of the age-ratios are suggestive distortions arising from age misreporting. Results from Tables 2.4,2.5 and 2.6 and Figure 2.12, suggest that reporting of age is less satisfactory for females than males. Having a higher average age-ratio deviation for females than males evidences this.

Figure 2.12: Population Distribution by Age Ratios, Luapula Province, 2000

	0-4.	5-9.	10-14.	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+
Male		97.6	98.2	104.1	88	102.6	100.2	93.8	103.3	90.3	104.2	88.4	102.8	107.2		
Female		97.6	91.8	105	103.1	96.5	94.7	96.6	100	89.1	116.2	81.8	111.2	99.1		
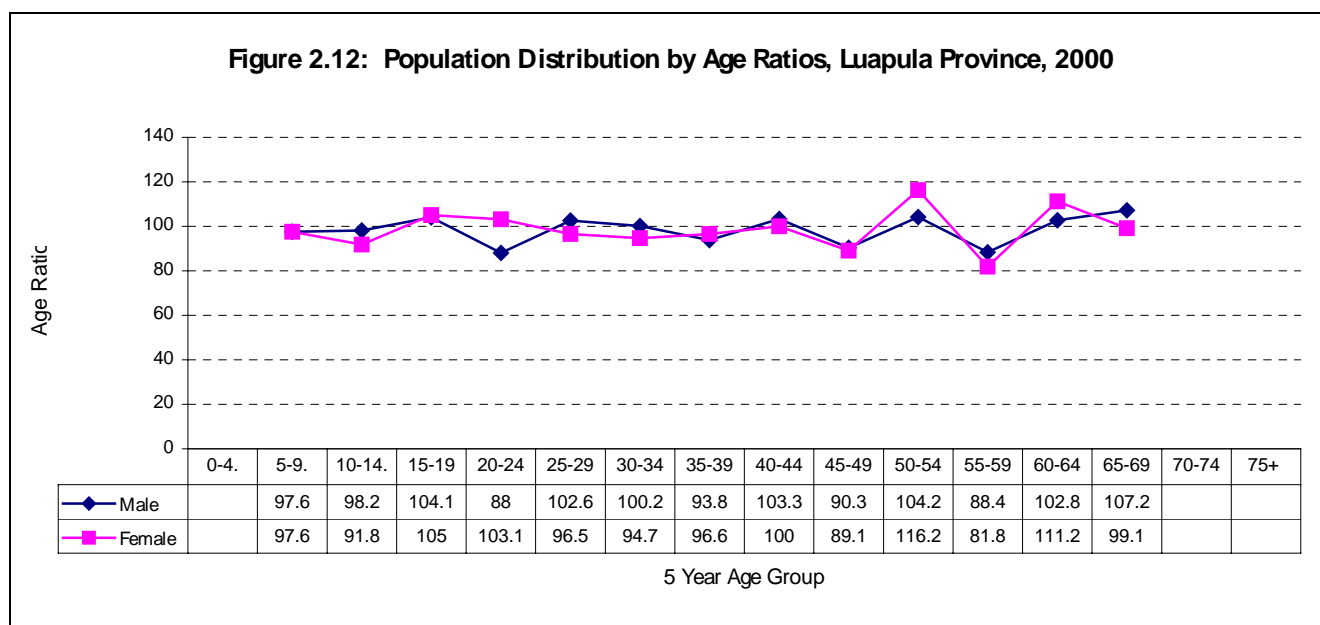
Sources: CSO, 1980, 1990, and 2000 Census of Population and Housing

The Age Accuracy Index reduced from 53.2 in 1980 to 36.5 in 1990 but later reduced slightly to 36.3 in 2000. The United Nations define age data as "Accurate, Inaccurate and Highly Inaccurate" if the age accuracy index lies below 20, between 20-40, and 40 and above, respectively. In as far as the United Nations Age-Sex Accuracy Index is concerned, the 1980 age data were "Highly Inaccurate" whereas the 1990 and 2000 data were "Inaccurate". However, the 1990 age data showed some improvement over the 1980 age data while the 2000 Census data shows some slight improvement over the 1990 Census age data (Refer to Figure 2.12 and Tables 2.4, 2.5, and 2.6 for details).

Table 2.4:   Population by Five Year Age Group, Sex, Age-ratio and the Age-Sex Accuracy Index, Luapula Province, 1980

Age Group	Population		Age-ratio		Deviation from 100		Sex-ratio	Difference
	Male	Female	Male	Female	Male	Female		
0-4	37,676	38,080	-	-	-	-	98.9	
5-9	37,661	37,450	109.1	109.1	9.1	9.1	100.6	1.6
10-14	31,338	30,590	99.6	99.6	6.7	-0.4	102.4	1.9
15-19	21,077	23,946	98.0	98.0	-5.9	-2.0	88.0	-14.4
20-24	13,445	18,277	99.7	99.7	-11.1	-0.3	73.6	-14.5
25-29	9,161	12,701	82.1	82.1	-16.2	-17.9	72.1	-1.4
30-34	8,431	12,669	110.9	110.9	3.4	10.9	66.5	-5.6
35-39	7,145	10,138	92.0	92.0	-6.1	-8.0	70.5	3.9
40-44	6,782	9,364	108.4	108.4	-0.8	8.4	72.4	1.9
45-49	6,532	7,131	90.9	90.9	3.4	-9.1	91.6	19.2
50-54	5,853	6,322	112.4	112.4	5.7	12.4	92.6	1.0
55-59	4,543	4,117	78.2	78.2	-9.4	-21.8	110.4	17.8
60-64	4,181	4,204	127.1	127.1	3.3	27.1	99.4	-10.9
65-69	3,550	2,499	88.8	88.8	21.3	-11.2	142.1	42.6
70-74	1,672	1,426	N/A	N/A	0.0	0.0	117.3	-24.8
75+	1,626	1,379	N/A	N/A	N/A	N/A	117.9	N/A
Total	200,674	220,292			102.5*	138.5*	105.2	161.6*
Mean					7.9	10.7	-	11.5

Source: CSO, 1980, Census of Population and Housing

Note: * Shows total irrespective of sign.

Age-Sex Accuracy Index   = 3 times mean difference in sex-ratios plus mean deviations of male and female age-ratios.
= (3 x 11.5) + 7.9 + 10.7
= 53.2

Table 2.5:   Populations by Five Year Age Group, Sex, Age-ratio and the Age-Sex Accuracy Index, Luapula Province 1990

Age Group	Population		Age-ratio		Deviation from 100		Sex-ratio	Difference
	Male	Female	Male	Female	Male	Female		
0-4	6,317	6,337	-	-	-	-	99.7	
5-9	6,070	6,112	98.4	97.5	-1.6	-2.5	99.3	-0.4
10-14	6,025	6,196	104.7	101.9	4.7	1.9	97.2	-2.1
15-19	5,435	6,054	115.5	112.2	15.5	12.2	89.8	-7.5
20-24	3,385	4,593	83.2	98.7	-16.8	-1.3	73.7	-16.1
25-29	2,699	3,258	94.1	89.7	-5.9	-10.3	82.8	9.1
30-34	2,351	2,672	106.1	105.3	6.1	5.3	88.0	5.1
35-39	1,731	1,816	90.1	86.9	-9.9	-13.1	95.4	7.4
40-44	1,491	1,509	102.1	102.7	2.1	2.7	98.8	3.4
45-49	1,188	1,124	97.1	93.8	-2.9	-6.2	105.7	6.9
50-54	956	888	98.9	104.8	-1.1	4.8	107.7	2.0
55-59	747	570	100.1	89.0	0.1	-11.0	131.0	23.3
60-64	536	393	102.2	96.3	2.2	-3.7	136.2	5.2
65-69	301	246	80.2	85.7	-19.8	-14.3	122.2	-14.0

Age Group	Male	Female	Male	Female	Male	Female	Sex-ratio	Difference
70-74	215	182	N/A	N/A	0.0	0.0	118.4	-3.8
75+	223	240	N/A	N/A	N/A	N/A	93.0	N/A
Total	39,671	42,190			88.9*	89.3*		106.3*
Mean					6.8	6.9		7.6

Source: CSO, 1990 Census of Population and Housing

Note: * Shows total irrespective of sign.

Age-Sex Accuracy Index   = 3 times mean difference in sex-ratios plus mean deviations of male and female age-ratios.
  = (3 x 7.6) + 6.8 + 6.9
  = 36.5

Table 2.6:   Populations by Five Year Age Group, Sex, Age-ratio and the Age-Sex Accuracy Index, Luapula Province 2000

Age Group	Population		Age-ratio		Deviation from 100		Sex-ratio	Difference
	Male	Female	Male	Female	Male	Female		
0-4	69,524	70,035					99.27	
5-9	57,004	56,599	97.6	97.6	-2.4	-2.4	100.7	1.4
10-14	47,264	45,896	98.2	91.8	-1.8	-8.2	103.0	2.3
15-19	39,280	43,401	104.1	105.0	4.1	5.0	90.5	-12.5
20-24	28,233	36,798	88.0	103.1	-12.0	3.1	76.7	-13.8
25-29	24,883	28,003	102.6	96.5	2.6	-3.5	88.9	12.1
30-34	20,258	21,250	100.2	94.7	0.2	-5.3	95.3	6.5
35-39	15,564	16,863	93.8	96.6	-6.2	-3.4	92.3	-3.0
40-44	12,943	13,656	103.3	100.0	3.3	0.0	94.8	2.5
45-49	9,488	10,461	90.3	89.1	-9.7	-10.9	90.7	-4.1
50-54	8,067	9,817	104.2	116.2	4.2	16.2	82.2	-8.5
55-59	5,992	6,430	88.4	81.8	-11.6	-18.2	93.2	11.0
60-64	5,492	5,898	102.8	111.2	2.8	11.2	93.1	-0.1
65-69	4,696	4,182	107.2	99.1	7.2	-0.9	112.3	19.2
70-74	3,273	2,540	N/A	N/A	0.0	0.0	128.9	16.6
75+	3,486	2,549	N/A	N/A	N/A	N/A	136.8	N/A
Total	355,447	374,378			68.1	88.1		113.5
Mean					5.2	6.8		8.1

Source: CSO, 2000 Census of Population and Housing

Note: * Shows total irrespective of sign.
Age-Sex Accuracy Index   = 3 times mean difference in sex-ratios plus mean deviations of male and female age-ratios.
  = (3 x 8.1) + 5.2 + 6.8
  = 36.3

2.5.4   Survival-ratios

Survival-ratios represent the probability that individuals of the same birth cohort or group of cohorts will still be alive 10 years later. Evaluation of the quality of age and sex data from two censuses using the survival-ratio method can be done only under certain assumptions. The population should be closed to migration. It is also assumed that influence of abnormal mortality through wars, disasters, diseases, etc, over a 10-year period should be absent.

Cohort survival-ratio refers to the survival-ratio of the population in a given age group to the next age whereas overall survival-ratio refers to the ratio of the population aged say 10 years and above, who will survive to 15 years and above, and so on.

Cohort survival-ratios are expected to be highest at age group 10-14 where mortality is assumed to be lowest and then to decline continuously thereafter. Figure 2.13 shows fluctuations rather than the expected pattern.

Figure 2.13: Cohort Survival Ratio, Luapula Province, 1990-2000

5 Year Age Group	10-14.	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
Male	1.0983	0.9875	0.7715	0.8222	1.0035	0.9651	0.9108	0.9731	0.9352	0.8015	0.7864	0.7643	0.6375	0.5706	0.359	0.3792
Female	1.0618	1.0863	1.0232	0.8186	0.7894	0.8636	0.8849	0.8984	0.856	0.7221	0.7232	0.7571	0.5382	0.4762	0.3379	0.5777
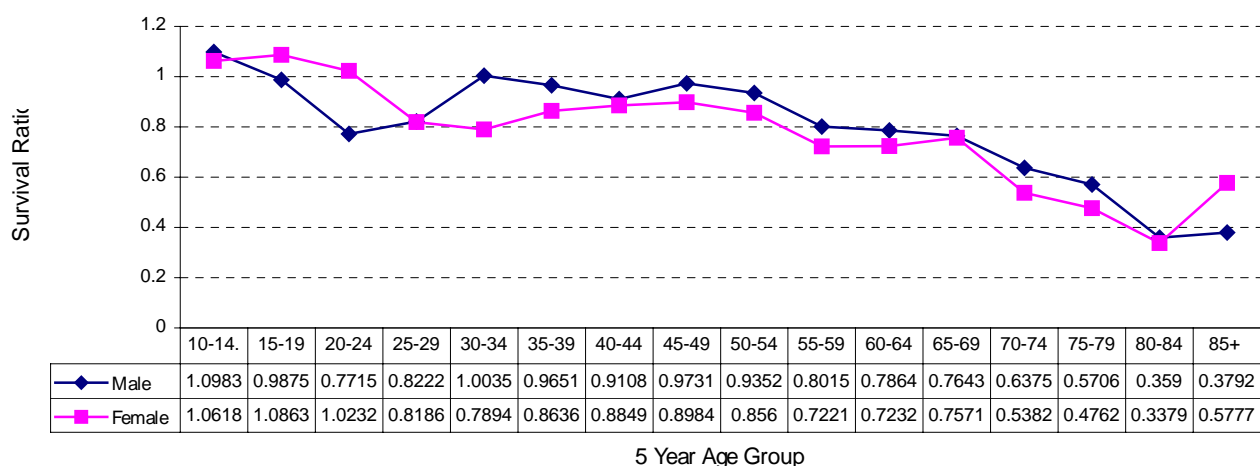
Sources: CSO, 1990, and 2000 Censuses of Population and Housing

For example, at age group 20-24 the cohort survival-ratio is lower than in age groups 15-19 and 25-29. The female cohort survival-ratio is lower at age group 30-34 than the preceding and the following age group, see Figure 2.13. Fluctuations in the cohort survival-ratios show that there was over-statement or under-statement of ages among males and females.

In the absence of abnormal mortality and migration, the overall survival-ratios should decline continuously as we go up to the older ages. The female ratios should be higher than the male ratios because of lower mortality of females compared to that of males. The pattern of having higher ratios for females than males is only true at 10+, 15+, 20+and 85+ (see Figure 2.14). This could be an indication of high levels of maternal mortality in the reproductive ages 15-49 years.

Figure 2.14: Overall Survival Ratio, Luapula Province, 1990 and 2000

5 Year Age Group	10+	15+	20+	25+	30+	35+	40+	45+	50+	55+	60+	65+	70+	75+	80+	85+
Male	0.9053	0.8658	0.8373	0.8553	0.8651	0.8314	0.7991	0.769	0.7226	0.6691	0.6322	0.5779	0.4941	0.408	0.2994	0.2418
Female	0.9098	0.8811	0.8378	0.7942	0.7872	0.7866	0.7658	0.7337	0.6914	0.6359	0.6052	0.5483	0.447	0.3824	0.3118	0.283
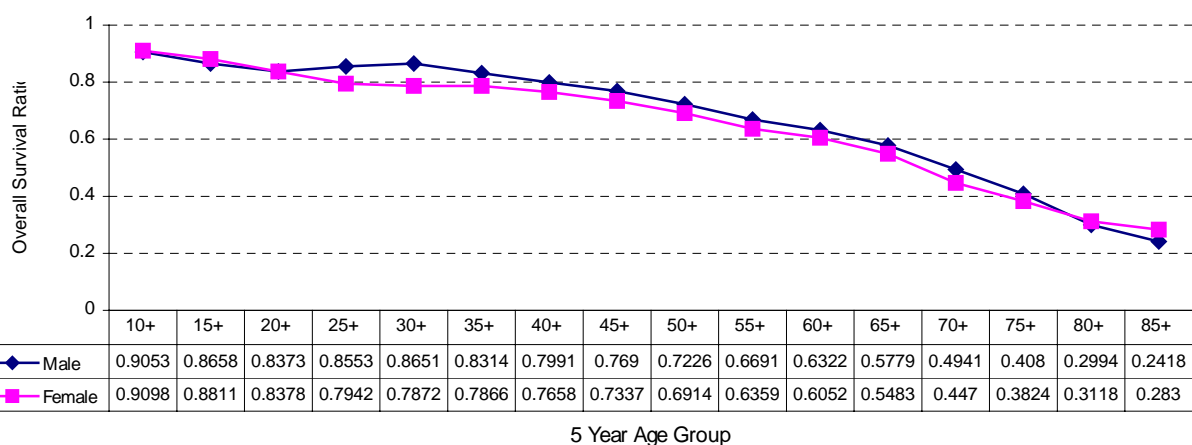
Sources: CSO, 1990, and 2000 Censuses of Population and Housing

2.5.5 Population Pyramids

Another way of detecting irregularities in the reported age data of a survey or census is by looking at a Population Pyramid by single years of age. As already observed, when census age data is distributed in single years, one can easily spot out inaccuracies than when it is distributed in five-year age groups. If data is found to have a lot of inaccuracies, it is better to smooth it. Looking at the population pyramids for the 2000 Census data from Figures 2.15 to 2.17, it can be seen that age misreporting was not severe to warrant the smoothing of data.

Figure 2.15: Graphical Population Distribution in Single Years by Sex, Luapula Province , 2000
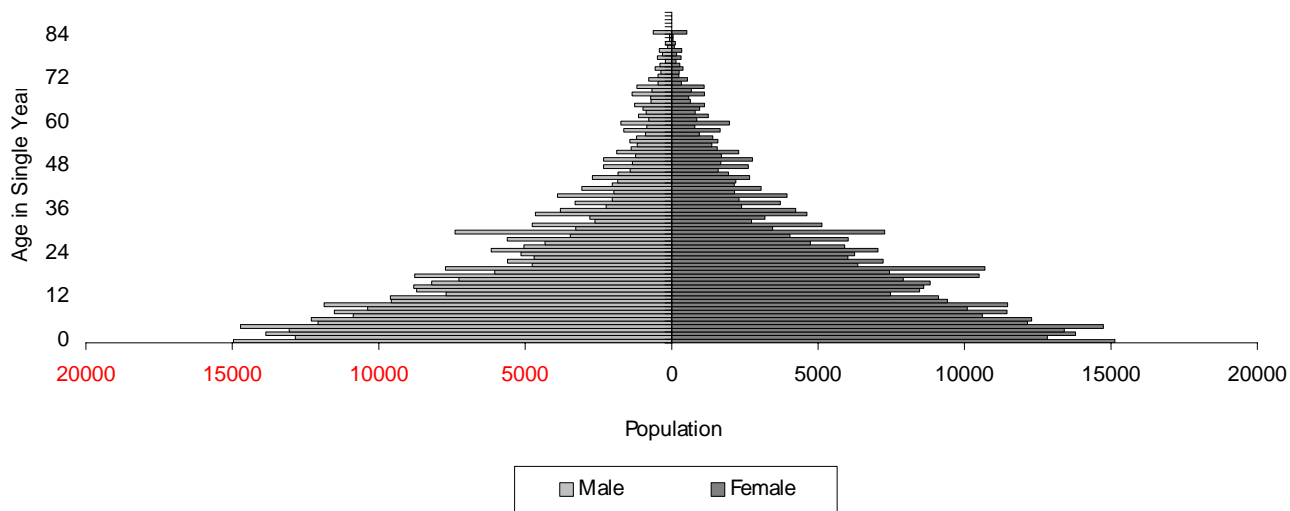
Source: CSO, 2000 Census of Population and Housing

Figure 2.16: Graphical Population Distribution by Single Years, Luapula Province, Rural, 2000

Source: CSO, 2000 Census of Population and Housing

Figure 2.17: Graphical population Distribution by Single Years, Luapula Province, Urban, 2000
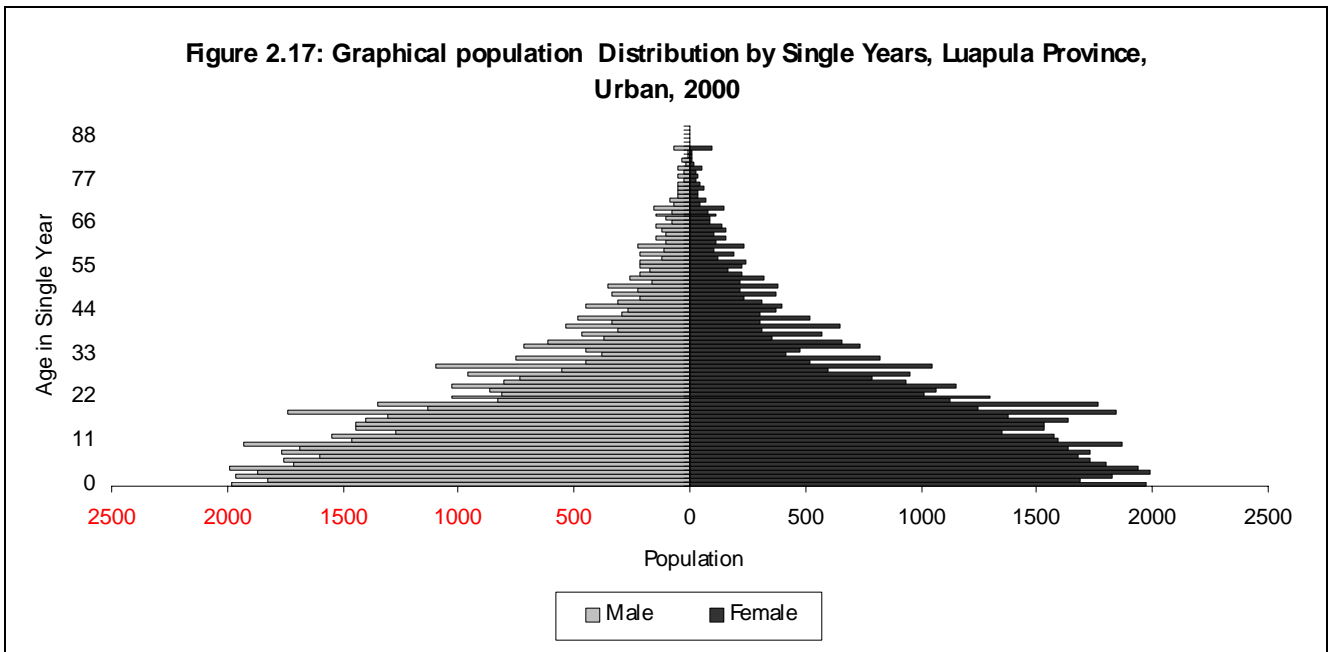
Source: CSO, 2000 Census of Population and Housing

Smoothing the age data using selected techniques for light smoothing of the population (Edwardo E. Arriaga: November 1994, pages 11-42) shows that the irregularities in the structure are not severe, see Figures 2.18 and 2.19. The smoothing of data has been done using AGESMTH software program one of the Population Analysis Spreadsheet (PAS) programmes developed by the United Nations. Selected techniques for light smoothing of the population include Carrier Farrag, Karup-King Newton, Arriaga and United Nations. The strong smoothing technique has also been incorporated (See Figures 2.18 and 2.19).

Figure 2.18: Reported and Smoothed Population by 5-Year Age Groups and Smoothing Technique, Luapula Province Males, 2000
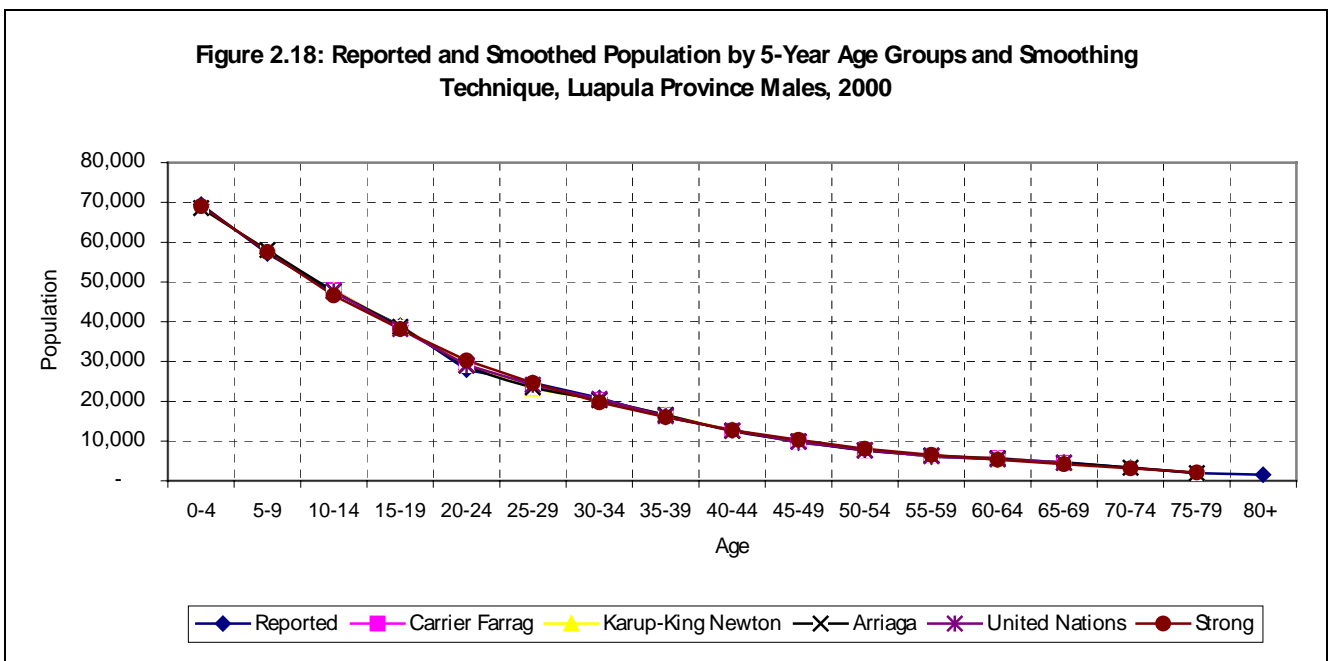
Source: CSO, 2000 Census of Population and Housing

Figure 2.19: Reported and Smmothed Population by 5-Year Age Groups and Smoothing Technique, Luapula Province Females, 2000
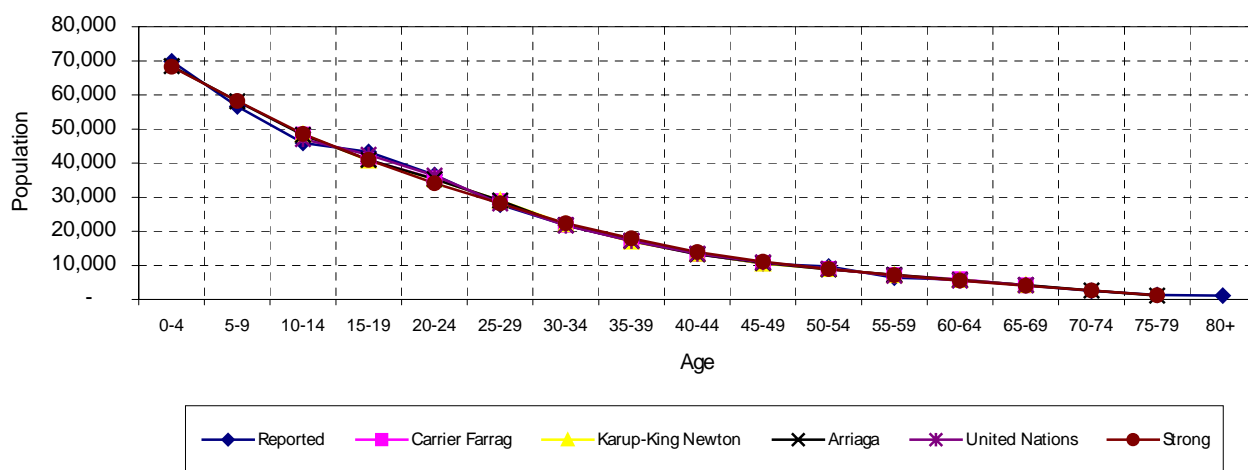
Source: CSO, 2000 Census of Population and Housing

Given that the irregularities in the reported proportions are small, it is not recommended to smooth the 2000 Census of Population and Housing data because genuine irregularities in the reported pattern might be smoothed out.

2.6   Summary

Luapula Province has a young population. Out of the total number of 729,828 in 2000, 47.5 percent were below age 15, 49.7 percent were in the age range of 15-64, and 2.8 percent were aged 65 years or older. The overall dependency ratio of the province dropped from 114.8 in 1980 to 93.5 in 1990 but later rose to 101.2 dependants per 100 persons aged 15-64 in 2000. Luapula Province has more Females than males and a sex-ratio of 94.9 males per 100 females was recorded in 2000. The low age specific sex-ratio of 99.3 in 2000 for those aged 0-4 suggests that there was under-coverage of children. There was age heaping among males and females, with 0,2, 5, and 8 being the most preferred digits. The 2000 age data have slightly improved over the 1990 in as far as the Age-Sex Accuracy Index is concerned which dropped from 36.5 in 1990 to 36.3 in 2000.

Chapter 3

POPULATION SIZE, GROWTH AND COMPOSITION

3. 1   Introduction

In Zambia, the first Census of Population and Housing was undertaken in 1969 and was followed by another in 1980. Since then censuses have been done regularly every ten (10) years. The Census of Population in Zambia has included questions on births and deaths, given the poor status of the vital registration system. The Census of Population in Zambia is designed to collect both de jure and de facto population count. By definition (*see below*) the de facto count is most useful in providing a separate record of a range of characteristics for all individuals enumerated. Characteristics here refer to social, economic and political aspects of a population such as education, economic activity etc. This therefore provides sound basis for carrying out detailed analysis of persons or groups of a population based on the de facto count.

In general, censuses of population are useful for social, economic, political planning of a country. For instance, population data analysed by age are essential in preparing current population estimates and projections of households, school enrollment, labour force and further projections of requirements for schools, teachers, health services, food, and housing.

This chapter presents a trend analysis of the population size, population growth rates, population distribution and composition (i.e. demographic, social and economic) from the census results of 1980 to 2000. This analysis is based on the de facto population of Zambia as opposed to the de jure. Some readers may be aware that such analysis is only possible by use of defacto data, which provides individual characteristics social and economic.

3.2   Concepts and Definitions Used

Concepts and definitions adopted during the census and used in this chapter and throughout the report are as follows:

- *De facto Population:* **This refers to the usual household members present and visitors who spent the census night at any given household. This however excludes:**

    (c) Foreign diplomatic personnel accredited to Zambia; and

    (d) Zambian nationals accredited to foreign embassies and their family members who live with them abroad and, Zambian migrant workers and students in foreign countries who were not in the country at the time of the census.

- **De jure Population:** This refers to usual household members present and usual household members temporarily absent at the time of the census. These include institutional populations in places such as hospitals/health centers, prisons and academic institutions (universities, colleges and boarding schools etc).

- **Population Growth Rate**

Refers to the change in the size of the population as a proportion of the total population of an area. Estimated on a yearly basis, it gives us the average annual growth rate for each year of the inter-censal period.

- **Population Composition**

This is defined as the distribution of certain traits, characteristics or attributes of the population and how these affect the overall demographic structure of the country. There are three main characteristics of population composition:

- ➢ Demographic characteristics such as age and sex,
- ➢ Social characteristics such as ethnicity and citizenship, and
- ➢ Economic characteristics such as economic activity.

- • *Age*

The age of an individual in all censuses undertaken in Zambia is commonly defined in terms of the age of the person at his/her last birthday *before* the census date.

- • *Household*

A group of persons who normally live and eat together. These people may or may not be biologically related to each other and make common provision for food and other essentials for living.

- • **Head of Household**

This refers to a person who makes day-to-day decisions concerning the running of the household and is also regarded as such by all household members.

- • **Population Density**

Density of population is defined as the number of people resident within a standard unit of area, in this case, measured per square kilometer (Pressant, 1985).

- • **Age Dependency Ratio**

Age Dependency Ratio refers to the 'joint account of variations in the proportions of children, aged persons, and persons of "working age" (Shyrock et al., 1972:133). It therefore is the ratio of children aged 0-14 years and persons aged 65 years and older, per 100 persons in the working age group of 15-64 years old.

- • **Citizenship**

Citizenship defined as 'the legal nationality of each person', is not necessarily linked to place of birth. Rather, citizenship is acquired through various means such as being born within state (or elsewhere with parents of the given nationality), through naturalization or marriage (Pressant,1985).

3.3   Population Size and Growth

The 2000 de jure population for Luapula Province is 775,353 of which 387,528 are females and 387,825 are males, indicating for the first time in Zambian censuses that males have outnumbered females (see Table 3.1a).

Table 3.1a: Population Size (Dejure) and Percent Distribution by Sex and Residence, Luapula Province, 2000

Residence	Both Sexes		Male		Female	
	Number	Percent	Number	Percent	Number	Percent
Total	775,353	100	387,825	50.0	387,528	50.0
Rural	674,187	100	337,330	50.0	336,857	50.0
Urban	101,166	100	50,495	49.9	50,671	50.1

Source: CSO, 2000 Census of Population and Housing

In demographic terms, this de jure figure is considered the *true or resident population* of a nation. However, this type of count of population does not allow collection of data on various characteristics (social, economic and political) and of individuals. The de jure population becomes important as far as the age sex distribution is concerned.

The Luapula Province de facto population, presented in Table 3.1b is 729,828 of which 51.2 percent are females. The de facto population allows for detailed analysis of individuals because these are present at the time of count. It can be noted that the de jure population is always larger than the de facto population.

Table 3.1b: Population Size (De facto) and Percent Distribution by Sex and Residence, Luapula Province, 2000

Residence	Both Sexes		Male		Female	
	Number	Percent	Number	Percent	Number	Percent
Total	729,828	100	355,827	48.8	374,001	51.2
Rural	616,846	100	300,831	48.8	316,015	51.2
Urban	112,982	100	54,996	48.7	57,986	51.3

Source: CSO, 2000 Census of Population and Housing

The district population sizes for Luapula Province are displayed in Table 3.2. Mansa and Samfya have the highest population of 90,211 and 82,238, respectively. The least population is found in Milenge, with 13,867 persons. Amongst the districts, Mansa continues to be the most urbanised, given that in comparison to others, it bears the highest number of urban population (41,059) in relation to the total provincial urban population of 101,166.

Table 3.2   Population Size (de jure) by Sex, Residence and District, Luapula Province, 2000

District	Total			Rural			Urban		
	Both Sexes	Males	Females	Both Sexes	Males	Females	Both Sexes	Males	Females
Total	775,353	387,825	387,528	674,187	337,330	336,857	101,166	50,495	50,671
Chiengi*	41,979	41,845	83,824	83,824	41,979	41,845	-	-	-
Kawambwa	50,708	51,795	102,503	84,549	41,932	42,617	17,954	8,776	9,178
Mansa	90,211	90,732	180,943	138,690	68,964	69,726	41,059	20,665	20,394
Milenge*	13,867	13,729	27,596	28,790	14,449	14,341	-	-	-
Mwense	52,479	53,280	105,759	101,941	50,629	51,312	3,818	1,850	1,968
Nchelenge	56,343	54,776	111,119	90,410	45,948	44,462	20,709	10,395	10,314
Samfya	82,238	81,371	163,609	145,987	73,432	72,555	17,622	8,806	8,816

Source: CSO, 2000 Census of Population and Housing
Note: " * " denotes new districts which were formally part of Nchelenge and Mansa districts, respectively

The rate at which Luapula Province has grown in between censuses of 1969, 1980, 1990 and 2000 is shown in Table 3.3. The Table shows that the provincial population has grown from slightly less than half a million (420,966) in 1980 to over half a million in 2000. The province has in general experienced a rise in annual growth rate from 2.2 in 1980-90 to 3.2 percent in the last inter-censal period. (1990 -2000) On average, the population of Luapula Province grew the most, at 3.2 percent, during the 1990-2000 inter-censal period. Its annual population growth rate between 1990 and 2000 is higher than the national average of 2.5 percent, presenting a deviation of 0.8 percent. While the annual growth rate for rural areas increased by 0.8 percentage point that of urban areas dropped by over 2 percentage points (i.e. from 4.5 in 1990 to 1.7 percent in 2000).

At district level, Chiengi and Nchelenge, exhibit high annual growth rates of 5.7 and 4.2 percent between 1990 and 2000. For Chiengi this is as a result of its designation as a new district following the apportionment of Nchelenge district into two. Notably, Kawambwa and Mwense grew the least during the same period, at a rate of 1.8 and 2.0 percent, respectively.

Table 3.3 Population Size and Annual Average Population Growth Rate, Luapula, 1969-2000

District	Population Size 1980	Annual Growth Rate (69-80)	Population Size 1990	Annual Growth Rate(80-90)	Population Size 2000	Annual Growth Rate (90-2000)
Zambia	5,661,801	3.1	7,759,117	2.7	9,885,591	2.5
Luapula Total	420,966	2.1	564,493	2.2	775,353	3.2
Rural	366,024	1.0	478,958	1.9	674187	3.5
Urban	541,942	19.9	85,535	4.1	101166	1.7
District						
Chienge*	_	_	47,290	_	83,824	5.9
Kawambwa	63,304	1.3	85,307		102,503	1.9
Mansa	111,427	3	132,500	2.5	180,943	3.1
Milenge*	_	_	20,045	_	27,596	3.7
Mwense	65,552	2	86,326	2.1	105,759	2.1
Nchelenge	80,233	3.2	72,761	3.4	111,119	4.3
Samfya	100,440	0.9	120,264	0.7	163,609	3.1

3.4   Population Distribution

The spatial or geographical distribution of the population in Luapula Province from 1980 to 2000 is shown in Figure 3.1, 3.2 and Table 3.4.

Figure 3.1 illustrates that three in four persons in Luapula Province reside in rural areas. The proportion of rural population initially decreased from 86.9 percent in 1980 to 84.8 percent in 1990 and increased significantly to 87 percent in 2000. Details on internal migration are provided in the 2000 Census Migration and urbanization Report.

Figure 3.1: Percent Distribution by Residence, Luapula Province, 1980 -2000
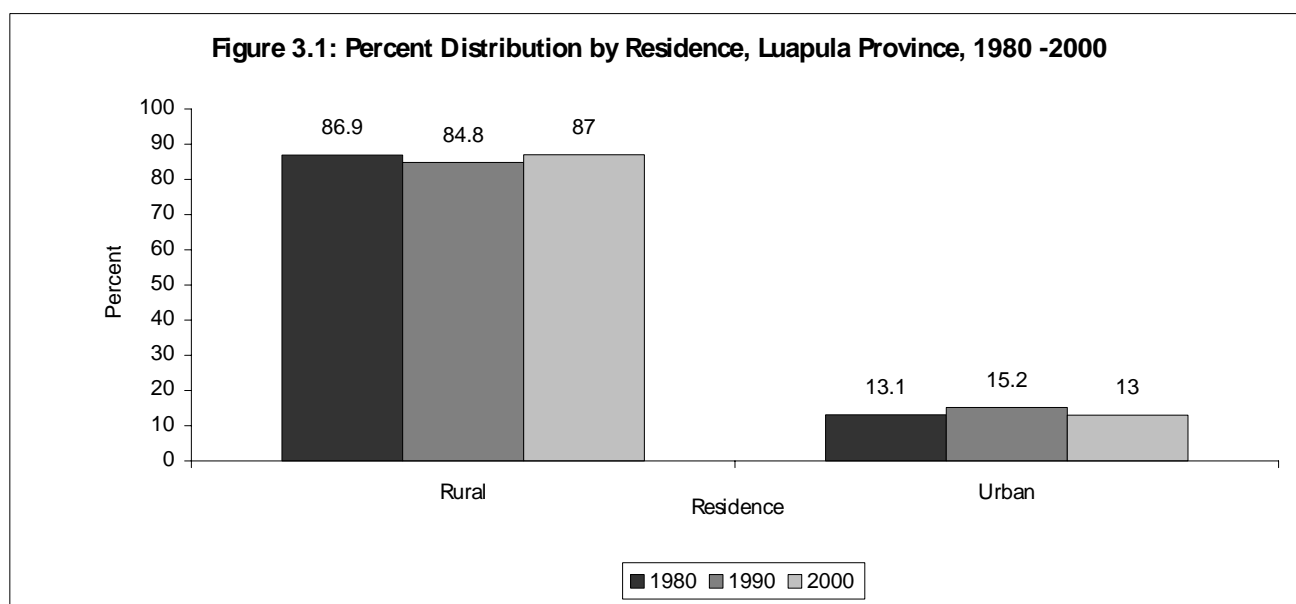
Source: CSO, 2000 Census of Population and Housing

Table 3.4 shows that in 2000, Mansa had the largest share of the population in Luapula Province, followed by Samfya with 23 percent and 21 percent, respectively.

Table 3.4:   Population Distribution (Dejure) by District, Luapula Province, 1980, 1990 and 2000

District	1980		1990		2000	
	Number	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Total	420,966		564,293	**100**	775,353	**100**
District						
Chienge *	-	-	47,290	8.4	83,824	10.8
Kawambwa	63,304	15.0	85,307	15.1	102,503	13.2
Mansa	111,437	26.5	132,500	23.5	179,749	23.2
Milenge *	-	-	20,045	3.6	28,790	3.7
Mwense	65,552	15.6	86,326	15.3	105,759	13.6
Nchelenge	80,233	19.1	72,761	12.9	111,119	14.3
Samfya	100,440	23.9	120,064	21.3	163,609	21.1

Source: CSO, 2000 Census of Population and Housing
Note: " * " denotes new districts which were formally part of Nchelenge and Mansa districts, respectively

Figure 3.2: Population Distribution by District, Luapula Province, 2000
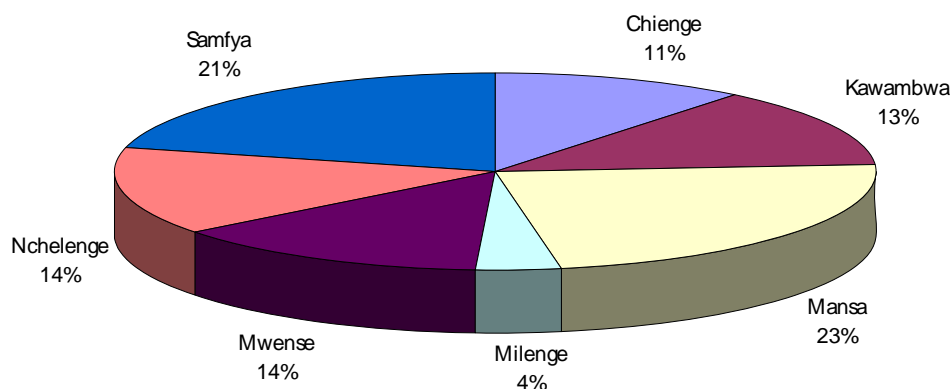
Source: CSO, 2000 Census of Population and Housing

3.4.1 Population Density

Table 3.5 shows the land area and population density for Luapula Province from 1969 to 2000. Generally, with an increasing population in the past decades, the provincial population density has also been increasing, from 6.6 in 1969 to 8.3 and 11.2 in 1980 and 1990, respectively. In 2000, 15.3 persons per square kilometer were recorded. With a land area of 4,090 square km, Nchelenge has the highest population density of 27.2 in 2000. Its population density in 2000 is above the national population density of 13.1 persons per square kilometer.

Table 3.5: Area and (De jure) Population by Density, Luapula Province, 1969-2000

District	Area (Sq Km)	Population Density/ Census Year (Population per sq. Km)			
		1969	**1980**	**1990**	**2000**
Zambia	752,612	5.4	7.5	10.3	13.1
Luapula Province	50,566	6.6	8.3	11.6	15.3
Chienge	3,965	-	-	11.9	21.1
Kawmbwa	9,303	2.8	3.3	9.2	11.0
Mansa	9,900	5	6.9	13.4	18.2
Milenge	6,261	-	-	3.2	4.6
Mwense	6,718	7.9	9.8	12.8	15.7
Nchelenge	4,090	7.1	10	17.8	27.2
Samfya	10,329	8.8	9.7	11.6	15.8

Sources: CSO, 1980, 1990 and 2000 Censuses of Population and Housing

3.5 Population Composition

This section provides some information on the composition of Luapula Province population in terms of age, sex, age dependency, household headship, marital status, ethnicity, citizenship and economic characteristics.

3.5.1 Age and Sex Composition

The analysis of most population phenomena is difficult to understand without taking into consideration the age and sex structure of any given population. Generally, 'tabulations on age and sex are essential in the computation of basic measures related to the factors of population change and in the study of economic dependency. Those tabulations are indispensable for the identification and examination of various functional population groups, such as infants, children, youth, the elderly, women and women in child bearing ages, as well as for other demographic and actuarial analyses' (UN: 1995:1). Further, the age structure of a population is important given that social relationships within a community are considerably affected by the relative numbers at each age.

The age and sex structure of population in Luapula Province is illustrated in proportion by way of population pyramids for 1990 and 2000 in Figure 3.3a and 3.3b. Population pyramids are useful in describing the

population by age and sex pictorially. Another important feature of population pyramids is their strength in illustrating whether a population is 'young' or 'old'. Similar to the national pattern, Luapula Province continues to exhibit a young population given that it bears a high proportion of persons below the age of 15 years. The broad base of the pyramids in both 1990 and 2000 is illustrative of this feature.

Comparatively, the 2000 population pyramid (Figure 3.3a) has a smoothened appearance along the ages of 0-4 up to the mid 20s, which otherwise had a bump or near-funnel look in 1990 (Figure 3.3b). By comparison, this signifies population from age group 5-9 to age group 20 –24 as shown in figure 3.4. These population gaps could very well be attributed to increased mortality, perhaps given the ravaging effects of HIV/AIDS pandemic coupled with odds of the declining economic situation in the country. Supporting this likelihood of events also is the evidence that fertility has in the same period decreased (*see chapter on Fertility*).
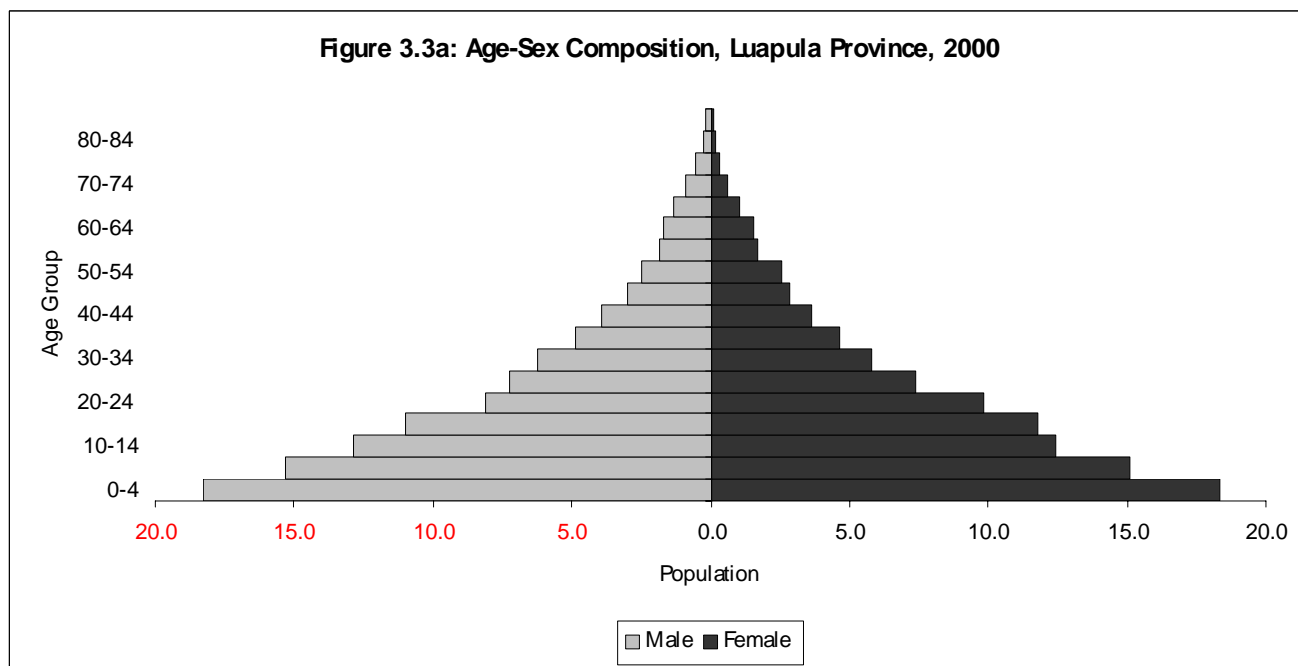
Figure 3.3a: Age-Sex Composition, Luapula Province, 2000

Source: CSO, 2000 Census of Population and Housing

Figure 3.3b: Age-Sex Composition, Luapula Province, 1990
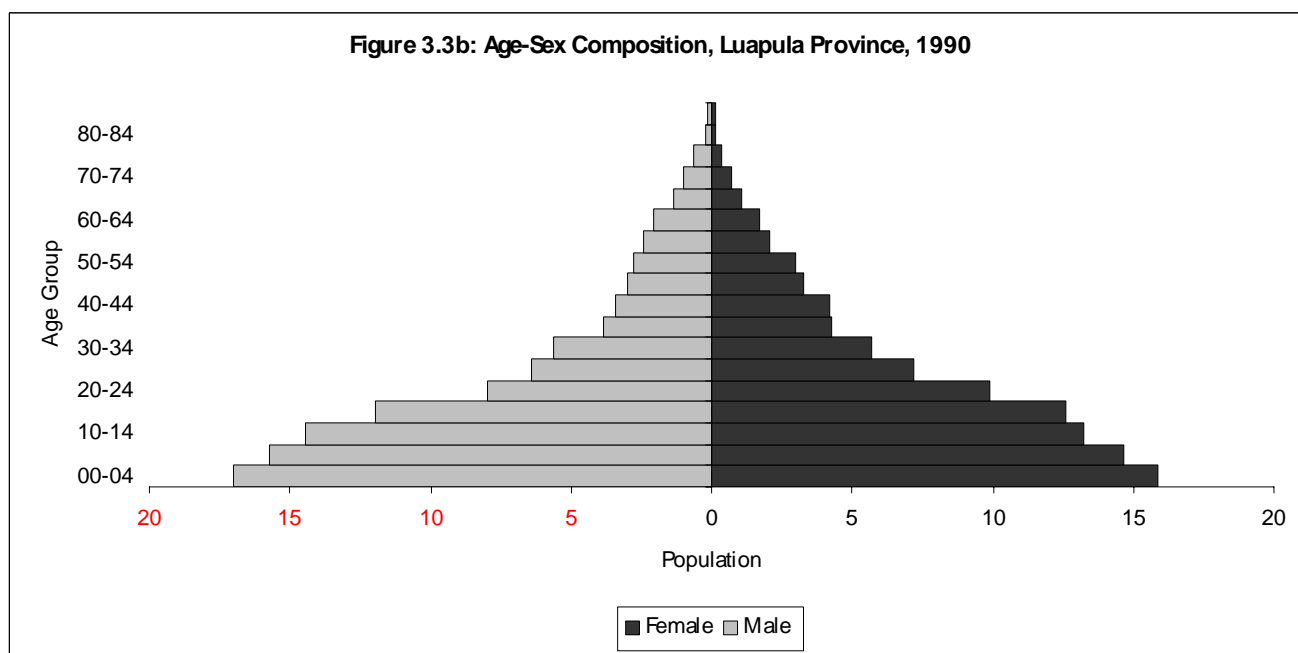
Source: CSO, 1990 Census of Population and Housing

The percentage age-sex population distribution for Luapula Province, including the rural and urban areas is shown in Table 3.6. As of 2000, children (0-14 years) constituted 46.1 percent of the total population in Luapula Province, which is a 2.1 percentage point increase from 44.0 recorded in 1990. Similarly, rural and urban populations mostly comprise the child population, with the rural proportion being higher by 2.6 percent (18.7 vs. 16.1 percent). The proportion for the rest of the population declines pointing towards a thin aged population (of about one and less percent) around the 60s and above.

Table 3.6   Percentage Age-Sex Distribution of Population by Residence, Luapula Province, 2000

Age Group	Luapula Total			Rural			Urban		
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
0-4	18.3	18.3	18.3	18.7	18.6	18.8	16.1	16.3	15.8
5-9	15.2	15.3	15.1	15.3	15.4	15.2	14.6	14.7	14.6
10-14	12.6	12.9	12.4	12.5	12.8	12.2	13.5	13.4	13.6
15-19	11.4	11.0	11.8	11.1	10.7	11.5	13.2	12.8	13.6
20-24	9.0	8.1	9.8	8.8	7.9	9.6	10.0	9.2	10.9
25-29	7.3	7.3	7.4	7.3	7.2	7.4	7.7	7.7	7.7
30-34	6.0	6.3	5.8	6.1	6.3	5.8	5.9	6.1	5.7
35-39	4.7	4.9	4.6	4.7	4.9	4.6	4.8	4.9	4.6
40-44	3.8	3.9	3.6	3.8	3.9	3.6	3.8	3.8	3.7
45-49	2.9	3.0	2.8	2.9	3.0	2.9	2.9	3.2	2.7
50-54	2.5	2.5	2.6	2.6	2.5	2.6	2.3	2.4	2.3
55-59	1.8	1.8	1.7	1.8	1.8	1.7	1.7	1.8	1.5
60-64	1.6	1.6	1.5	1.6	1.7	1.6	1.3	1.4	1.3
65-69	1.2	1.4	1.1	1.3	1.4	1.1	0.9	1.0	0.8
70-74	0.8	0.9	0.6	0.8	1.0	0.7	0.7	0.8	0.6
75-79	0.4	0.5	0.3	0.5	0.6	0.3	0.3	0.4	0.3
80-84	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2
85+	0.3	0.1	0.4	0.0	0.0	0.2	0.1	0.0	0.1
Total Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total Population	775,353	387,825	387,528	655,229	327,925	327,304	120,124	59,900	60,224

Source: CSO, 2000 Census of Population and Housing

Figure 3.4: Population Percent Distribution by Age, Luapula Province, 1990 and 2000
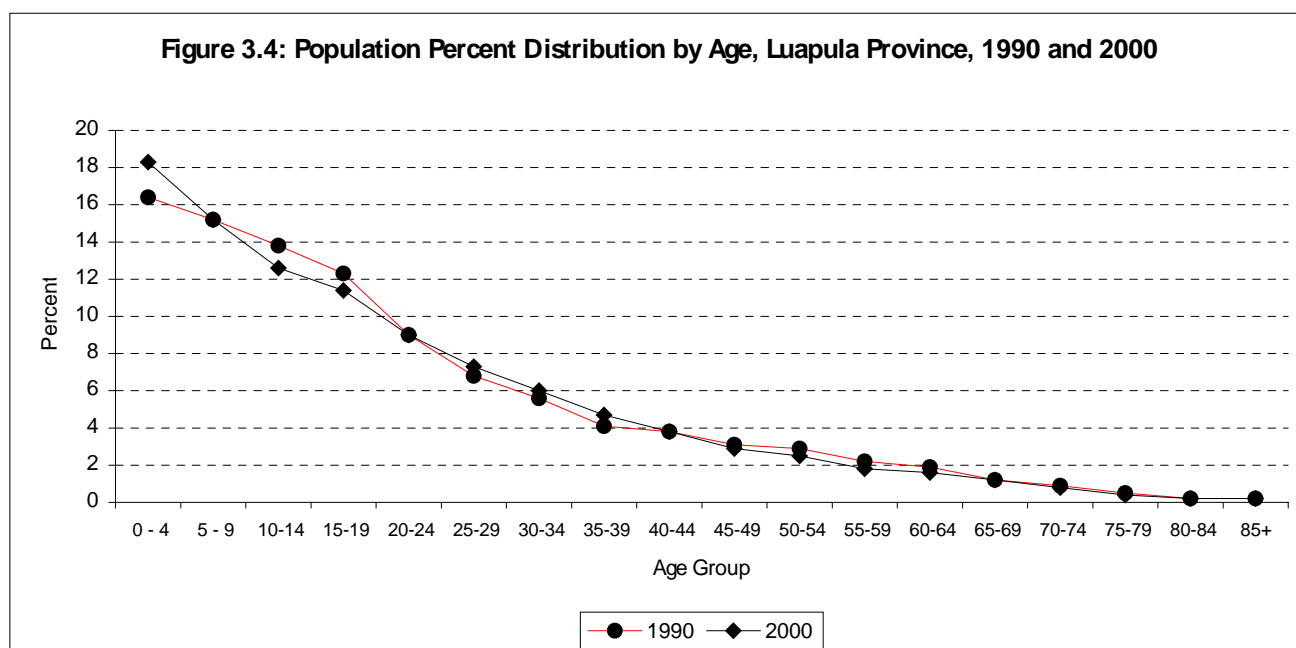
Sources: CSO, 1990 and 2000 Censuses of Population and Housing

3.5.2   Age Dependency Ratio

Table 3.7 reveals that the overall dependency ratio for Luapula Province in 2000 was 101.2 per 100 persons in the working group. It is apparent from the table that dependency on the working age population substantially increased during the 1990s. For instance, *overall* and *child* dependency ratios increased by 7.7 and 7.6 persons from 93.5 and 87.9 dependants per 100 persons, respectively in 1990 to 101.2 and 95.5 dependants in 2000. Its overall dependency ratio is higher than the national ratio of 96 per 100 persons.

From the foregoing, it is also observed that persons in productive ages who reside in urban areas continue to bear a heavy burden of dependants compared to their rural counterparts, whose dependency between 1990 and 2000 has actually reduced. In Table 3.7 shows that the dependency ratio for rural areas is 93 while that of urban areas is 103 dependants per 100 persons.

Table 3.7   Dependency Ratio by Residence and District, 1980-2000

Residence/District	Ratios	1990	2000
Zambia	Overall Dependency Ratio	95.1	96.2
	Child Dependency Ratio	87.2	90.9
	Aged Dependency Ratio	5.0	5.4
Luapula Total	Overall Dependency Ratio	93.5	101.2
	Child Dependency Ratio	87.9	95.5
	Aged Dependency Ratio	5.6	5.7
Rural	Overall Dependency Ratio	94.4	92.6
	Child Dependency Ratio	87.9	88.2
	Aged Dependency Ratio	6.1	4.5
Urban	Overall Dependency Ratio	88.6	102.8
	Child Dependency Ratio	85.4	96.9
	Aged Dependency Ratio	3.2	5.9
Chienge	Overall Dependency Ratio	-	91.2
	Child Dependency Ratio	-	87.5
	Aged Dependency Ratio	-	3.8
Kawambwa	Overall Dependency Ratio	97.4	104.2
	Child Dependency Ratio	90.2	97.0
	Aged Dependency Ratio	7.2	7.2
Mansa	Overall Dependency Ratio	96.1	104.5
	Child Dependency Ratio	91.8	97.2
	Aged Dependency Ratio	4.3	7.3
Milenge	Overall Dependency Ratio	-	102.3
	Child Dependency Ratio	-	97.2
	Aged Dependency Ratio	-	5.1
Mwense	Overall Dependency Ratio	93.5	116.2
	Child Dependency Ratio	86.1	110.8
	Aged Dependency Ratio	7.4	5.4
Nchelenge	Overall Dependency Ratio	87.5	105.5
	Child Dependency Ratio	82.7	98.5
	Aged Dependency Ratio	4.7	7.0
Samfya	Overall Dependency Ratio	93.6	94.0
	Child Dependency Ratio	88.0	89.6
	Aged Dependency Ratio	5.6	4.4

Sources: CSO, 1990 and 2000 Censuses of Population and Housing

Table 3.7 further shows that between 1990 and 2000 census periods, dependency ratios of all types (overall, child and aged) have increased for all districts except for Mwense and Samfya, where the aged dependency ratios have reduced. As stated earlier, dependency on the productive population in urban areas did not vary much between 1990 and 2000.

3.5.3   Household Headship

Household headship by various characteristics is presented in Table 3.8. The table shows that close to 1 in 5 households are female headed. In comparison to the national, Luapula province has more less the same female headed households to that of the national level of one in five households. With a high rural provincial population, it is not surprising that there are more than twice as many heads of household in rural (144,627) than urban areas (20,112). Distinction of household heads by sex is important because it is often associated with aspects of household welfare. For instance, female-headed households are typically poorer than male-headed households (CSO, 1998 & 2003).

Table 3.8: Household Headship by Sex, Marital Status, Residence and District, Luapula Province, 2000

Province/Residence/ Marital Status	Number of Household Heads	Total Percentage of Household Heads	Sex of Head Percent Male	Sex of Head Percent Female
Zambia	1,884,741	100	81.1	18.9
Luapula Total	164,739	100	79.9	20.1
Rural	144,627	100	80.1	19.9
Urban	20,112	100	78.9	21.1
Marital Status				
Married	124,318	100	96.1	3.9
Separated	6,626	100	28	72
Divorced	10,488	100	20.9	79.1
Widowed	17,046	100	16.9	83.1
Never Married	6,133	100	84.8	15.2
Living together/Cohabiting	128	100	53.1	46.9
District				
Chiengi	18,681	100	81.1	18.9
Kawambwa	21,451	100	79.5	20.5
Mansa	36,634	100	79.3	20.7
Milengi	5,762	100	80.9	19.1
Mwense	22,746	100	77.8	22.2
Nchelenge	24,369	100	81.9	18.1
Samfya	35,096	100	80.1	19.9

Source: CSO, 2000 Census of Population and Housing

Table 3.8 further shows that headship of household for a female is more likely to occur when they are Widowed (83 percent), divorced (79 percent) and separated (72 percent). Among the married (96 percent) and never married (85 percent) households, the majority are males. Amongst the districts, Mwense exhibits the highest proportion of female heads of households with 22 percent, while Nchelenge has the least at 18 percent.

3.5.4   Marital Status

Categorisation of marital status in the 2000 Census included married, separated, divorced, widowed, never married and co-habiting which was not available in the 1990 Census. Table 3.9 presents the percentage distribution of marital status of population above 12 years by age, sex, residence and district. The majority of young males and females in the age group 15-19 years have never married. However, slightly over a quarter of the females (29.3 percent) compared to four percent of males are married.

Table 3.9:   Percent Distribution of Population 12 years and above by Age, Sex and Marital Status, Luapula Province, 2000

Age Group	Married Male	Married Female	Separated Male	Separated Female	Divorced Male	Divorced Female	Widowed Male	Widowed Female	Never Married Male	Never Married Female	Cohabiting Male	Cohabiting Female	Total Number of Cases Male	Total Number of Cases Female
12-14	1.2	1.8	0.0	0.2	0.0	0.2	0.1	0.2	98.4	97.5	0.2	0.2	26,002	25,039
15 - 19	4.0	29.3	0.3	1.7	0.1	1.4	0.2	0.4	95.1	66.7	0.4	0.6	39,050	43,292
20 - 24	39.0	70.1	1.3	4.7	1.0	4.8	0.5	1.2	57.8	18.8	0.4	0.3	27,909	36,534
25 - 29	74.3	78.4	2.1	5.0	1.8	6.5	0.7	2.6	20.9	7.4	0.2	0.2	24,594	27,750
30 - 34	86.1	78.7	2.1	5.5	2.2	7.7	1.0	5.1	8.5	2.9	0.1	0.2	20,832	21,759
35 - 39	88.3	77.8	2.2	5.1	2.5	8.6	1.3	6.4	5.6	1.9	0.0	0.1	16,004	17,255
40 - 44	90.7	73.4	1.9	4.9	2.4	9.5	2.0	11.0	2.9	1.2	0.0	0.0	12,801	13,467
45 - 49	90.1	69.1	2.0	4.7	2.6	9.9	2.5	15.1	2.6	1.1	0.1	0.1	9,614	10,488
50 - 54	88.9	61.3	2.1	4.4	3.0	10.5	3.8	22.9	2.1	0.9	0.0	0.0	7,993	9,665
55+	82.9	40.2	2.3	3.6	3.8	9.6	9.3	45.5	1.6	1.0	0.0	0.0	22,941	21,319
Total	109,532	122,658	2,939	8,331	3,296	12,737	3,760	18,581	87,807	63,705	406	556	207,740	226,568

Source: CSO, 2000 Census of Population and Housing

It is a common practice for males to marry later than females. Though not collected in 2000 census, the reported average age at marriage for Luapula Province in 1990 was 23.9 years for males and 20.3 years for females (CSO, 1995). Table 3.9 also shows that about two in three females in their early 20s are married compared to one in three males of the same age. This could be due to another common practice of males re-

marrying more frequently than females, thus their low proportions in the separated, divorced and widowed categories.

3.5.5 Ethnicity and Citizenship

Similar to the previous census, ethnicity in the 2000 Census implied indigenous Zambian tribes while referred to the continent of origin for non-Zambians. Table 3.10 presents the ethnic composition of the population in Luapula Province by rural and urban. Information on racial characteristics is useful in the analysis of economic and social development in societies where the population is not homogenous. Planning of future development of resources is thus made possible through such analyses (UN: 95).

3.5.5.1 Ethnicity

Table 3.10 shows that the population in Luapula Province mostly constitutes persons of African origin, with 99.9 percent. This is similar to the national with 99.5 percent of the population being persons of African origin. The American, Asian, European and 'Other' ethnic groups make up the remaining 0.1 percent. This ethnic composition, dominated by Africans, is similar to that of 1990 Population census, with slight variations in proportions. In 1990, the proportion of Africans was 99.6 percent. 'Other' ethnic groups made up the remaining 0.4 percent.

Rural and urban comparison shows a higher presence of non-African ethnic groups in urban than rural areas. It is apparent that there are more males than females of non-African origin.

Table 3.10   Ethnic Composition of the Population by Sex and Residence, Luapula Province, 2000

Residence /Sex		Ethic Group					
		African	American	Asian	European	Other	Total
Zambia	Male	4,572,026	691	6,272	3,462	11,839	4,594,290
	Female	4,722,128	507	5,576	2,720	12,204	4,743,135
	Both sexes	9,294,154	1,198	11,848	6,182	24,043	9,337,425
Percent of total population		99.54	0.01	0.13	0.07	0.26	100
Luapula Total	Male	355,623	23	25	132	132	355,935
	Female	373,856	17	11	12	105	374,001
	Both sexes	729,479	40	36	237	237	730,029
Percent of total population		99.92	0.01	0	0.03	0.03	100
Rural	Male	300,676	15	16	8	116	300,831
	Female	315,908	10	6	3	88	316,015
	Both sexes	616,584	25	22	11	204	616,846
Percent of total population		99.96	0	0	0	0.03	100
Urban	Male	54,947	8	9	16	16	54,996
	Female	57,948	7	5	9	17	57,986
	Both sexes	112,895	15	14	25	33	112,982
Percent of total population		99.92	0.01	0.01	0.02	0.03	100

Source: CSO, 2000 Census of Population and Housing

3.5.5.2   Citizenship

Like past censuses, the 2000 Population Census included questions on citizenship. In Zambia, data on citizenship is collected for purposes of classification of members of its population either as citizens or foreigners.

Table 3.11 presents information on the citizenship of the population in Luapula Province. It is most apparent that the majority of foreign citizens in the province hail from Democratic Republic of Congo (DRC) (92.8 percent), followed by those from Congo (2.4 percent). Amongst those who stated their citizenship in the 1990 Census, Zaire (Congo DR) had the highest proportion (56.5 percent) of citizens in Luapula Province. This shows an actual increase in the number of foreign citizens from Democratic Republic of Congo (DRC) between 1990 and 2000. The influx of foreigners from Democratic Republic of Congo (DRC) could be mostly attributed to refugees fleeing from war and civil strife in this country.

Table 3.11   Foreign Population of Luapula Province by Citizenship, 1990 and 2000

Country/Region	Percent 1990	Population 2000	Percent 2000
Angola	0.1	-	-
Zimbabwe	1.6	66	0.99
Malawi	1.4	32	0.48
South Africa		18	0.27
Other Southern Africa	0.1	5	0.08
Western Africa	1.1	44	0.66
Tanzania	1.6	-	
Uganda		11	0.17
Other Eastern Africa	0.7	16	0.24
Congo		158	2.38
Congo DR	56.5	6154	92.67
Other Central Africa		20	0.30
Northern Africa	0.5	10	0.15
Other Europe	2.9	34	0.51
United States Of America		20	0.30
Canada		10	0.15
Other Americas	0.3	1	0.02
China		8	0.12
India		11	0.17
Other Asia & Oceania	0.3	4	0.06
Not Stated	32.9	19	0.29
Total Percent	**100**		**100**
Total foreign Citizens	**3,832**	**6,641**	
Foreign Population Percent	**0.7**		**0.91**

Source: CSO, 1990 and 2000 Census of Population and Housing

Note: Nationals less than five (5) were grouped under 'Other' totals.

3.6   Economic Characteristics

Data on economic characteristics of the Luapula Province population was collected during the 2000 Census. Economic characteristics pertaining to labour force participation, employment and unemployment, employment status, occupation, industry and educational attainment are covered in detail in Chapter Six of this report. This section mainly presents summary economic characteristics (see Table 3.12).

Table 3.12 also shows that out of the total population in Luapula Province, 434,409 comprise those over 12 years, commonly referred to as the *working age population*. Majority of these are found in rural than urban areas (364,422 vs. 69,987) and are mostly women. Of the total working age population in the province, about one in two are economically active or make up the labourforce (61.6 percent). Despite dominance of females in the working age population, majority of these are considered economically inactive due to their classification as full-time homemakers.

Table 3.12:   Summary of Economic Characteristics, Luapula Province, 2000

Characteristics	Total			Rural			Urban		
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
Total Population (12 Yrs and Above)	434,409	207,804	226,605	364,422	174,350	190,072	69,987	33,454	36,533
Current Labour Force Size	267,726	145,509	122,217	231,851	124,992	106,859	35,875	20,517	15,358
Current Participation Rate	61.6	70.0	53.9	63.6	71.7	56.3	51.2	61.5	41.8
Age Dependency Ratio	101.2	108.9	94.3	102.8	111.1	95.5	92.6	97.8	88.0
Economic Dependency Ratio	64.6	48.5	82.8	58.7	44.4	74.6	103.7	73.8	141.7

Source: CSO, 2000 Census of Population and Housing

Generally, Table 3.12 indicates that age dependency is higher for persons in rural than urban areas while the reverse is true for economic dependency ratios. Notably, females in the productive age tend to experience more stress from persons in the non-productive age groups than the male counterparts. The economic dependency ratio for females in urban areas is almost twice that of rural areas, 141.7 vs. 74.6.

3.7   Summary

Luapula Province's de jure or simply 'true' or resident population recorded in the 2000 census is 775,353. However, the de facto population adopted for analytical purposes in this chapter and the rest of the report is 729,828 of which 51.2 percent are females. The population has continued to grow at an increasing average annual growth rate of 2.1 percent between 1969-1980 to 2.2 percent between 1980-1990 and 3.2 percent during the last inter-censal period of 1990-2000. The proportion of rural population initially decreased from 86.9 percent in 1980 to 84.8 percent in 1990 and increased to 87 percent in 2000. This implies an urban-rural migration trend, which is apparent in other urbanized provinces of Zambia especially Copperbelt..

An analysis of the age-sex distribution indicates that overtime Luapula Province has maintained a young population. The proportion of those below the age of 15 years (46 percent) has gone slightly higher in 2000 from (45 percent) in 1990. Population pyramids for 1990 and 2000 indicate a change in the age-sex structure, which could be attributed to increased mortality, particularly for adults. This has been observed by population gaps in 2000 for adults in the 20s and 30s who may be more affected by the impact of AIDS as well as complications associated with a declining economy.

Headship of households is still dominated by males, with only one in five being female household heads. There are more female heads of household in urban than rural areas. The overall dependency ratio as of 2000 Census was 101 per 100 persons in the economically active group (15-64 years). It has been noted that dependency on productive persons rose during the 1990s. Summary of economic characteristics of the population give a provincial labour force size of 267,726, most of which is found in rural areas.

In addition, participation rates for males are higher than females, 70 and 54 percent, respectively. Finally, the chapter indicates that in comparison to rural counterparts, the economic burden on productive persons in urban areas is higher.

Chapter 4

LANGUAGE OF COMMUNICATION AND ETHNICITY

4.1   Introduction

Zambia is a country endowed with many languages. Many people in the country speak more than one language. Officially, there are 73 ethnic groups in Zambia with each of them speaking a dialect of the seven language cluster groups. Though language is not invariably synonymous with tribe, it is a fair assumption that the number of dialects of language clusters in the country is equal to the number of tribes.

ere are seven languages or language clusters that are used in Zambia besides English for official purposes such as broadcasting (both on radio and television), literacy campaigns and the official dissemination of information. These are (in alphabetical order), Bemba, Kaonde, Lozi, Lunda, Luvale, Nyanja and Tonga. They represent language clusters around which several dialects exist. Although these languages are taught in schools in some provinces, the official language of instruction in schools is English. The 2000 Census of Population and Housing collected information on the predominant language of communication in the cluster spoken by an individual as well as the second language. The former referred to the language a person uses most frequently in their day-to-day communication. The second language is the next frequently used language of communication. The matter of second language shows the phenomenon of trans-tribe of some languages in that other tribes speak them.

guages presented in this chapter are in five categories. The first set of languages are those most spoken in a given geographical location. Secondly, there are broad groups of languages, which are mainly formed by combining languages, which were mutually intelligible. For example Tonga, Ila, Lenje and Soli form one language group because they are not mutually unintelligible languages. Thirdly, there is a set of languages, which are trans-tribe such as Bemba and Njanya and have become increasingly so. Fourthly, there are some languages that are slowly becoming extinct. For example, when a person says they are Chishinga or Tabwa, they will say their mother tongue is Bemba. Fifthly, the chapter discusses the distribution of language in relation to the use by men and women.

hould be noted from the onset that children under the age of two years and persons with speech impairment did not report any language of communication. This directly implies that the population reported to speak a predominant language cluster hereafter referred to, as language of communication is less than the total population of the country. The population speaking a second language of communication is therefore even smaller.

4.2   Predominant Language of Communication

.1   Provincial Distribution

Table 4.1 and Figure 4.1 show the 15 most spoken languages in Luapula Province. The predominant language of communication in Luapula Province in the year 2000 was Bemba with 61.3 percent of the population using it.

Figure 4.1: Predominant Language of Communication, Luapula Province, 2000

	Bemba	Lunda	Lala	Bisa	Ushi	Chishinga	Ng'umbo	Kabende	Tabwa	Shila	Unga	Bwile	Nyanja	Mambwe	English	Other
Total	61.3	1.7	0.1	0.1	16	0.8	5.6	4.5	0.3	0.5	1.8	2.4	0.1	0.1	0.1	4.6
Rural	57.7	1.7	0.1	0.1	17.8	0.9	6.6	4.5	0.3	0.6	2.2	2.8	0.1	0.1	0.1	4.4
Urban	80.2	1.9	0.1	0	6.4	0.3	0.2	4.6	0.1	0	0.1	0.5	0.4	0.2	0.5	4.5

Predominant Language
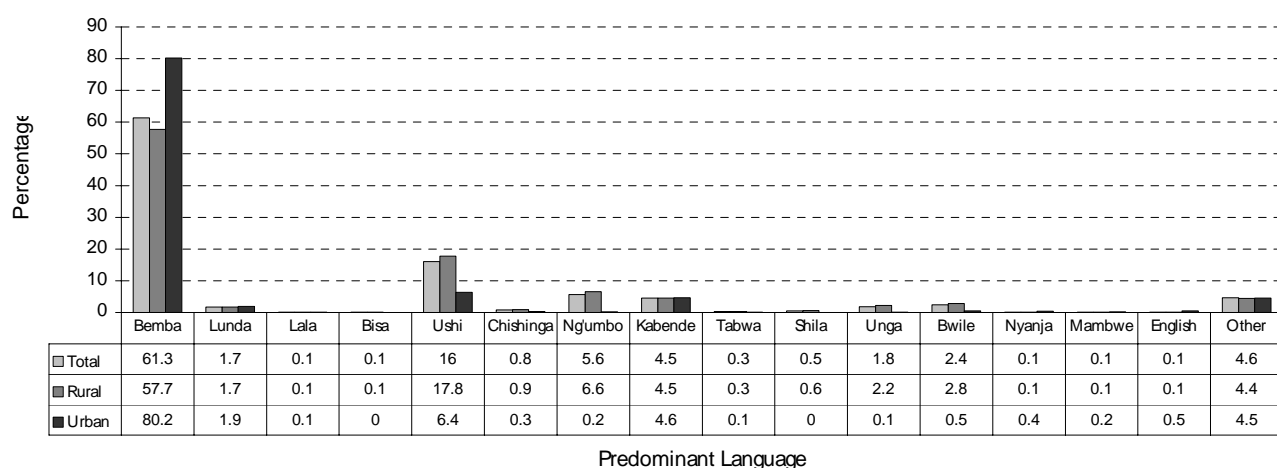
Source: 2000 Census of Population and Housing

Table 4.1:   *Predominant Language of Communication, Luapula Province, 2000*

Predominant Language of Communication	Luapula	Rural	Urban
Bemba	61.3	57.7	80.2
Lunda (Luapula)	1.7	1.7	1.9
Lala	0.1	0.1	0.1
Bisa	0.1	0.1	0
Ushi	16.0	17.8	6.4
Chishinga	0.8	0.9	0.3
Ng'umbo	5.6	6.6	0.2
Kabende	4.5	4.5	4.6
Tabwa	0.3	0.3	0.1
Shila	0.5	0.6	0
Unga	1.8	2.2	0.1
Bwile	2.4	2.8	0.5
Nyanja	0.1	0.1	0.4
Mambwe	0.1	0.1	0.2
English	0.1	0.1	0.5
Other	4.6	4.4	4.5
Total	100	100	100
Total Population	674,049	568,540	105,509

rce: 2000 Census of Population and Housing

In descending order of magnitude the 7 widely spoken languages in Luapula Province are, Bemba (61.3percent), Ushi (16.0percent), Ng'umbo (5.6percent), Kabende (4.5), Bwile (2.4), Unga (1.8) and Lunda (Luapula), (1.7 percent).

The remaining languages are each spoken by less than 1 percent of the population. Of the 15 most spoken languages in Luapula Province, there are only two predominant languages that are among the nation seven official languages. These are Bemba and Nyanja accounting for 61.4 percent of the total population in the province .The percentage share of these two languages has remained unchanged in the last 10 years.

4.2.2   District Distribution

At District Level Bemba is spoken by a large proportion of the population in 3 districts: Mwense (93.8 percent), Nchelenge (87.2 percent) and Kawambwa (85.5 percent). Two-thirds of the population in Chienge District and only one-third of the people of Samfya District use Bemba as their predominant language of communication. However, in Milenge and Mansa districts, Ushi is mostly used for communication accounting for 79.2 and 54.0 percent respectively. Whereas Bemba is the most spoken language in Mwense,Nchelenge, Kawambwa Chienge and Samfya districts, the next most spoken languages in these districts   vary. In the case of

Kawambwa, the next most spoken language is Chishinga at 5.4 percent, for Chienge it is Bwile (22.1 percent), Mwense has Lunda (Luapula) at 1.3 percent and in Samfya District it is Ng'umbo and Kabende in that order (26.7 percent and 21.4, percent, respectively).

Table 4.2:   Predominant Language of Communication by District, Luapula Province, 2000

Predominant Language of Communication	Total	Chienge	Kawambwa	Mansa	Milenge	Mwense	Nchelenge	Samfya
Bemba	61.3	67	85.5	39.6	10.5	93.8	87.2	35.9
Lunda (Luapula)	1.7	0.3	4.1	0.2	0.1	1.3	6.2	0.0
Lala	0.1	0.0	0.0	0.1	1.3	0.0	0.0	0.0
Bisa	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.4
Ushi	16.0	0.1	0.2	54.0	79.2	0.3	0.2	2.0
Chishinga	0.8	0.1	5.4	0.1	0.0	0.2	0.2	0.0
Ng'umbo	5.6	0.1	0.0	0.3	0.2	0.0	0.0	26.7
Kabende	4.5	0.0	0.0	0.1	3.6	0.0	0.0	21.4
Tabwa	0.3	2.5	0.1	0.0	0.0	0.0	0.1	0.0
Shila	0.5	2.8	0.0	0.0	0.0	0.0	1.5	0.0
Unga	1.8	0.0	0.0	0.0	0.1	0.0	0.0	8.9
Bwile	2.4	22.1	0.0	0.0	0.0	0.0	0.0	0.0
Nyanja	0.1	0.0	0.1	0.3	0.1	0.1	0.1	0.1
English	0.1	0.0	0.1	0.3	0.0	0.1	0.1	0.1
Other Language	4.7	5.0	4.5	4.9	4.8	4.2	4.4	4.5
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Total Population	**674,049**	**73,333**	**89,439**	**159,273**	**23,562**	**92,587**	**97,962**	**137,893**

Source: 2000 Census of Population and Housing

Predominant Language Groups

re than 95 percent of all languages spoken in Luapula Province are in the Bemba language group. In addition, 95.4 percent rural and 94.5 percent of the urban population speak a language in this group. The next most widely spoken languages are in the Nyanja group (0.2 percent). The remaining language groups are each spoken by less than 0.1 percent of the population.

h the exception of the Bemba language group the rest of the language groups are more predominant in urban than in rural areas of the province (see Table 4.3 for details).

le 4.3:   Predominant Language Groups by Sex and Residence, Luapula Province, 2000

Predominant Language of Communication	Luapula			Rural			Urban		
	Both Sexes	**Male**	**Female**	**Both Sexes**	**Male**	**Female**	**Both Sexes**	**Male**	**Female**
Bemba	95.2	95	95.4	95.4	95.5	95.5	94.5	93.9	94.9
Tonga	0.1	0.1	0.1	0	0	0	0.2	0.2	0.2
North-Western	0	0.1	0	0	0	0	0.1	0.2	0.1
Barotse	0	0.1	0	0	0	0	0.1	0.2	0.1
Nyanja	0.2	0.2	0.2	0.1	0.1	0.1	0.6	0.7	0.6
Mambwe	0.1	0.1	0.1	0.1	0.1	0	0.2	0.2	0.2
Tumbuka	0	0	0	0	0	0	0.1	0.1	0.1
English	0.1	0.2	0.1	0.1	0.1	0	0.5	0.6	0.3
Others	4.3	4.2	4.1	4.3	4.2	4.4	3.7	3.9	3.5
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Population	**674,049**	**328,010**	**346,039**	**568,540**	**276,826**	**316,015**	**105,509**	**51,184**	**54,325**

Source: 2000 Census of Population and Housing

rban areas, more women than men speak Bemba. There are slightly more females who speak the languages in the Bemba.

Trends in Language Groups' Distribution, 1980 – 2000

le 4.4 shows trends in the percentage share of each language group for the period 1980 –2000. The Bemba group has remained dominant in the province throughout the last 20 years followed by Nyanja. None of the language groups has shown an increase in usage in Luapula Province.

Predominant Language Groups by Census Year, Luapula Province, 1980–2000

Language group	Percentage of Total Population		
	1980	**1990**	**2000**
Bemba	97.2	98.9	95.2
Tonga	0.2	0.1	0.1
North-Western	0.1	0.1	0.0
Barotse	0.1	0.1	0.0
Nyanja	0.6	0.3	0.2
Mambwe	0.2	0.2	0.1
Tumbuka	0.2	0.1	0.0
English	1.0	0.1	0.1
Other	0.4	0.1	4.3
Total	**100**	**100**	**100**
Population	**391,042**	**504,271**	**674,049**

ces: 1980, 1990 and 2000 Censuses of Population and Housing

4.5   Second Language of Communication

There are many languages that exist in Zambia and as such, for each respondent, the census collected information on the second language besides the predominant language of communication that they used from day to day. In Luapula Province a total of 107,884 respondents (or 16 percent) reported use of a second language.

Most notable here is the fact that the main second language of communication is English with a percentage share of 58.2 percent followed by Bemba (14.2 percent), Nyanja (10.9 percent) and Ushi (4.0 percent).

Table 4.5:   Second Language by Residence: Luapula Province, 2000

Second Language of Communication	Total	Rural	Urban
Bemba	14.2	18.2	5.8
Lunda (Luapula)	0.8	0.8	0.8
Lala	0.6	0.8	0.1
Bisa	0.3	0.3	0.1
Ushi	4.0	3.8	4.6
Chishinga	0.5	0.6	0.2
Ng'umbo	0.3	0.3	0.2
Lamba	0.3	0.4	0.2
Kabende	0.4	0.6	0.1
Tabwa	0.4	0.6	0.1
Shila	0.3	0.4	0.0
Unga	0.4	0.6	0.0
Bwile	0.4	0.5	0.0
Tonga	1.0	1.1	0.9
Lenje	0.1	0.1	0.1
Luvale	0.1	0.1	0.1
Kaonde Sub-Group	0.8	1.0	0.6
Lozi	0.5	0.4	0.8
Chewa	0.1	0.1	0.1
Nsenga	0.2	0.2	0.2
Ngoni	0.1	0.1	0.2
Nyanja	10.9	12.0	8.6
Kunda	0.2	0.3	0.1
Mambwe	0.5	0.5	0.7
Namwanga	0.3	0.2	0.4
Tumbuka	0.3	0.3	0.3
English	58.2	51.3	73.0
Other Language	3.4	4.2	1.8
African	0.2	0.3	0.1
Total	**100.0**	**100.0**	**100.0**
Total population	**107,884**	**73,648**	**34,236**

Source: 2000 Census of Population and Housing

The distribution of the second language groups and residence is further disaggregated by sex and is presented in Figure 4.3 and Table 4.6. Results from Figure 4.2 and Table 4.6 a similar picture as that for predominant languages with the exception of the proportion of the population using English, which is significantly high. This may be attributed to the fact that it is the nation's official language and as such, many people are likely to use it for communication.

Figure 4.2: Distribution of Second Language of Communication by Sex (Percent), Luapula Province,2000

	Bemba	Tonga	North-western	Barotse	Nyanja	Mambwe	Tumbuka	English	Other
Both Sexes	22.9	1.2	1.1	0.6	11.6	0.9	0.5	58.2	3.0
Male	18.1	1.0	0.9	0.4	10.7	0.7	0.5	64.7	3.0
Female	30.1	1.5	1.3	0.8	12.8	1.3	0.5	48.6	3.1
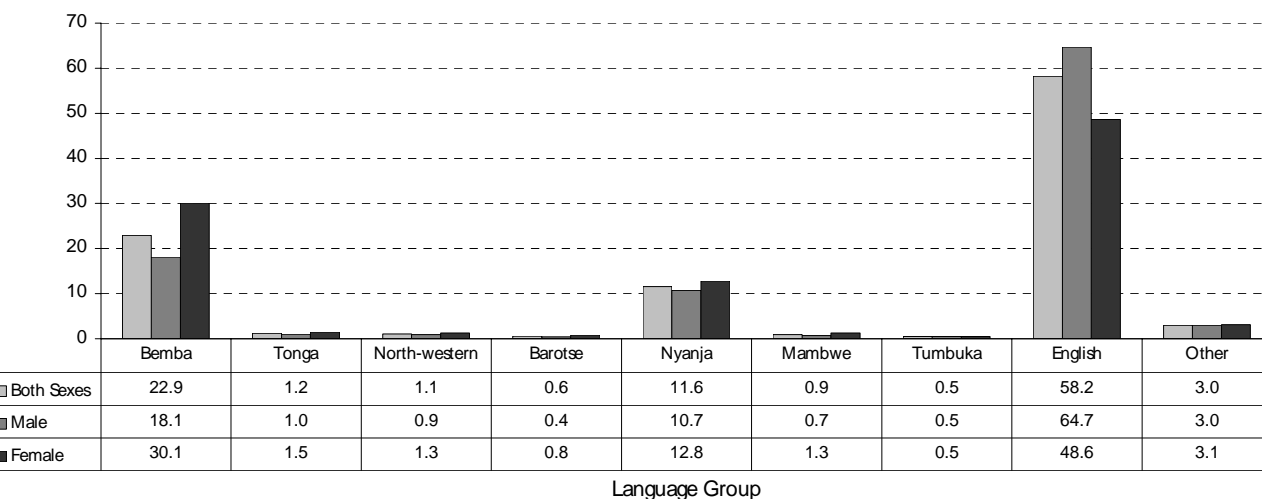
Language Group

Source: 2000 Census of Population and Housing

Table 4.6: Distribution of Population by Second Language, Sex and Residence (Percent), Luapula Province, 2000

	Total			Rural			Urban		
Language Group	**Both Sexes**	**Male**	**Female**	**Both Sexes**	**Male**	**Female**	**Both Sexes**	**Male**	**Female**
Bemba speaking	22.9	18.1	30.1	27.9	21.4	38.6	12.2	10.0	14.8
Tonga speaking	1.2	1.0	1.5	1.3	1.1	1.6	1.0	0.8	1.3
North-western	1.1	0.9	1.3	1.2	1.0	1.5	0.8	0.7	1.0
Barotse	0.6	0.4	0.8	0.4	0.3	0.6	0.8	0.6	1.1
Nyanja speaking	11.6	10.7	12.8	12.7	11.9	14.0	9.2	7.9	10.8
Mambwe	0.9	0.7	1.3	0.8	0.6	1.2	1.1	0.8	1.6
Tumbuka	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
English	58.2	64.7	48.6	51.3	59.4	38.1	73.0	77.4	67.7
Other Language	3.0	3.0	3.1	3.9	3.8	3.9	1.4	1.3	1.2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Total Population	**107,884**	**64,272**	**43,612**	**73,648**	**45,520**	**28,128**	**34,236**	**18,752**	**15,484**

Source: 2000 Census of Population and Housing

The other language groups showing dominance in magnitude are Bemba (22.9 percent), Nyanja (11.6) and Tonga (1.2 percent). These three language groups account for almost half the population speaking a second language (47.7 percent). It must be noted that English is used as a second language of communication by nearly three quarters (73.0 percent) of the population in urban areas compared with slightly more than half (51.3 percent) using the language in rural areas. There is a significant difference between urban women who speak English (67.7) and their rural counterparts (38.1 percent). The proportion of male speaking English is higher than that of females.

4.6   ETHNICITY

he 2000 Census of Population and Housing, seven broad groups of tribes were identified. These are: Bemba group, Tonga group, North-Western group, Barotse group, Nyanja or Eastern group, Mambwe group and the Tumbuka group. The groups are such that all the tribes in Zambia belong to one of these broad tribal groupings. The Bemba group includes all tribes of Luapula Province, some tribes in Central and Copperbelt provinces and all but those tribes belonging to the Mambwe group in the Northern Province. The Tonga group consists of all the tribes of Southern Province in addition to Lenje from Central Province and also the Soli and Gowa tribes from Lusaka Province. The North-Western and Barotse groups consist of all the tribes of the North-Western and Western provinces respectively. The Nyanja group (getting its name from the lingua franca from the languages spoken by the people in its group) consists of some tribes of the Eastern Province including the Chikunda of Lusaka Province. Lungu, Mambwe Namwanga, Wina and Tambo make up the Mambwe group while the Tumbuka group is made up of Tumbuka, Senga and the Yombe on the northern part of Eastern Province.

Table 4.7 shows the 26 most predominant ethnic groups in Luapula Province as reported in the 2000 Census of Population and Housing. In descending order, the 7 largest ethnic groups are Bemba (24.5 percent, Ushi (20.8) , Lunda (Luapula) (13.6 percent), Chishinga (10.2 percent), Ng'umbo (8.7 percent), Kabende (6.3 percent), and Bwile (4.8 percent).

Table 4.7:   *Ethnic Groups by Residence, Luapula Province, 2000*

Ethnic Group	Total	Rural	Urban
Bemba	24.5	21.8	39.4
Lunda (Luapula)	13.6	14	11.4
Lala	0.3	0.2	0.6
Bisa	0.6	0.5	1.1
Ushi	20.8	21.6	16.6
Chishinga	10.2	10.9	6.1
Ngumbo	8.7	9.2	5.8
Lamba	0.1	0.1	0.3
Kabende	6.3	6.1	7.1
Tabwa	2.0	2.2	1.0
Mukulu	0.1	0.1	0.1
Shila	2.5	2.8	0.7
Unga	2.3	2.6	0.6
Bwile	4.8	5.5	1.0
Tonga	0.2	0.1	0.9
Lunda (North Western)	0.1	0.1	0.4
Kaonde	0.1	0.1	0.5
Lozi	0.2	0.1	0.8
Chewa	0.1	0.1	0.5
Nsenga	0.2	0.1	0.6
Ngoni	0.2	0.1	0.7
Lungu	0.3	0.2	0.4
Mambwe	0.4	0.2	1.1
Namwanga	0.2	0.1	0.8
Tumbuka	0.2	0.1	0.6
Africans	0.7	0.8	0.2
Other	0.4	0.2	1.0
Total	**100**	**100**	**100**
Total Population	**729,828**	**616,846**	**112,982**

Source: 2000 Census of Population and Housing

In terms of residence, among the 7 largest ethnic groups, Ushi, Lunda(Luapula), Chishinga, Ng'umbo and Bwile are more prevalent in rural areas than in urban areas of the province. On the other hand, Bemba and Kabende are more prevalent in urban than in rural areas. There are more Bemba people in urban than in rural areas (39.4 percent versus 21.8 percent).

Figure 4.3: Broad Ethnic Groups by Residence, Luapula Province, 2000

	Bemba	Lunda (Luapula)	Lala	Bisa	Ushi	Chisanga	Ngumbo	Lamba	Kabende	Tabwa	Mukulu	Shila	Unga	Bwile	Tonga	Lunda (N/West ern)	Kaonde	Lozi	Chewa	Nsenga	Ngoni	Lungu	Mambwe	Namwa nga	Tumbuka	Africans	Other
Total	24.4	13.6	0.3	0.6	20.8	10.2	8.7	0.1	6.3	2	0.1	2.5	2.3	4.8	0.2	0.1	0.1	0.2	0.1	0.2	0.2	0.3	0.4	0.2	0.2	0.7	0.4
Rural	21.8	14	0.2	0.5	21.6	10.9	9.2	0.1	6.1	2.2	0.1	2.8	2.6	5.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.8	0.2
Urban	39.4	11.4	0.6	1.1	16.6	6.1	5.8	0.9	7.1	1	0.1	0.7	0.6	1	0.9	0.4	0.5	0.8	0.5	0.6	0.7	0.4	1.1	0.8	0.6	0.2	1
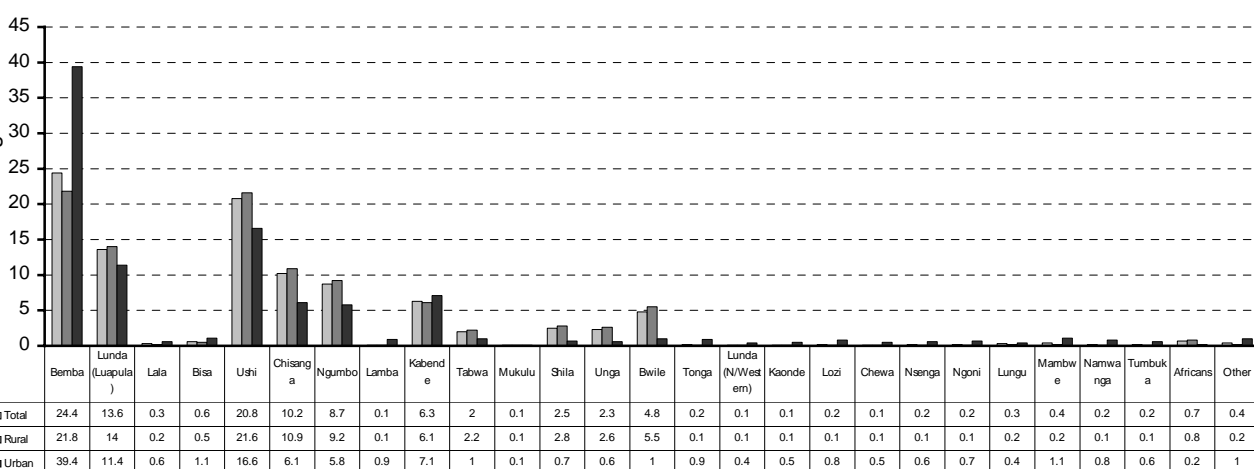
Source: 2000 Census of Population and Housing

It must be noted here that Bemba as an ethnic group is not indigenous to the province. This may be observed from its higher prevalence in urban than rural areas in the province. It is also possible that some respondents who are indigenous to the province may have reported Bemba as their ethnic group or indeed tribe because of its similarity to most if not all tribes in the province.

Broad Ethnic Groups

e broad ethnic groups, as defined in the introduction above, are analyzed by looking at their distribution by sex and residence (see Table 4.8 and Figure 4.4). Tribes in the Bemba ethnic group account for more than three-quarters of all tribes in Luapula Province. Additionally, 97.7 percent and 91.6 percent of the people belonging to the Bemba tribal group reside in rural and urban areas respectively. The distribution of the people of the Bemba group by sex shows very little variability.

Figure 4.4: Broad Ethnic Groups by Sex, Luapula Province, 2000

	Bemba	Tonga	North-Western	Barotse	Nyanja	Mambwe	Tumbuka	English	Other
Both Sexes	96.7	0.3	0.3	0.2	0.6	0.9	0.2	0.0	0.8
Male	96.5	0.3	0.3	0.2	0.6	0.9	0.2	0.0	1.0
Female	97.0	0.3	0.3	0.2	0.5	0.8	0.2	0.0	0.7
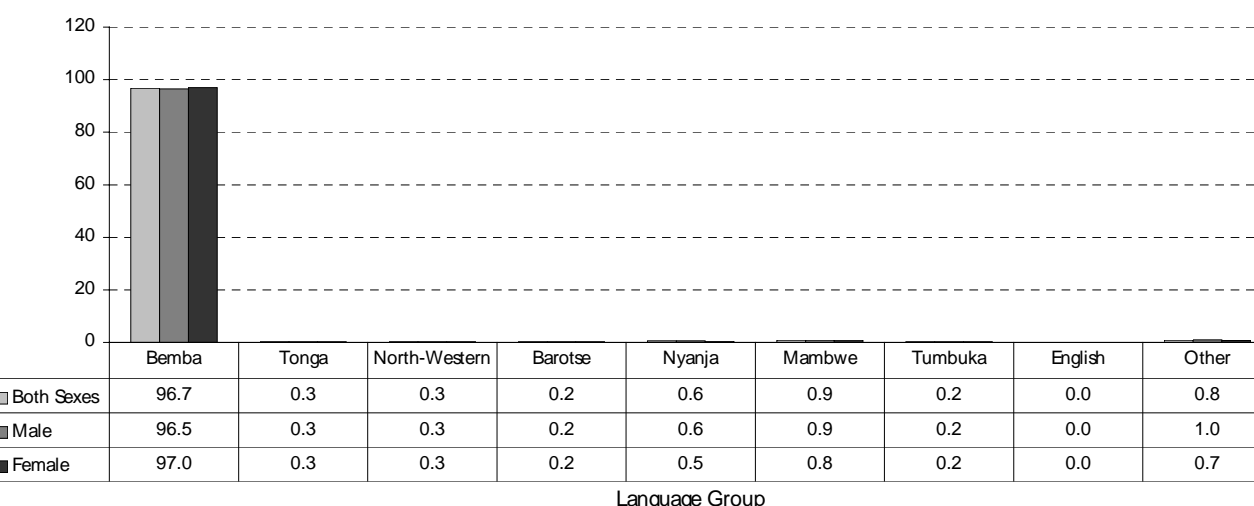
Language Group

Source: 2000 Census of Population and Housing

ults from Figure 4.5 and Table 4.8 further reveal that in order of size, the Mambwe Group is the next largest of the tribal groups at 0.9 percent of the whole population. The others are: Nyanja (0.6 percent), North-Western group and Tonga group (0.3), Barotse and Tumbuka (0.2). The distribution by residence of all these tribes does not show much variation except the Mambwe group for which four times the people live in urban compared with those in the rural areas of the province (2.4 percent versus 0.6 percent).

le 4.8:   Broad Ethnic Groups by Sex and Residence, Luapula Province, 2000

	Total			Rural			Urban		
Ethnicity	**Both Sexes**	**Male**	**Female**	**Both Sexes**	**Male**	**Female**	**Both Sexes**	**Male**	**Female**
Bemba	96.7	96.5	97.0	97.7	97.5	97.8	91.6	91.0	92.2
Tonga	0.3	0.3	0.3	0.1	0.2	0.1	1.1	1.3	1.0
North-Western	0.3	0.3	0.3	0.2	0.2	0.1	1.1	1.2	1.0
Barotse	0.2	0.2	0.2	0.1	0.1	0.1	0.8	0.9	0.7
Nyanja	0.6	0.6	0.5	0.3	0.3	0.3	2.0	2.1	1.9
Mambwe	0.9	0.9	0.8	0.6	0.6	0.6	2.4	2.4	2.3
Tumbuka	0.2	0.2	0.2	0.1	0.2	0.1	0.7	0.7	0.7
English	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.8	1.0	0.7	0.9	0.9	0.9	0.3	0.4	0.2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Population	**729,828**	**38,370**	**374,001**	**616,846**	**300,831**	**316,015**	**112,982**	**54,996**	**57,986**

Source: 2000 Census of Population and Housing

le 4.9 shows that the predominant ethnic group at District Level with an exception of Kawambwa and Nchelenge does not follow the provincial pattern. The predominant ethnic group in Chienge is Bwile (41.9 percent), Mwense is Lunda (Luapula) (41.3 percent) and Samfya is Ng'umbo (39.3 percent) while in Mansa and Milenge, Ushi (65.1 and 81.5 percent, respectively) is the predominant ethnic group.

le 4.9:   Broad Ethnic Group by District: Luapula Province, 2000

Ethnic Group	Total	Chienge	Kawambwa	Mansa	Milenge	Mwense	Nchelenge	Samfya
Bemba	24.5	25.3	40.7	22.7	10.2	24.8	37.0	9.3
Lunda (Luapula)	13.6	2.4	16.3	2.0	0.4	41.3	33.9	0.5
Lala	0.3	0.1	0.1	0.4	1.6	0.1	0.1	0.4
Bisa	0.6	0.0	0.1	0.5	0.2	0.2	0.2	1.9
Ushi	20.8	0.9	1.0	65.1	81.5	4.4	2.9	6.1
Chishinga	10.2	1.3	37.7	1.5	0.1	26.3	6.9	0.3
Ngumbo	8.7	0.3	0.2	1.7	0.4	0.3	0.5	39.3
Lamba	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.1
Kabende	6.3	0.0	0.0	0.3	4.0	0.0	0.0	29.3
Tabwa	2.0	12.0	0.5	0.3	0.1	0.3	3.5	0.1
Mukulu	0.1	0.0	0.0	0.2	0.0	0.1	0.0	0.2
Shila	2.5	9.7	0.1	0.1	0.0	0.2	9.4	0.0
Unga	2.3	0.0	0.0	0.1	0.1	0.0	0.1	11.0
Bwile	4.8	41.9	0.1	0.1	0.0	0.0	1.3	0.0
Tonga	0.2	0.1	0.2	0.4	0.2	0.2	0.1	0.2
Lunda (North Western)	0.1	0.1	0.1	0.3	0.0	0.0	0.1	0.1
Kaonde	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.1
Lozi	0.2	0.1	0.2	0.4	0.1	0.1	0.2	0.1
Chewa	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1
Nsenga	0.2	0.1	0.1	0.3	0.1	0.1	0.2	0.1
Ngoni	0.2	0.1	0.1	0.3	0.1	0.1	0.2	0.1
Lungu	0.3	0.2	0.6	0.2	0.0	0.1	0.6	0.0
Mambwe	0.4	0.4	0.6	0.7	0.1	0.2	0.4	0.1
Namwanga	0.2	0.1	0.2	0.5	0.0	0.2	0.2	0.1
Tumbuka	0.2	0.1	0.2	0.4	0.1	0.2	0.2	0.1
Africans	0.7	4.3	0.1	0.1	0.0	0.2	1.4	0.1
Other	0.4	0.3	0.3	0.7	0.2	0.2	0.3	0.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total Population	**729,828**	**78,903**	**96,331**	**172,399**	**25,850**	**100,390**	**106,254**	**149,701**

Source: 2000 Census of Population and Housing

4.8   Summary

In Summary, there are 674,049 persons with a predominant language. Of the total population, just about one-eighth of the Population in Luapula Province reported to speak a second language at all representing 107,884 persons.

The distribution of languages by residence shows that of the 7 predominant languages of communication, Bemba ,Kabende and Lunda(Luapula) are more widely used in urban areas as opposed to Ushi, Ng'umbo ,Bwile, and Unga which are mostly spoken in rural areas.

nba is spoken by nearly half as many people in urban than in rural areas (80.2 percent versus 57.7 percent). Almost 3 times as many people speak Ushi in rural areas than in urban areas (17.8 versus 6.4 percent).

Chapter 5

EDUCATION CHARACTERISTICS OF THE POPULATION

5.1   Introduction

Education plays a fundamental role in the overall development of nations. It is for this reason that education has been declared by many countries as a human rights issue as attested to by the 1990 Jomtien declaration on Education For All and 1990 Convention on the Rights of the Child. As such, the Zambian Government has recognized the important role of education in grooming morally and intellectually upright individuals with the intentions of using the acquired skills and knowledge for the overall development of the country.

However, these declarations have come under threat in the light of economic recessions being experienced by many developing countries including Zambia. In the case of Zambia, the post independence era was marked by drastic policy shifts in the education sector. The sector experienced exceptional expansion during the early years of political independence as a result of efforts aimed at redressing previous impediments and discrimination in the case of access and participation in education. After 1990, two major policies were at play in as far as education provision was concerned, namely "Focus on Learning of 1992 and "Educating Our Future" of 1996. Despite these well-articulated policies, the last decade witnessed subdued expansion in the sector mainly as a result of new policy initiatives, which included among others, liberalized market economy with its attendant privatization, liquidation/ closure of industries and retrenchments, and the reintroduction of user service fees as a cost-sharing measure.

The embracement and implementation of these largely over ambitious policies of economic liberalization and privatization as blueprints for socio-economic transformation under Structural Adjustment Programme (SAP), adversely affected all sectors of the economy including education. These new economic measures resulted in increased poverty levels, which manifested themselves in high unemployment, poor performance of the agriculture sector and growth of the informal sector at the expense of the shrinking formal sector. Education and poverty have definitely an impact on each other. Therefore, periodical monitoring of an education system is beyond doubt necessary especially that education has become a human rights issue.

5.2   Census undertaking and Education

There are four main sources of education statistics in Zambia:

- Annual school censuses (sometimes supplemented by school surveys) conducted by Ministry of Education
- Household Surveys conducted by the Central Statistical Office
- Population Censuses, conducted by Central Statistical Office, and
- Administrative registers

The strength of a population census is that it is undertaken on the basis of a complete count of the population. This means that analysis of the education sector in this case can be done at the smallest administrative unit in the country. For any conscious policy target setting, there is need to identify areas where primary, secondary or tertiary school attendance is particularly poor.

Therefore, censuses in general provide a good basis for monitoring the participation of the population in an education system and also reveal the absorption power of the same system. The 2000 Census of Population and Housing captured the following education aspects for all persons as per UN recommendations for the 2000 census round:

- Literacy, i.e. whether an individual can read and write in any language,
- School attendance
- Academic Educational attainment
- Professional or Vocational attainment, and
- Fields of study.

This chapter looks at school attendance as a measure of participation in an education system at all levels and literacy levels as a measure of effectiveness of the education system. In addition, various fields of study that have been undertaken in Luapula Province have been shown.

5.3   CONCEPTS AND DEFINITIONS

- **EDUCATIONAL SYSTEM**

An education system refers to a set of programmes tailored to impart knowledge and skills, formally acquired through a framework of an established schooling system, or informally through interaction with one's society, in an individual. The term "Education" is understood to comprise all deliberate, systematic and organized communication designed to bring about learning.

Zambian education system conforms to the 1997 International Standard Classification of Education (ISCED97), which consists of 7 levels of education provision. These levels can be outlined as follows:

- Level 0: Early childhood Education programmes including Pre-Schools
- Level 1: Primary education programmes
- Level 2: Junior Secondary Education programmes (Also referred to as Upper Basic education)
- Level 3: Upper Secondary Education programmes (Also referred to as High School education)
- Level 4: "A" Level Education programmes
- Level 5: College and undergraduate education programmes, and
- Level 6: Graduate and Post Graduate education programmes

Formal education is mainly based on a three-tier system, which starts with primary education from grade 1 to 7, followed by secondary education from grade 8 up to 12. The next level relate to tertiary education, which basically include college and university education. Selective examination of pupils in grades 7, 9 and 12 inhibit universal progression of pupils from one level to another. The primary and secondary cycles last for 7 and 5 years respectively. Alternatively, the duration of tertiary education varies widely depending on the education program load and certification requirements. These three levels constitute what has come to be known as formal education system.

According to the 1996 education policy, the Government intends to scrap off grade 7 examination by 2015 so that there is universal progression up to grade 9; hence the concept of basic education which comprises the first 9 grades of formal education in Zambia.

In addition to primary and secondary education, the last two decades saw the mushrooming of community schools and some institutions offering early childhood education mainly in urban areas. Some of these schools actually enroll children in formal grades. This development has made it increasingly difficult to monitor school enrolment and attendance since these schools fall outside the data collection and monitoring system implemented by the Ministry of Education. In addition to early childhood institutions, there has been an increase in community schools which mainly cater for school drop-outs and orphans. Some of the major characteristics of community schools are that they are near to homes of learners. They are not demanding in terms of entry requirements and that they are community driven. The enrolment levels in these schools have tremendously increased from less than 10,000 in 1996 to over 50,000 learners by 2000 (ZCSS, 1999).

Another form of learning in Zambia takes place through non-formal education. This comprises continuing and adult education. There is also education for better living, which is normally imparted through both the media and theatre.

- **SCHOOL ATTENDANCE**

School attendance, in population censuses is defined as attendance at any accredited educational institution or programme, public or private, for organized learning at any level of education. The primary school entry

age in Zambia is seven years. Taking the admission age to grade 1 as 7 years, the following age-grade match applies for a given educational level:

- Lower primary (Lower basic) grades 1 to 4 correspond to pupils aged 7 to 10 years.
- Upper primary (Middle basic) grades 5 to 7 correspond to pupils aged 11 to 13 years.
- Junior secondary (Upper basic) grades 8 and 9 correspond to pupils aged 14 and 15 years.
- Senior Secondary (High School) grades 10 to 12 correspond to pupils aged 16 to 18 years.
- Students above the age of 18 years are, by expectation, supposed to be in higher institution of learning.

However, there are in most cases age-grade mismatches arising from either early entry or late exit from a given level of education.

- **GROSS SCHOOL ATTENDANCE RATE**

Gross School Attendance Rate is defined as the ratio of the population aged five years and over attending a specified education level to the applicable official school-age population. In some instances where there is rampant under-age and over-age enrolment, the ratio can be over 100 percent. This indicator is mainly used to measure the absorption capacity of an education system at any designated level.

- **NET SCHOOL ATTENDANCE RATE**

The Net School Attendance Rate measures the proportion of the school-age population that is attending a designated level of education. This indicator is much more refined than the crude Gross Attendance Rate and is widely used in education planning. The gross and net attendance rates are used to determine the extent of under and over-age school attendance in an education system. The difference between gross and net school attendance is an indication of the degree of under and over-age enrolment in a designated level of education.

- **ACADEMIC EDUCATION COMPLETED**

This is the highest level of formal education that an individual has attained or completed regardless of duration in school. Education qualifications acquired such as certificate, diploma, or degree are included in the educational outputs. If an individual is attending grade seven, the highest level completed is grade six. In this chapter, adding 1 to the variable defining highest level of education completed determines current grade for those reported to be presently attending school.

- **LITERACY**

Literacy refers to the ability to read and write in any language. Members of the population who are able to read and write are said to be Literate.

5.4   Literacy Rate

General Literacy Rate refers to the proportion of the population aged 5 years and above who can read and write. Adult Literacy Rate refers to the percentage of the population aged 15 years and above who can read and write. Youth Literacy Rate is in this case defined as the proportion of the population aged 15 to 24 years who are literate.

5.4.1   Literacy Levels for the population aged 5 years and above.

A literate nation is more likely to develop than an illiterate one since the former is well informed. Table 5.1 shows the proportions of the population aged 5 years and above who were able to read and write in Luapula Province. The literacy rate for the province in 2000 is slightly lower the national literacy rate of 55.3 percent for the population aged 5 years and above. Results from the table and Figure 5.1 indicate that the literacy rate for the population aged 5 years and above slightly declined from 49.4 percent in 1990 to 48.4 percent in 2000. Results further show that the problem of illiteracy is still more common among the female than their male counterpart since 1990. Almost 60 percent of the females in the province remained illiterate compared to less than half of the male population.

In rural areas, the proportion of the population that could read and write in any language slightly declined from 46.5 percent to 45.3 percent between 1990 and 2000. On the other hand, literacy levels increased in urban areas by 3-percentage points, from 64.9 to 68.2 percent during the same period. More than half of the rural population aged 5 years and above remained illiterate compared to about 1 third of the urban population by 2000.

Table 5.1:   Literacy Rates by Age Group, Sex and District, Luapula Province, 1990 – 2000

Sex, Residence and District	5 years and above	15 - 24	15 and above	Population
Zambia (1990)	55.3	74.9	66	6,181,285
Luapula (1990)				
Both Sexes	49.4	69.5	61.3	439,384
Male	56.9	75.2	73.9	210,014
Female	42.4	64.9	50.4	229,370
Rural	46.5	66.6	58.5	370,105
Urban	64.9	83.5	76.7	69,279
Zambia (2000)	55.3	70.1	67.2	7,680,705
Luapula (2000)				
Both Sexes	48.4	62.3	61.5	590,464
Male	56.0	70.9	73.8	286,366
Female	41.2	55.1	50.5	304,098
Rural	45.3	58.5	58.6	511,413
Urban	68.2	83.6	80.4	79,051
District				
Chiengi	39.5	47.9	50.3	63,910
Kawambwa	53.5	70.2	68.3	78,825
Mansa	54.6	69.6	67.9	138,962
Milengi	41.7	54.3	55.8	21,336
Mwense	49.6	66.5	64.9	81,247
Nchelenge	49.4	61.5	63.1	85,625
Samfya	42.2	55.3	53.6	120,559

Sources: CSO, 1990 and 2000 Census of Population Housing

Figure 5.1: Literate Population by age group (Percent), Luapula Province, 1990 and 2000
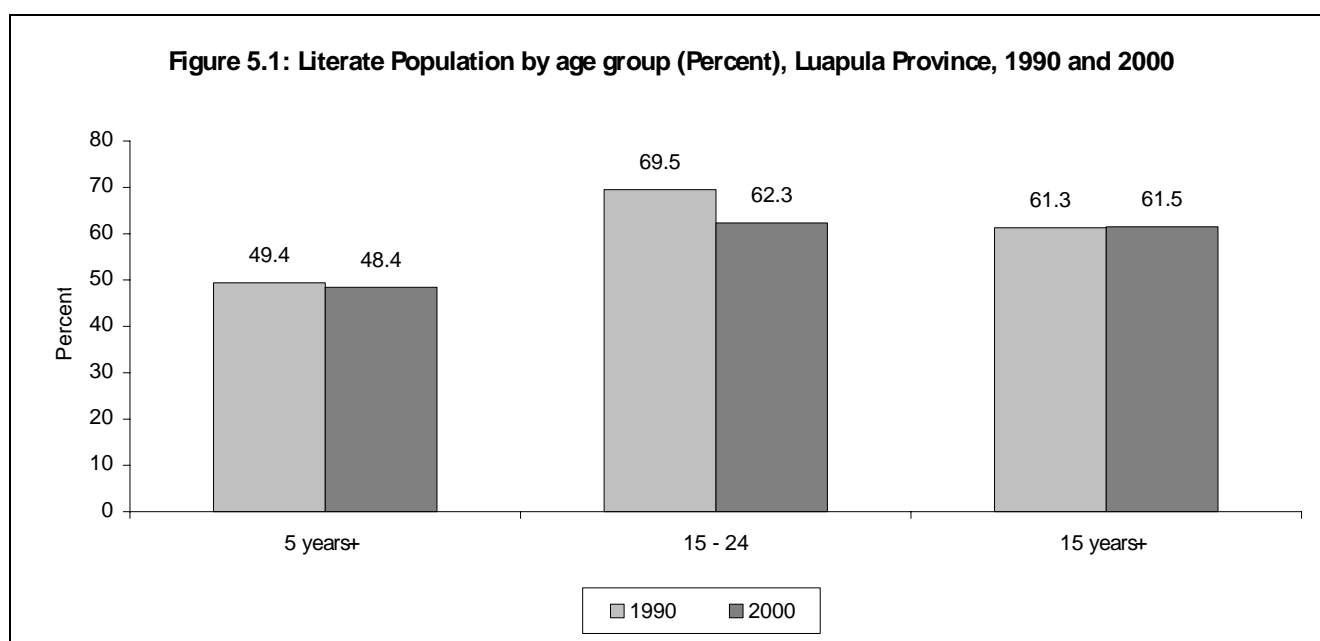
Sources: CSO, 1990 and 2000 Census of Population Housing

Comparison of literacy rates for districts in Luapula Province reveals high rates in Mansa and Kawambwa districts, at 55 and 54 percent, followed by Mwense and Nchelenge (50 percent and 49 percent). The lowest literacy rate was observed in Chiengi District, of about 40 percent, followed by Milengi and Samfya at 42 percent each. Overall, results indicate that the general population in the newly created districts such as Chiengi and Milengi is less likely to be literate than the population in old districts. The old districts may have comparative advantage in terms of availability of educational infrastructure that has direct bearing on literacy over the new ones.

5.4.2   Literacy Levels for the Population Aged 15-24 Years (Youth Literacy)

Youth literacy rate had declined from 69.5 percent in 1990 to 62.3 percent in 2000 (Figure 5.1). The drop in the proportion of the population aged 15 to 24 years was pronounced among females (from 64.9 percent to 55.1 percent) than the males (75.2 percent to 70.9 percent), Similar to the national. By the year 2000, almost 1 in every 3 males (29 percent) aged 15 to 24 years as opposed to 1 in every 2 females (55 percent) was illiterate. Therefore the problem of youth illiteracy is more likely to be high among the female than the male population. Also the youth literacy rate for the province in 2000 is lower than the national youth literacy rate of 70.1 percent.

The problem of youth illiteracy is still more of a rural than urban phenomena. By the year 2000, about 41 percent of the youths in rural areas compared to only 16 percent in urban areas were illiterate. The youth literacy rate in rural areas declined from 66.6 to 58.5 percent during the 1990-2000 intercensal period. However, in urban areas youth literacy rate stagnated at the 1990 level of about 84 percent.

Chiengi and Milengi districts recorded the lowest proportions of literate youths during the year 2000 of 47.9 and 54.3 percent, respectively. High rates of youth literacy for the same year were identifiable with Kawambwa and Mansa districts, at about 70 percent each. The percentage of youths who could read and write in Mwense, Nchelenge and Samfya stood at about 67, 62 and 55 percent, respectively.

5.4.3   Literacy Levels for the Population Aged 15 Years and Above (Adult Literacy Rates)

Adult literacy rate had slightly increased from 61.3 percent to 61.5 percent between 1990 and 2000 in Luapula Province. The provincial adult literacy rate is lower than the national adult literacy rate of 67.2 percent. The proportions of male and female adults who were literate almost stagnated at the 1990 levels of 74 and 50 percent, respectively.

Results further indicate that since 1990 the problem of adult illiteracy has been more of a rural than urban phenomenon. Almost 41 percent of the rural population aged 15 years and over were illiterate compared to 20 percent of the urban population during the year 2000. In rural areas, adult rate remained at the 1990 level of 59 percent while the rate in urban areas of the province increased by 3 percentage points over and above the 1990 rate of 76.7 percent.

Analysis of the results by districts shows that Kawambwa and Mansa recorded the highest rates of adult literacy of about 68 percent apiece. On the other hand, Chiengi (50.3 percent) and Samfya districts (53.6 percent) had the lowest proportions of the defined adult population who could read and write in any language.

5.5   School Attendance

One of the measures used to assess the participation of the population in an education system and the absorption capacity of the system is school attendance. Analysis of school attendance becomes more meaningful if the information available relates to the official school age population.

Table 5.2 and Figure 5.2 show the population aged 5 years and above presently attending school in Luapula Province. Overall, the proportion of the population presently attending school marginally increased from 21.9 percent in 1990 to 23.1 percent in 2000. The provincial proportion of the population attending school in 2000 is above the national average of 26.7 percent. Since 1990, there have been proportionately more males attending school than females. The percentage of both males and females attending school barely increased between 1990 and 2000 from 25 and 19 percent to 26.1 and 20.2 percent, respectively.

During the same period under review, there was an increase in the proportion of children aged 5 to 14 years presently attending school. The percentage of the population in the age group 5 to 9 years presently attending school increased from 23.9 to 28.4 percent during the intercensal period under review. Similarly, the proportion of population aged 10 to 14 years presently attending school also increased from 61 percent in 1990 to 66.4 percent in 2000. However, the age group 15 to 19 years recorded a slight drop in the percentage attending school between 1990 and 2000, from 41.3 to 39.6 percent. These population cohorts almost befit the official primary and secondary school age population. The diminishing proportions of school attendance with every increase in age are a clear indication of how inaccessible higher education has become in the province, particularly tertiary education. Persons aged beyond 18 years are by Zambian standards expected to be attending tertiary education.

Table 5.2: **Population Age 5 Years and Above Presently Attending School by Sex and Age Group, (Percent), Luapula Province, 1990 and 2000**

Age	1990				2000			
	Total	Male	Female	Population	Total	Male	Female	Population
Luapula Total	21.9	25.0	19.0	438,384	23.1	26.1	20.2	590,464
5 – 9	23.9	23.4	24.3	79,216	28.3	28.4	28.2	113,744
10 – 14	61.0	62.8	59.2	72,087	66.4	68.5	64.3	93,357
15 – 19	41.3	52.4	31.5	64,048	39.6	50.6	29.7	82,350
20 – 24	9.7	16.0	4.9	46,786	7.5	12.0	4.1	64,462
25 – 29	2.2	2.9	1.6	35,403	2.7	3.4	2.0	52,357
30 – 44	1.3	1.7	1.0	70,629	2.1	2.6	1.6	102,152
45+	0.7	0.9	0.4	71,215	1.3	1.9	0.8	82,042

Sources: CSO, 1990 and 2000 Census of Population Housing

Table 5.3 shows the percentage of the population presently attending school by residence and age group in Luapula Province. Results in the table further reveals that in 1990, only 1 in every 5 persons in rural areas of the province was attending school (20 percent), as opposed to 1 in every 3 persons in urban parts of the region (31.8 percent). However, there was some slight increase in the proportion of the rural population attending school from 20 percent in 1990 to 21.5 percent by 2000 (Figure 5.2). In urban areas, school attendance rate for the general population equally increased from 31.8 to 33.6 percent during the same period. In general the rural population, particularly older members of the population, is less likely to be attending school than the urban population.

Table 5.3: **Population Age 5 Years and Above Presently Attending School by Residence and Age Group (Percent), Luapula Province, 1990 and 2000**

Age group	1990				2000			
	Total	Rural	Urban	Population	Total	Rural	Urban	Population
Luapula Total	21.9	20.0	31.8	439,384	23.1	21.5	33.6	590,464
5 – 9	23.9	21.1	38.9	79,216	28.3	25.4	48.4	113,744
10 – 14	61.0	57.9	76.2	72,087	66.4	63.9	81.8	93,357
15 – 19	41.3	38.2	55.6	64,048	39.6	37.0	54.2	82,350
20 – 24	9.7	8.4	15.9	46,786	7.5	6.4	14.1	64,462
25 – 29	2.2	2.1	3.0	35,403	2.7	2.4	4.4	52,357
30 – 44	1.3	1.3	1.5	70,629	2.1	2.0	2.5	102,152
45+	0.7	0.6	1.0	71,215	1.3	1.3	1.3	82,042

Source: CSO, 1990 and 2000 Census of Population Housing

Furthermore, Table 5.4 reveals that females are less likely to be attending school than their male counterparts particularly those residing in rural areas. In 1990 and 2000, the proportions of females in urban areas of the province attending school were 29.5 percent and 31.1 percent, compared to 17.1 percent and 18.6 percent for rural females respectively. Variations in the proportion of the population presently attending school in all the seven districts of Luapula province have also been observed in the table. The 2000 census results reveal high percentages of school attendance in Kawambwa, Mansa and Mwense of 27.4 percent, 25.9 percent and 24.6 percent respectively. Chiengi district recorded the lowest proportion of the population attending school of 16

percent, followed by Milengi (20.8 percent), Nchelenge (20.9 percent) and Samfya (21.8 percent). There were proportionately more males than females attending school in all the districts.

Table 5.4:   Population Aged 5 Years and Above Presently Attending School by Residence and Age Group, (Percent), Luapula Province, 1990 and 2000

Residence and District	Sex			Population aged 5 years and above
	Total	Male	Female	
Luapula (1990)				
Total	21.9	25.0	19.0	439,384
Rural	20.0	23.2	17.1	370,105
Urban	31.8	34.3	29.5	69,279
Luapula (2000)				
Total	23.1	26.1	20.2	590,464
Rural	21.5	24.5	18.6	511,413
Urban	33.6	36.3	31.1	79,051
District				
Chiengi	16.0	18.8	13.4	63,910
Kawambwa	27.4	30.2	24.7	78,825
Mansa	25.9	28.6	23.3	138,962
Milengi	20.8	23.9	17.8	21,336
Mwense	24.6	28.3	21.1	81,247
Nchelenge	20.9	23.1	18.7	85,625
Samfya	21.8	25.4	18.4	120,559

Sources: CSO, 1990 and 2000 Census of Population Housing

Figure 5.2: Population aged 5 years and above attending school (Percent), Luapula Province, 1990 - 2000
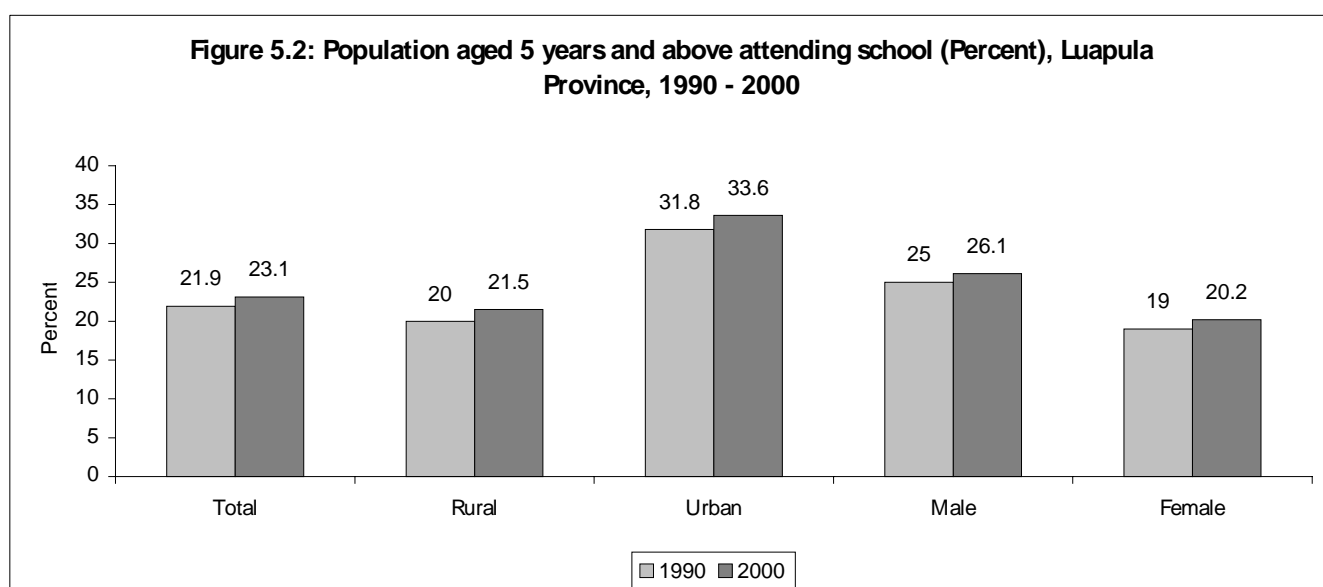
Sources: CSO, 1990 and 2000 Census of Population Housing

5.6   School Attendance by the Primary School Age Population (7–13 Years)

Analysis of school attendance becomes more meaningful when the data relates to the official school age population. In Zambia the official primary school age range is 7 to 13 years. This population cohort constitutes the target population for offering the first 7 grades of basic education. However, some of the members of this cohort may not be attending exactly primary grades (Grades 1 to 7). Table 5.5 shows that school attendance rates by the population aged 7 to 13 years in Luapula Province had increased from 49.4 percent in 1990 to 55.6 percent in 2000. In 2000, the proportion of the primary school age population attending school in the province is lower than the national average of 62.2 percent. The school attendance rates for females and males rose by 6 percent, from about 49 to 55 percent and from 50 to 56 percent respectively. No major sex differences were observed in the school attendance rates since 1990 although boys were more likely to be attending school than girls particularly during 1990.

Rural-urban differentials show that out of the total 87,938 rural children aged 7 to 13 years in eastern province, only 45.8 percent were attending school, compared to 68.1 percent of the 16,929 urban children in 1990. School attendance rates increased from 45.8 to 52.4 percent and from 68.1 to 76.1 percent for the rural and urban areas between 1990 and 2000, respectively. School attendance among rural girls and boys rose by about 6 percentage points from about 47 and 45 percent in 1990 to nearly 53 and 52 percent 2000. In urban

areas, female and male school attendance rates increased by about 8 percent from about 68 percent to 76 percent between 1990 and 2000 (see Figure 5.3).

Despite the high rate of increase in rural areas, these results clearly indicate the continued disparities in education participation between the rural and urban children of primary school age. Urban children are more likely to be attending school than their rural counterpart.

Table 5.5 reveals that during the year 2000, Chiengi District had the lowest percentage of children attending school (41.3 percent), followed by Milengi District at 48.5 percent. The highest rate was scored by Kawambwa District (62.8 percent), closely pursued by Mansa District (61.7 percent). The remaining districts recorded rates of more than 50 percent. Results further indicate that boys were more likely to attend school than girls in all the districts in the province.

Table 5.5:   **Population Aged 7 to 13 Years Presently Attending School by Sex and Residence, (Percent), Luapula Province, 1990 and 2000**

Province and Residence	Primary School Attendance Rates			
	Total	Male	Female	Population
Zambia (1990)	55.8	55.4	56.2	1,486,062
Luapula (1990)				
Total	49.4	50	48.8	104,867
Rural	45.8	46.5	45.1	87,938
Urban	68.1	68.4	67.8	16,929
Zambia (2000)	62.2	61.8	62.6	1,826,590
Luapula (2000)				
Total	55.6	56.3	54.8	141,123
Rural	52.4	53.3	51.5	122,045
Urban	76.1	76.5	75.7	19,078
District				
Chiengi	41.3	43.3	39.2	14,206
Kawambwa	62.8	63.3	62.2	19,373
Mansa	61.7	61.9	61.5	34,152
Milengi	48.5	49.2	47.9	5,503
Mwense	59.5	60.2	58.6	19,775
Nchelenge	52.9	53.5	52.2	19,380
Samfya	51	52	50	28,734

Sources: CSO, 1990 and 2000 Census of Population Housing

Figure 5.3: Population Aged 7 to 13 Years Attending School, (Percent), Luapula Province, 1990 - 2000
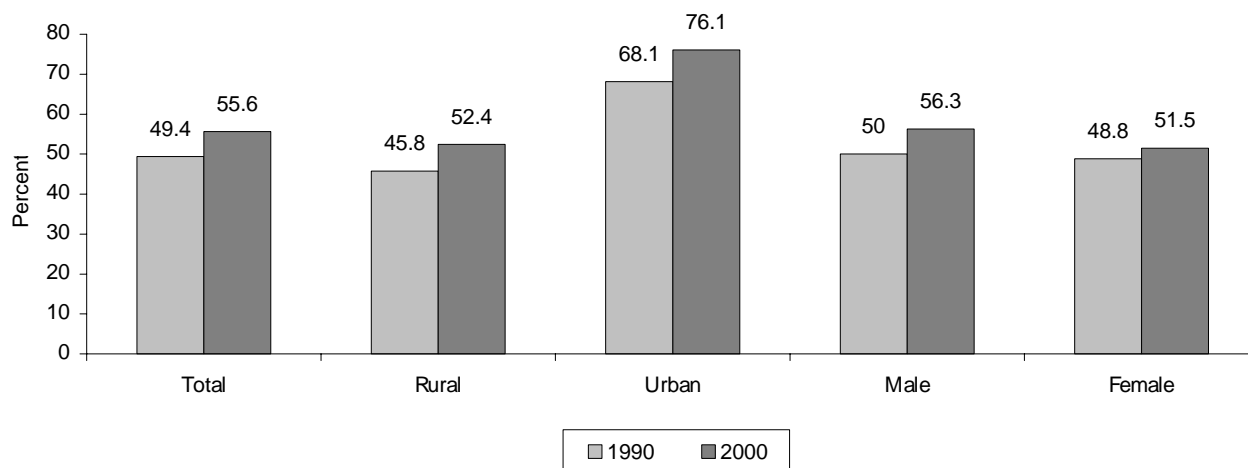
Sources: CSO, 1990 and 2000 Census of Population Housing

5.7   Gross Primary School Attendance Rates by children of all Ages

Gross school attendance rate at Primary Level shows the ratio of children of all ages attending exact primary grades to the eligible primary school age population (7 to 13 years). Due to school enrolment and attendance by under-age and over-age children in primary schools, the ratio is sometimes more than 100 percent. Table 5.6 shows a slight increase in Gross Primary School Attendance Ratio in Luapula Province from 72.5 percent in 1990 to 73.8 percent by the year 2000. The provincial gross school attendance rate in 2000 is lower than the national average of 79.1 percent. Both the rates for male and females marginally increased from 77 percent and 68 percent to about 78 percent and 70 percent, respectively. Results from the last 2 census surveys further demonstrate that relatively more males than females have had access to primary education. The Gender Parity Index (GPI) calculated as a ratio of female gross rate to that of males increased from 0.88 in 1990 to 0.90 in 2000, indicating that there is growing equality in terms of participation of girls and boys in primary education in the province. The GPI for rural and urban areas rose from 0.87 and 0.93 to 0.88 and 0.95 between 1990 and 2000, respectively.

By the year 2000, the gross primary school attendance Ratios for urban population still remained above those obtaining in rural areas. However, gross school attendance in rural and urban areas of Luapula Province barely increased from about 69 percent and 90 percent to 71 percent and 91percent between 1990 and 2000. The GPI for 2000 results exhibits gross inequality in terms of education participation between rural (0.88) and urban areas, (0.95). Therefore, gender equality in terms of education participation can be said to be within reach more in urban than in rural areas of the province. Generally, the GPI indices for both the rural and urban areas of Eastern province have revealed increased female participation in primary education since 1990.

District level analysis of the 2000 Gross Primary School Attendance Rates shows high levels of education participation in Kawambwa (81.3 percent), Mwense (79.8 percent) and Mansa (79 percent) districts. Conversely, education participation in gross terms was lowest in Chiengi and Milengi districts, at 57.1 percent and 67.2 percent. Samfya and Nchelenge districts recorded gross rates of about 71 percent and 70 percent. The rates were much higher for boys than girls in all the districts in the province.

Table 5.6:   Gross Primary School Attendance Ratio by Sex, Residence, Luapula Province, 1990 – 2000

Residence and District	Gross Primary School Attendance Rates			
	Total	Male	Female	Population
Zambia (1990)	82.3	85.7	78.9	1,486,062
Luapula (1990)				

Total	72.5	77	68.1	104,867
Rural	69.3	74	64.5	87,938
Urban	89.6	92.9	86.4	16,929
Zambia (2000)	79.1	81.4	76.8	1,826,590
Luapula (2000)				
Luapula (2000)				
Total	73.8	77.7	69.8	141,123
Rural	71.1	75.4	66.7	122,045
Urban	91	93.2	88.9	19,078
District				
Chiengi	57.1	62.5	51.7	14,206
Kawambwa	81.3	84.7	77.9	19,373
Mansa	79.0	82.2	75.6	34,152
Milengi	67.2	72.3	62.0	5,503
Mwense	79.8	83.6	75.7	19,775
Nchelenge	70.2	73.7	66.7	19,380
Samfya	70.6	75.0	65.9	28,734

Source: CSO, 1990 and 2000 Census of Population Housing

Figure 5.4: Gross Primary School Attendance Ratios by Sex and Residence, Luapula Province, 1990 - 2000
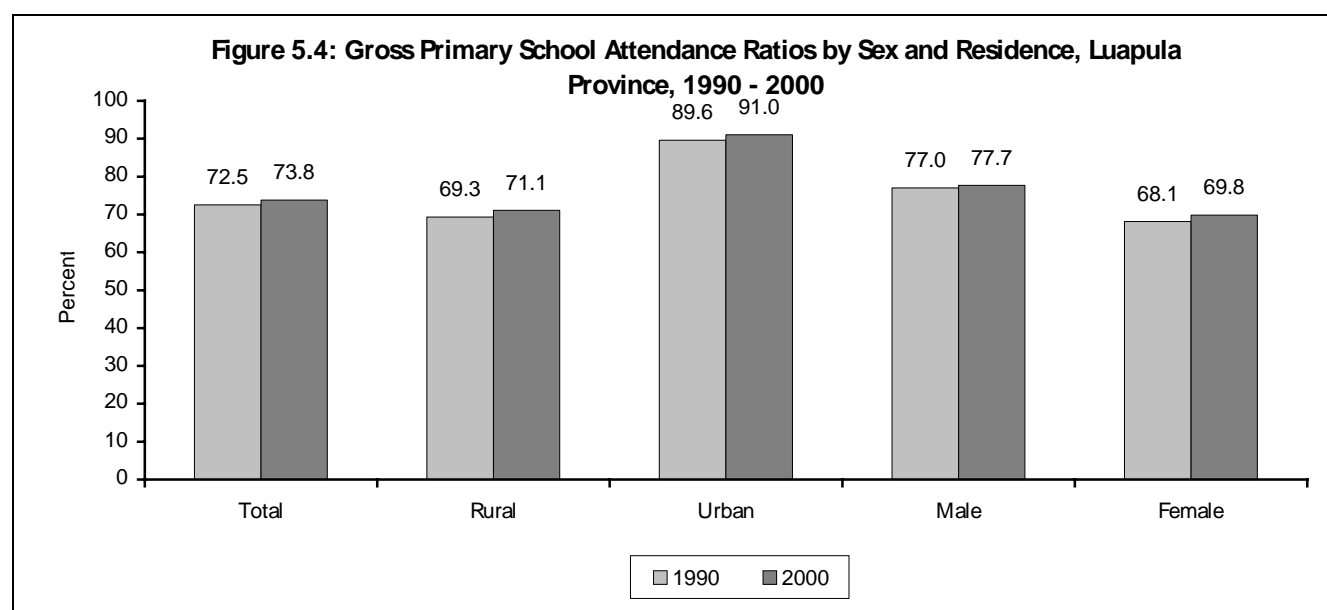
Sources: CSO, 1990 and 2000 Census of Population Housing

5.8   Net Primary School Attendance by Children aged 7 to 13 Years

Net school attendance rate at primary Level shows the percentage of the primary school age population currently attending exact primary grades (Grades 1 to 7). Table 5.7 shows an increase in the proportion of the primary school age population attending primary education in Luapula Province, from 48.7 percent in 1990 to 54.4 percent by the year 2000. An increase in the proportion of the primary school age population attending primary education was also observed at national level from 55 percent in 1990 to 60 percent, however the provincial proportion is lower than the national average. Since 1990, net primary school attendance rates for boys of primary school age have been slightly higher than those for girls in the province by about 1 percentage point. The 1990 and 2000 censuses results clearly indicate that about 51 percent and 46 percent of children of the official primary school age were out of the school system in the province, respectively.

Since 1990, net primary school attendance rates have been higher in urban than in rural areas, clearly indicating a higher likelihood of urban children to be in school. In 1990, more than half of the rural children aged 7 to 13 years (55 percent) were not attending primary education compared to only 1 third of their urban counterpart (34 percent). By 2000, the proportion of children attending school in rural and urban areas increased by about 6 and 7 percentage points, from 45.3 percent and 66.3 percent to 51.5 percent and 72.9 percent, respectively. These results imply that roughly 1 in every 2 children aged 7 to 13 years in rural areas was attending primary education by 2000 as opposed to the observed scenario during the year 1990. In urban areas, 7 out of every 10 children were attending school during the year 2000. No major sex differences were noticed since 1990, an indication of efforts meant to achieve gender parity in net attendance at primary level.

The urban – rural differences are mainly as a result of existing disparities in resource allocation and availability of accessible amenities such as schools, health facilities, recreational facilities and pre-schools. The Living Conditions Monitoring Surveys have shown that long distance to schools inhibits school attendance particularly for younger children whose safety is considered to be at stake in view of the long distances to schools involved (CSO: LCMS Reports, 1996 and 1998).

In 2000, the proportion of children aged 7 to 13 years attending primary education was highest in Kawambwa (61.2 percent), followed by Mansa (60 percent). Chiengi and Milengi had the least rates of 40.6 and 48.0 percent, followed by Samfya, Nchelenge and Mwense, at 50 percent, 51.9 percent and 58.3 percent respectively. Boys were more likely to be attending school than girls in all the districts, though the sex differences were insignificant.

Table 5.7:   Net Primary School Attendance Rates by Sex, Residence and District, Luapula Province 1990 – 2000

Residence and District	Net Primary School Attendance Rates			
	Total	Male	Female	Population
Zambia (1990)	55.0	54.6	55.3	1,486,062
Luapula (1990)				
Total	48.7	49.4	48.1	104,867
Rural	45.3	46.0	44.6	87,938
Urban	66.3	66.9	65.7	16,929
Zambia (2000)	60.0	59.8	60.2	1,826,590
Luapula (2000)				
Total	54.4	55.1	53.6	141,123
Rural	51.5	52.3	50.6	122,045
Urban	72.9	73.6	72.2	19,078
District				
Chiengi	40.6	42.7	38.6	14,206
Kawambwa	61.2	61.6	60.8	19,373
Mansa	60.0	60.3	59.8	34,152
Milengi	48.0	48.6	47.3	5,503
Mwense	58.3	59.2	57.4	19,775
Nchelenge	51.9	52.5	51.2	19,380
Samfya	50.0	51.0	49.0	28,734

Sources: CSO, 1990 and 2000 Census of Population Housing

Figure 5.5: Net Primary School Attendance Ratios by Sex and Residence, Luapula Province, 1990 - 2000
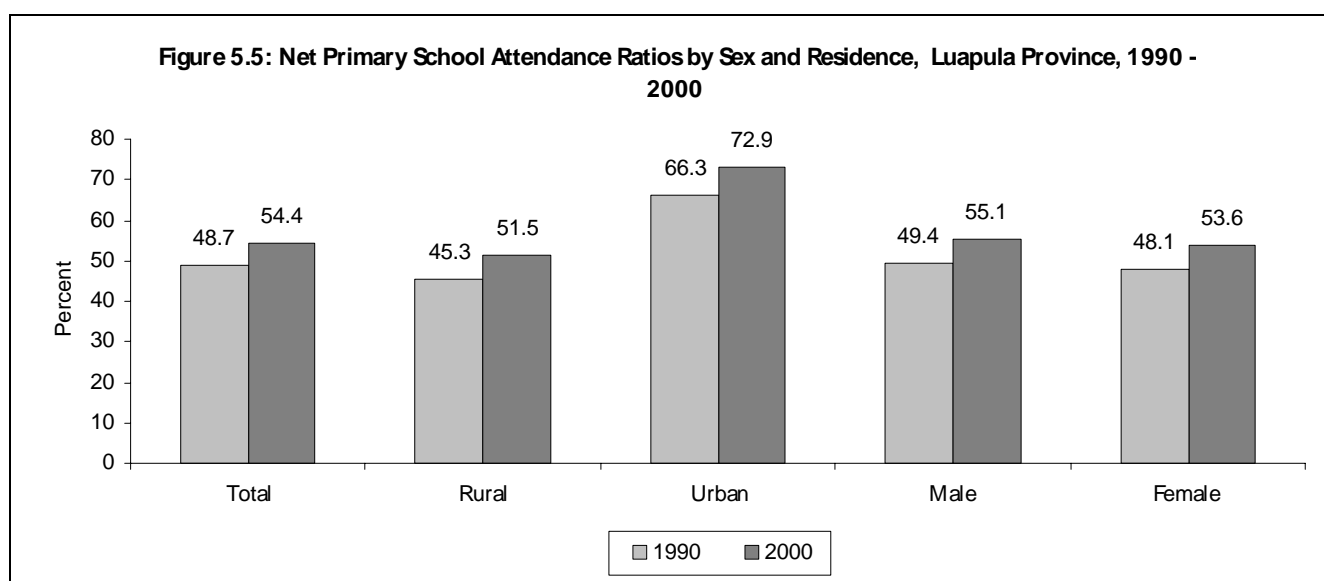
Sources: CSO, 1990 and 2000 Census of Population Housing

5.9   School Attendance by the Secondary School Age Population

Table 5.8 shows the proportion of children aged 14 to 18 years attending school in Luapula Province. Overall, the percentage of the secondary school age children attending school barely declined from 48.2 percent in

1990 to 47.6 percent in 2000 (Figure 5.6). The population rate is below the national average of 54 percent. In 1990, there were proportionately more boys (57.3 percent) than girls (39.7 percent) attending school. In rural parts of the province, the percentage of this population cohort attending school remained at the 1990 level of about 45 percent during the intercensal period. Conversely, in urban areas rate of school attendance marginally declined from 62.5 percent to 61.6 percent during the same period. The proportions of boys attending school remained much higher in both rural and urban areas than those of girls. The two censuses results clearly show that children in urban areas are more likely to attend school than those in rural areas of the province. In general, these results to some extent indicate that the problem of the girl child in education is more associated with older (14 to 18 years) than younger children (7 to 13 years), particularly those children in rural areas. By the year 2000, nearly two thirds of the females aged 14 to 18 years in rural areas were not attending school.

In 2000, school attendance by children of secondary school age was highest in Kawambwa district, at 55.5 percent, followed by Mwense and Mansa districts, at 53.1 percent and 50.0 percent, respectively. The remaining districts in the province recorded attendance rates which were below 50 percent. Results from table 5.8 further reveal high rates of school attendance among boys than girls in all the 7 districts in the province.

Table 5.8: **Population Aged 14 to 18 Years Presently Attending School by Sex, (Percent) Luapula Province, 1990 – 2000**

Province and Residence	Secondary School Attendance Rates			
	Total	Male	Female	Population (14 – 18 Yrs)
Zambia (1990)	53.9	61.1	47.1	996,450
Luapula (1990)				
Total	48.2	57.3	39.7	68,723
Rural	45.1	54.9	35.9	56,530
Urban	62.5	68.4	57	12,193
Zambia (2000)	53.9	61.3	47	1,105,484
Luapula (2000)				
Total	47.6	57.3	38.5	86,036
Rural	45.2	55.3	35.5	73,084
Urban	61.6	68.8	55	12,952
District				
Chiengi	33.7	43.1	25.2	9,113
Kawambwa	55.5	64.8	46.8	11,792
Mansa	50	59.3	41.4	21,184
Milengi	43.3	54.9	32.3	3,136
Mwense	53.1	63.7	42.8	11,517
Nchelenge	42.9	51.7	34.8	11,987
Samfya	47.1	57.3	37.3	17,307

Sources: CSO, 1990 and 2000 Census of Population Housing

Figure 5.6: Population Aged 14 to 18 Years Attending School by Sex and Residence, (Percent), Luapula Province, 1990 - 2000
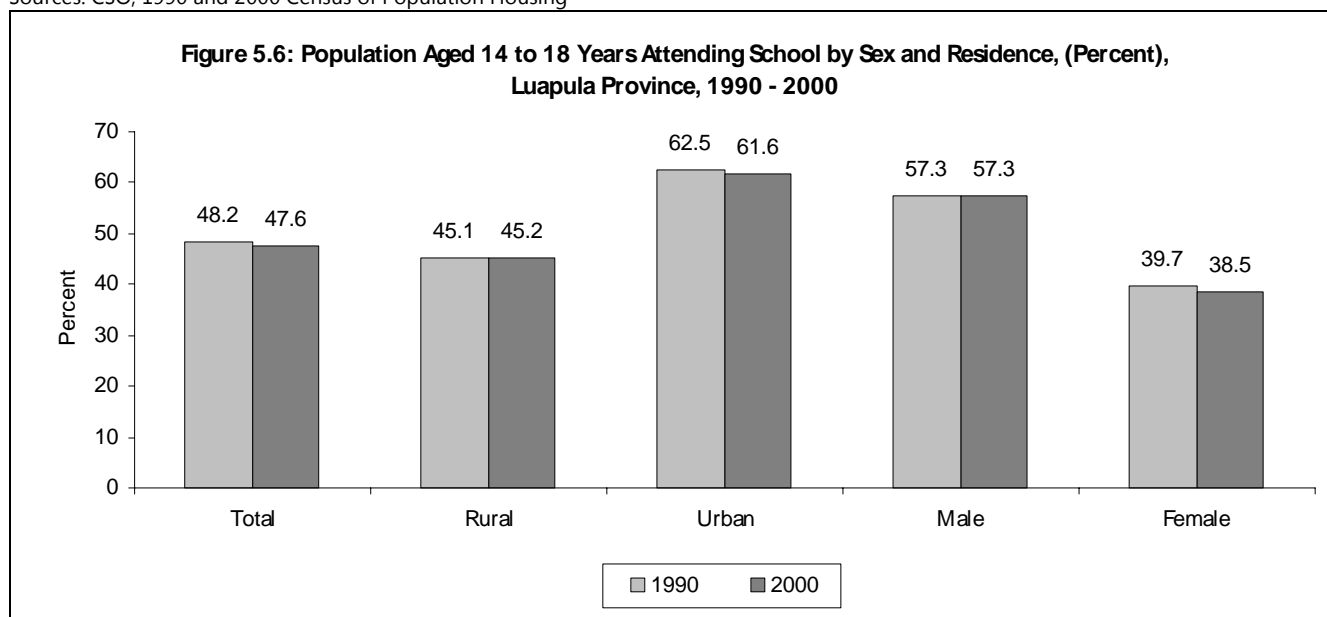
Sources: CSO, 1990 and 2000 Census of Population Housing

5.10 Gross Secondary School Attendance Ratios

Results in Table 5.9 reveal that a sizeable proportion of secondary school age population has no access to secondary education in the province. Overall, the proportion of children attending secondary education expressed as a percentage of the eligible secondary school age population increased from 27.9 percent in 1990 to 30.9 percent by 2000. In comparison to the national the gross attendance ratios which increased from 34.6 to 44.5 percent the provincial rate is below the national average in both 1990 and 2000. The gross ratios have remained higher in urban than in rural areas. The increase in the ratios between 1990 and 2000 was more pronounced in urban areas, from 53.0 percent to 61.3 percent, than in rural areas, from 22.5 percent to about 25.6 percent (see Figure 5.7). The 2000 gross attendance ratios indicate that females, more especially those residing in rural areas, are less likely to have access to secondary education than their male counterpart in the province. More than 80 percent of the rural females had no access to secondary education compared to less than half of their urban counterpart.

The 2000 Census results further display high levels of participation in secondary education in Kawambwa (40.9 percent), followed by Mansa (36.2 percent) and Mwense districts (31.6 percent). Chiengi and Milengi districts recorded the least rates of 18.7 and 19.8 percent respectively. The gross rates for Samfya and Nchelenge districts were at 28.4 percent and 27.5 percent. The secondary school attendance rates for boys as more than 10 percentage points higher than that of girls in all the districts. These results clearly show the existence of gross inequality in terms of secondary school education participation between boys and girls.

Table 5.9: Gross Secondary School Attendance Ratio by Sex, Residence and District, Luapula Province, 1990 – 2000

Residence and District	Gross Secondary School Attendance Rates			
	Total	Male	Female	Population (14 – 18 Yrs)
Zambia (1990)	34.6	40.4	29	996,450
Luapula (1990)				
Total	27.9	34.5	21.9	68,723
Rural	22.5	29.2	16.4	56,530
Urban	53.0	59.4	47.2	12,193
Zambia (2000)	44.5	50.2	39.1	1,105,484
Luapula (2000)				
Total	30.9	37.7	24.6	86,036
Rural	25.6	32.1	19.4	73,084
Urban	61.3	70.1	53.3	12,952
District				
Chiengi	18.7	24.6	13.4	9,113
Kawambwa	40.9	48.3	34.0	11,792
Mansa	36.2	42.8	30.0	21,184
Milengi	19.8	25.3	14.6	3,136
Mwense	31.6	39.3	24.2	11,517
Nchelenge	28.4	35.1	22.3	11,987
Samfya	27.5	34.2	21.0	17,307

Sources: CSO, 1990 and 2000 Census of Population Housing

Figure 5.7: Gross Secondary School Attendance Ratios by Sex and Residence, Luapula Province, 1990 - 2000
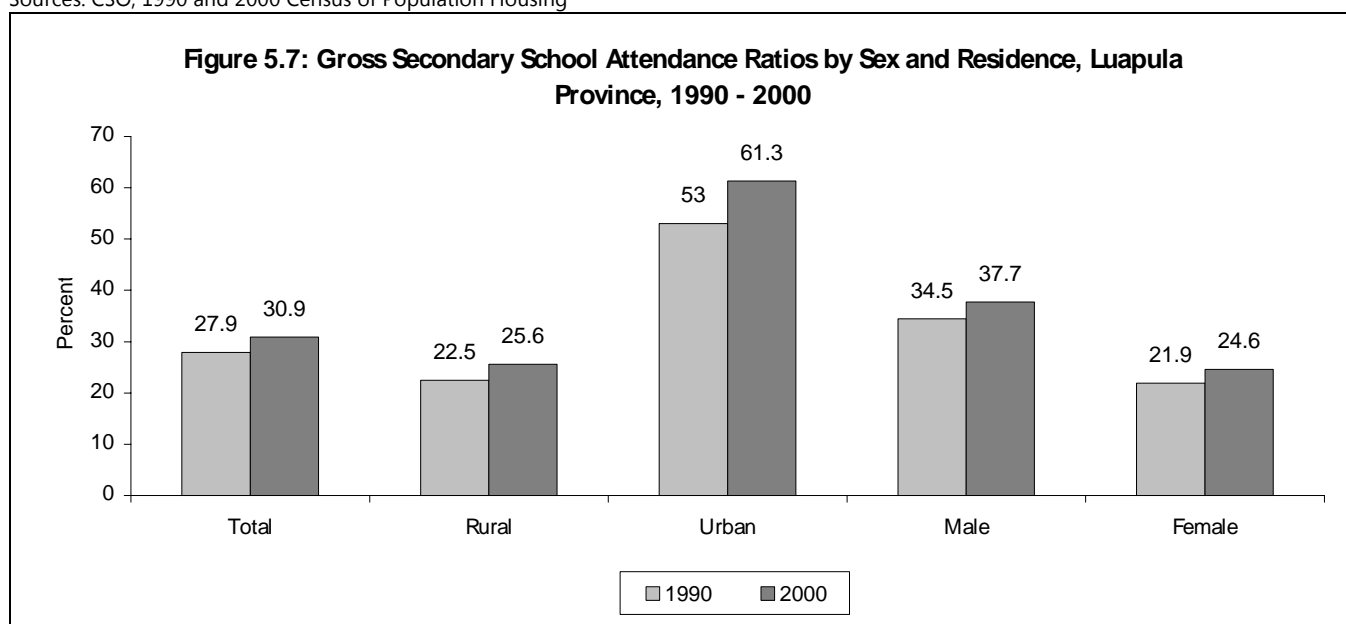
Sources: CSO, 1990 and 2000 Census of Population Housing

5.11   Net Secondary School Attendance Rates by Children Aged 14 to 18 Years

Table 5.10 shows net secondary school rates by sex, residence and districts. Results in the table indicate that a significant proportion of the secondary school age population had no access to education in Luapula Province. Nearly 2 in every 10 children aged 14 to 18 years were attending school during the 1990 to 2000 intercensal period. In 1990, less than 1 fifth of the children aged 14 to 18 years (18 percent) were attending secondary education. This proportion increased to 21.8 percent during the year 2000. Since 1990 there were proportionately more boys than girls attending secondary school, particularly in rural areas. The provincial rate is slightly below the national average of 30.9 percent

Rural – urban differences in net secondary school attendance rates have existed since 1990. The proportion of eligible children in urban areas attending secondary education (36.7 percent) was more than two times that of their rural counterpart (14.0 percent). However, net secondary school attendance rate for rural areas increased from about 14.0 percent in 1990 to 17.9 percent in 2000. In urban areas, the proportion of eligible children attending secondary education escalated from about 36.7 percent to 44.1 percent during the same period.

Analysis of the 2000 Census results by districts show that Chiengi (12.9 percent) and Milengi (14.9 percent) districts had the lowest proportions of children aged 14 to 18 years attending secondary education. On the other hand, Kawambwa district, followed by Mansa and Mwense districts had the highest rates of 29.0, 26.1 and 22.0 percent, correspondingly. The remaining districts, Nchelenge (19.9 percent) and Samfya (18.8 percent) still recorded secondary school rates, which were below the provincial average of 21.8 percent. In terms of proportions, more boys than girls had access to secondary education in all the districts in the province.

The observed increase in net secondary school attendance ratio in all the districts in the province could be attributed to the increase in basic schools, which have provided additional school space for grades 8 and 9 pupils. As for urban areas there have been marked increases in the number of private schools offering secondary education. The 1996 education policy has championed the need to promote private participation in education delivery system.

Table 5.10:   Net Secondary School Attendance Ratio by Sex and Residence, Luapula Province, 1990 – 2000

Residence and District	Net Secondary School Attendance Rates			
	Total	Male	Female	Population (14 – 18 Yrs)
Zambia (1990)	21.4	22.8	20	996,450
Luapula (1990)	18.1	20.2	16	68,723
Rural	14	16.4	11.8	56,530
Urban	36.7	38.1	35.5	12,193
Zambia (2000)	30.9	33.3	28.7	1,105,484
Luapula (2000)	21.8	25.2	18.6	86,036
Rural	17.9	21.2	14.7	73,084
Urban	44.1	48.1	40.6	12,952
District				
Chiengi	12.9	15.9	10.1	9,113
Kawambwa	29	32.7	25.6	11,792
Mansa	26.1	29.4	23	21,184
Milengi	14.9	18	11.9	3,136
Mwense	22	25.8	18.4	11,517
Nchelenge	19.9	22.9	17.2	11,987
Samfya	18.8	22.2	15.4	17,307

Sources: CSO, 1990 and 2000 Census of Population Housing

Figure 5.8: Net Secondary School Attendance Ratios by Sex and Residence, Luapula Province, 1990 - 2000
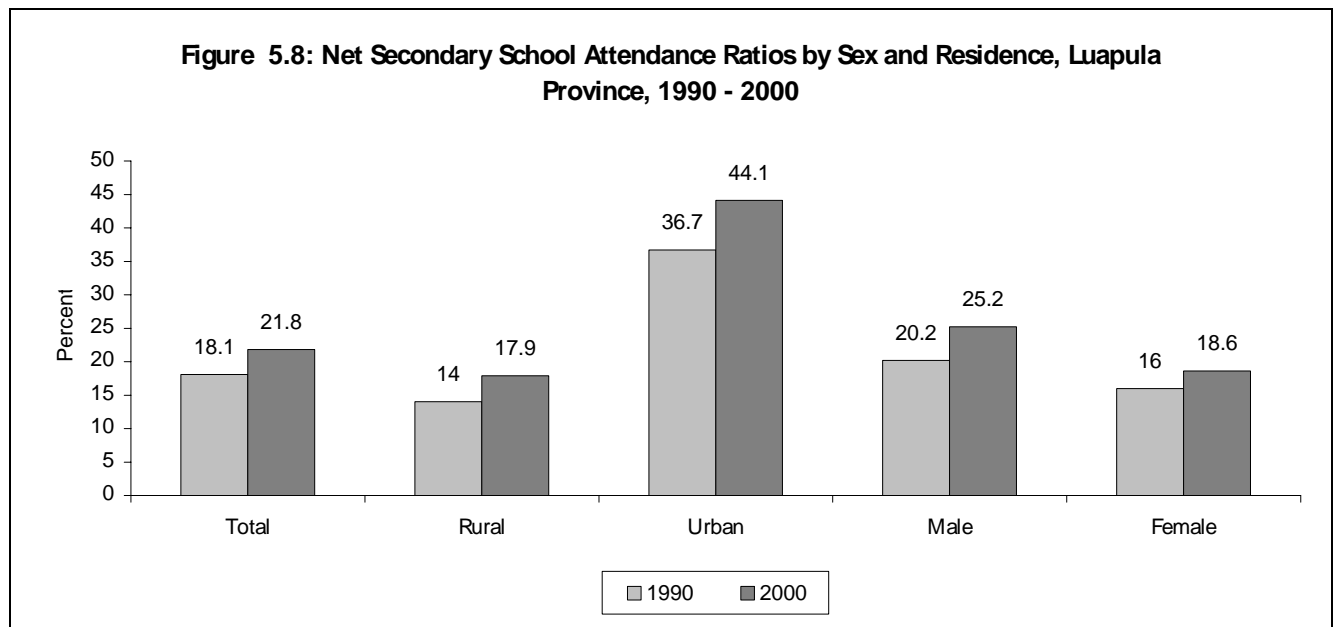
Sources: CSO, 1990 and 2000 Census of Population Housing

5.12   Population by Selected Fields of Study

Table 5.11 shows the distribution of the population by some selected fields of study and sex in Luapula Province. The table reveals that the most popular fields of study in 1990 was Teacher training which accounted for 40.8 percent of the population, followed by Agricultural and forestry related fields at 7.5 percent, Nursing (5.9 percent) and wood working (5.3 percent). By the year 2000, teacher training still remained the dominant field of study in the province, accounting for 32.1 percent of the population. The nursing field of study also accounted for a significant proportion of the population 26.7 percent in 2000.

The results also clearly indicate that males have had a wider variety of fields of specialization than their female counterpart. Further examination of the results in Table 5.11 highlights the fact that very few females have been attempting more technically oriented fields of study such as engineering and other technical programmes since 1990. In order to enhance the participation of females in sciences and mathematics, the Ministry of Education started a program aimed at enhancing pupils' performance in English, mathematics and Sciences called AIEMS in 1994.

Table 5.11: Population by Sex and Field of Study, Luapula Province, (1990 – 2000)

Field of Study	1990			2000		
	Total	Male	Female	Total	Male	Female
All Fields	6,847	5,300	1,547	8,896	6,699	2,197
Total	100.0	100.0	100.0	100.0	100.0	100.0
Natural Science	0.8	0.8	0.9	0.7	0.9	0.2
Civil Engineering	0.8	1.0	0.2	0.7	0.9	0.1
Electronic Engineering	2.2	2.6	0.6	2.3	3.0	0.1
Mechanic Engineering	4.2	5.3	0.2	5.0	6.6	0.4
Mining Engineering	1.9	2.3	0.6	1.2	1.6	-
Industrial Engineering	1.4	1.4	1.6	0.4	0.4	0.2
Architecture	1.2	1.1	1.7	0.1	0.2	0.0
Medicine/Surgery	2.1	2.6	0.4	0.9	1.1	0.3
Pharmacy	3.0	3.0	3.0	0.6	0.6	0.5
Nursing	5.9	1.4	21.5	26.7	23.4	36.9
Medical Technology	2.1	2.5	0.8	1.6	2.1	0.2
Computer Science	0.1	0.1	0.3	0.5	0.4	0.9
Economics	1.5	0.5	4.8	0.8	0.4	2.0
Accountancy	4.7	5.6	1.8	4.8	5.7	1.9
Teacher Training	40.8	39.8	44.0	32.1	30.3	37.7
Law/jurisprudence	1.4	1.8	0.4	2.8	3.6	0.5
Fine arts	0.5	0.5	0.4	0.5	0.6	0.3
Social Welfare	1.0	0.9	1.2	0.7	0.8	0.5
Criminology	2.8	3.5	0.5	1.7	2.1	0.6
Business Administration	3.2	3.7	1.6	2.5	3.0	1.0
Secretarial Training	1.8	0.5	5.9	2.0	0.4	6.9
Office Machine	0.9	1.0	0.6	0.6	0.7	0.6
Service Trade	1.5	1.2	2.4	1.0	0.7	2.2
Agriculture/Forestry/Fisheries	7.5	9.2	1.7	4.6	5.7	1.0
Wood Working	5.3	6.6	0.9	3.3	4.4	0.1
Textile Trade	1.2	1.1	1.9	1.6	0.6	4.7

Sources: CSO, 1990 and 2000 Census of Population Housing

Table 5.12.a and 5.12.b show the distribution of the population aged 5 years and above by field of study and education level completed in Luapula Province. The tables reveal the type of restrictions education attainment imposes on field of study. Results clearly indicate that the minimum education level required for the majority of the fields of study is grades 10 – 12. This is more of the case for those in the field of engineering, medicine, natural and social sciences. Other programmes such as Accountancy, Business Administration, Teacher Training, Journalism and Secretarial training have overtime become more demanding in terms of educational entry requirements.

Table 5.12a: Education Level Completed by Field of Study (Percent), Luapula Province, 1990

Field of Study	Size	Total	Level of Education Completed				
			1-7	8-9	10-12	'A' Level	Degree
Natural Science	58	100	24.1	17.2	51.7	1.7	5.2
Civil Engineering	54	100	31.5	13.0	50.0	1.9	3.7
Electronics/Engineering	148	100	36.5	6.8	52.7	1.4	2.7
Mechanics/Engineering	285	100	30.5	10.2	56.8	1.1	1.4
Chemical Engineering	22	100	40.9	9.1	36.4	-	13.6
Mining Engineering	130	100	64.6	6.2	21.5	0.8	6.9
Industrial Engineering	99	100	64.6	18.2	16.2	1.0	-
Metallurgical Engineering	15	100	6.7	13.3	60.0	-	20.0
Architecture	85	100	4.7	65.9	27.1	-	2.4
Other Engineering	142	100	14.8	6.3	76.8	-	2.1
Medicine/Surgery	143	100	28.7	2.8	62.2	2.1	4.2
Pharmacy	207	100	10.6	3.4	85.0	-	1.0
Dentistry	45	100	24.4	6.7	55.6	11.1	2.2
Nursing	406	100	16.7	9.4	70.7	1.5	1.7
Medical Technology	147	100	12.2	7.5	76.9	1.4	2.0
Veterinary	24	100	20.8	-	66.7	8.3	4.2
Computer Science	9	100	44.4	11.1	33.3	11.1	-
Economics	103	100	42.7	17.5	36.9	1.0	1.9
Accountancy	324	100	12.7	6.5	79.0	0.6	1.2
Teacher Training	2,792	100	14.8	10.5	72.1	0.8	1.9
Law/jurisprudence	99	100	32.3	9.1	52.5	1.0	5.1
Journalism	22	100	18.2	9.1	63.6	9.1	-
Fine arts	32	100	46.9	3.1	40.6	-	9.4
Social Welfare	67	100	34.3	6	50.7	1.5	7.5
Criminology	193	100	21.8	12.4	60.6	.	5.2
Business Administration	221	100	19.5	8.6	65.6	1.8	4.5
Secretarial Training	120	100	8.3	11.7	75.8	0.8	3.3
Shorthand Typing	308	100	20.8	13.3	64.9	0.3	0.6
Clerical typing	214	100	18.2	14	66.4	-	1.4
Office Machine	60	100	35.0	8.3	56.7	-	-
Service Trade	100	100	47.0	11	39.0	-	3.0
Agriculture/Forestry/Fisheries	514	100	25.7	8.8	62.1	1.4	2.1
Food/Drink Production	35	100	40.0	8.6	51.4	-	-
Wood Working	366	100	62.6	11.7	21.6	0.3	3.8
Textile Trade	85	100	41.2	15.3	38.8	3.5	1.2

Source: CSO, 1990 Census of Population Housing

Table 5.12b: Education Level Completed by Field of Study (Percent), Luapula Province, 2000

Field of Study	Size	Total	Level of Education Completed				
			1-7	8-9	10-12	'A' Level	Degree
Natural Science	63	100	4.8	-	85.7	-	9.5
Civil Engineering	63	100	11.1	11.1	73	1.6	3.2
Electronics/Engineering	203	100	11.3	8.4	75.4	1	3.9
Mechanics/Engineering	447	100	12.1	11.4	70	0.7	5.8
Chemical Engineering	11	100	36.4	9.1	54.5	-	-
Mining Engineering	104	100	39.4	4.8	47.1	-	8.7
Industrial Engineering	34	100	38.2	26.5	35.3	-	-
Metallurgical Engineering	13	100	7.7	7.7	84.6	-	-
Architecture	13	100	-	7.7	84.6	-	7.7
Other Engineering	69	100	26.1	10.1	59.4	-	4.3
Medicine/Surgery	82	100	7.3	1.2	73.2	2.4	15.9
Pharmacy	53	100	3.8	3.8	90.6	-	1.9
Dentistry	64	100	7.8	9.4	59.4	3.1	20.3
Nursing	2,375	100	13.9	10.6	64.4	0.8	10.3
Medical Technology	144	100	5.6	5.6	74.3	2.8	11.8
Veterinary	26	100	34.6	3.8	57.7	-	3.8
Computer Science	45	100	4.4	2.2	91.1	2.2	-
Economics	71	100	28.2	14.1	49.3	1.4	7
Accountancy	425	100	3.5	4	84.5	1.4	6.6
Teacher Training	2,860	100	4.9	5.8	72.5	0.9	15.8
Law/jurisprudence	252	100	6	4.4	77.4	0.4	11.9
Journalism	23	100	26.1	13	56.5	4.3	-
Fine arts	44	100	18.2	15.9	56.8	-	9.1
Social Welfare	63	100	7.9	6.3	71.4	-	14.3
Criminology	153	100	7.2	8.5	79.7	0.7	3.9
Business Administration	225	100	4.4	4.9	84	0.4	6.2
Secretarial Training	182	100	3.8	6.6	79.1	2.2	8.2
Shorthand Typing	123	100	4.9	17.1	69.9	1.6	6.5
Clerical typing	163	100	12.3	11	72.4	0.6	3.7
Office Machine	57	100	28.1	14	56.1	-	1.8
Service Trade	93	100	31.2	19.4	43	-	6.5
Agriculture/Forestry/Fisheries	407	100	13	9.1	67.8	-	10.1
Food/Drink Production	40	100	25	20	52.5	-	2.5
Wood Working	296	100	34.1	21.6	40.9	0.7	2.7
Textile Trade	141	100	21.3	28.4	46.1	1.4	2.8

Sources: CSO, 1990 and 2000 Census of Population Housing

5.13   Certificate and Diploma Holders by Level of Education Completed

Table 5.13 shows the education level completed by certificate and diploma holders. Overall, the number of certificate holders increased by 3.9 percent between 1990 (8,667) and 2000 (9,004). The percent increase was mainly as a result of the increase in the number of female certificate holders of 16.4 percent. The proportion of persons with certificates who had attained grades 1 to 7 declined from 31.3 percent in 1990 to 15.3 percent in 2000, whilst the proportions attaining higher grades increased drastically. These findings demonstrate how difficult it has become to get certification with limited education background.

On the other hand, the number of diploma holders after grades increased by 5.1 percent from 1,182 in 1990 to 1,242 in 2000. The growth in the number of diploma holders was much more marked among females (13.4 percent) than males (4.2 percent). Once again there was a decline in the proportions of diploma holders with up to grade 7 and 9 education background from 9.4 and 3.6 percent to 3.1 and 2.7 percent respectively. The same scenario applies to male and female holders. (Refer to table 5.13). Despite the increase in the number of female certificate and diploma holders, they were relatively fewer than the male holders.

Table 5.13   Certificate and Diploma Holders by Level of Education and Sex, (Percent), Luapula Province,   1990-2000

Level of Education and Sex	Size	Education Level Completed				
		1-7	8-9	10-12	'A' Level	Total
Certificates						
Luapula 1990						
Total	8,667	31.3	12.5	55.8	0.4	100
Male	6,508	33.4	12.0	54.1	0.4	100
Female	2,159	24.9	14.0	60.9	0.3	100
Luapula 2000						
Total	9,004	15.3	11.8	72.1	0.8	100
Male	6,492	16.0	10.7	72.6	0.6	100
Female	2,512	13.4	14.6	70.7	1.2	100
Diploma						
Luapula 1990						
Total	1,182	9.4	3.6	82.6	4.4	100
Male	1,070	9.0	3.4	83.6	4.0	100
Female	112	13.4	6.3	72.3	8.0	100
Luapula 2000						
Total	1,242	3.1	2.7	92.8	1.3	100
Male	1,115	3.2	2.7	92.8	1.3	100
Female	127	2.8	2.8	92.7	1.8	100

Sources: CSO, 1990 and 2000 Census of Population Housing

5.14   Summary

Nearly half of the population in Luapula Province has remained illiterate. By 2000, 51.6 percent of the population aged 5 years and above remained illiterate. The level of illiteracy remained higher among the female than male population. The problem of illiteracy is more common in rural than in urban parts of the province. Youth literacy rate declined from 69.5 percent to 62.3 percent between 1990 and 2000. Conversely, adult literacy rate almost stagnated at the 1990 rate of about 61 percent.

School attendance among the population aged 5 years and above marginally increased from 21.9 percent to 23.1 percent between 1990 and 2000. The rate of attendance remained higher in urban (33.6 percent) than in rural areas (21.5 percent). School attendance rate ranged from 16 percent in Chiengi District to about 27 percent in Kawambwa District.

The proportion of the primary school-age population (7 to 13 years) attending school increased from 49.4 percent in 1990 to 55.6 percent by 2000. No major sex differences were observed in school attendance rates of the population aged 7 to 13 years. Children in urban areas are more likely to attend school than their rural counterpart. The rate of attendance has been poorer in smaller districts like Chiengi District (41.3 percent) and superior in vast districts like Kawambwa District, at about 63 percent.

The gross primary school attendance rates barely increased from 72.5 percent to 73.8 percent between 1990 and 2000. By 2000, the rates remained higher in urban than in rural areas. The rates also indicate a high likelihood of boys aged 7 to 13 years to be attending primary education compared to their female counterpart. Net primary school attendance rates increased from 48.7 percent to 54.4 percent between 1990 and 2000. By 2000, the rate remained higher in urban (72.9 percent) than in rural areas of the province (51.5 percent). During the year 2000, Chiengi District recorded the lowest net primary school attendance rate of about 41 percent while Kawambwa District registered the highest rate of about 61 percent.

During the 1990-2000 intercensal period, school attendance by the secondary school-age population (14 to 18 years) barely declined from 48.2 percent to 47.6 percent. More males than females of the same age cohort have had access to education since 1990. Children in urban areas of the province are more likely to attend school, particularly at the secondary level, than those in rural areas.

Crude measures of participation in secondary education reveal marked improvements in secondary school attendance especially in urban areas. The gross secondary school attendance rate increased from 27.9 percent to 30.9 percent between 1990 and 2000. However, gross school attendance rates for rural areas show low levels of education participation compared to urban areas. Net secondary school attendance rate equally increased from about 18 percent in 1990 to 22 percent by 2000.

Teacher training and nursing are still among the most popular fields of study in Luapula Province. However, more males than females have had varied occupational fields of study since independence. Analysis of fields of study by level of education completed explicitly illuminates the restrictions education background imposes on the choice of the field of study. Secondary education has of late become the minimum requirement for most of the fields of study. Indeed certification at any level has become heavily dependant on the level of

education that an individual has completed. It has become much more difficult now to obtain a certificate than it was ten years ago.

Chapter 6

ECONOMIC CHARATERISTICS

6.1   Introduction

Individuals engage in economic activities in order to attain and sustain a certain acceptable level of consumption of goods and services. Engagement in these activities not only ensures a person's livelihood but also equips an individual with the means of acquiring and sustaining the basic needs of life such as food, clothing and shelter.

Most studies have revealed that employment levels to a large extent determine the production and consumption levels of any given economy. In a developing country like Zambia, it becomes imperative to constantly measure and monitor changes in the levels of economic activities overtime as fluctuations in labour force participation rates, employment levels and economic dependency levels have an impact on poverty and vice versa.

In the population censuses of 1990 and 2000, data pertaining to economic characteristics of the population was collected. The main topics covered were:

- Labour force participation
- Employment and unemployment
- Employment status
- Occupation
- Industry and
- Educational attainment

The methodology of analysis employed is exploratory data analysis using the 1990 and 2000 population censuses.

6.2   Concepts and Definitions

- **Working Age Population:** The working age population is defined as all persons aged 12 years and over.

- **Employed Population:** The employed population includes all persons who: work for remuneration in the form of wages, salaries, commissions or pay in kind; operate their own businesses without employing others, and; work in a family business or farm without pay or profit.

- **Unemployed Population:** The unemployed population is composed of those who are unemployed and seeking work and those who are not seeking work but are available for work.

- **Economically Inactive Population:** This category includes all persons who are full time housewives/home-makers, full time students and those who are not available for work aged 12 years and over.

- **Economically Active Population (Labourforce):** The economically active population or the Labour force is defined as all persons aged 12 years and above whose main economic activity status is to supply their labour force to the production of economic goods and services. It is composed of the employed and unemployed. It includes all those who are working, those who are unemployed but seeking work and those not seeking work but available for work. Included also are those unpaid on family business.

- **Economic Dependency Ratio:** Economic dependency measures the extent to which the economically inactive population is dependent on the economically active population. Therefore, the economic

dependency ratio is the ratio of the economically inactive population divided by the economically active population.

- **Labourforce Paticipation Rates:** The Labour force participation rate is defined as the proportion of persons of a particular age- group who were in the labour force. It measures the extent to which a particular age group and/or sex involved in economic activities.

- **Employment Status:** Employment status refers to whether a worker is an employer, employee, self-employed or an unpaid family worker. *An employer* is a person who operates his or her own economic enterprise or engages independently in a profession or trade, and hires one or more employees. *An employee* is a person who works for a public or private employer and receives remuneration in wages, salary, commission, tips, piece rates, or pay in kind. *A self-employed* worker is a person who operates his or her own economic enterprise or engages independently in a profession or trade, and hires no employees. Finally, *an unpaid family worker* is a person who works without pay in an economic enterprise operated by a related member of the same household (including peasant farmers).

- **Occupation:** Occupation is a concept, which identifies a set of characteristics of a job and a group of specific tasks that are performed by a person.

- **Industry:** Industry or economic sector defines the type of product or service produced at a workplace.

- **Unemployment rate:** Expressed as a percentage, this is a ratio of the unemployed population and the economically active population.

6.3   Working-Age Population

In the 1990 and 2000 Census of Population and Housing, the working-age population is defined as all persons aged 12 years and over. Figure 6.1 is diagrammatic presentation of the various categories of the population of working age. Table 6.1 presents the population 12 years and over by age group, residence and sex for 1990 and 2000. The working-age population in Luapula has increased by 31.7 percent. The increase of the male working-age population of 34.0 percent is just marginally higher than the female working-age population of 29.6 percent. In rural areas, the working-age population has increased by 31.3 percent, while in urban areas it has increased by 33.6 percent. The increase of 34.1 percent for the male working-age population in rural areas is higher than the increase of 28.9 percent for the female working-age population; in urban areas, the increase of 34.0 percent in the male working-age population is also higher than the increase in the female working-age population of 33.2 percent.

Figure 6.1: Working-Age Population 12 Years and Over
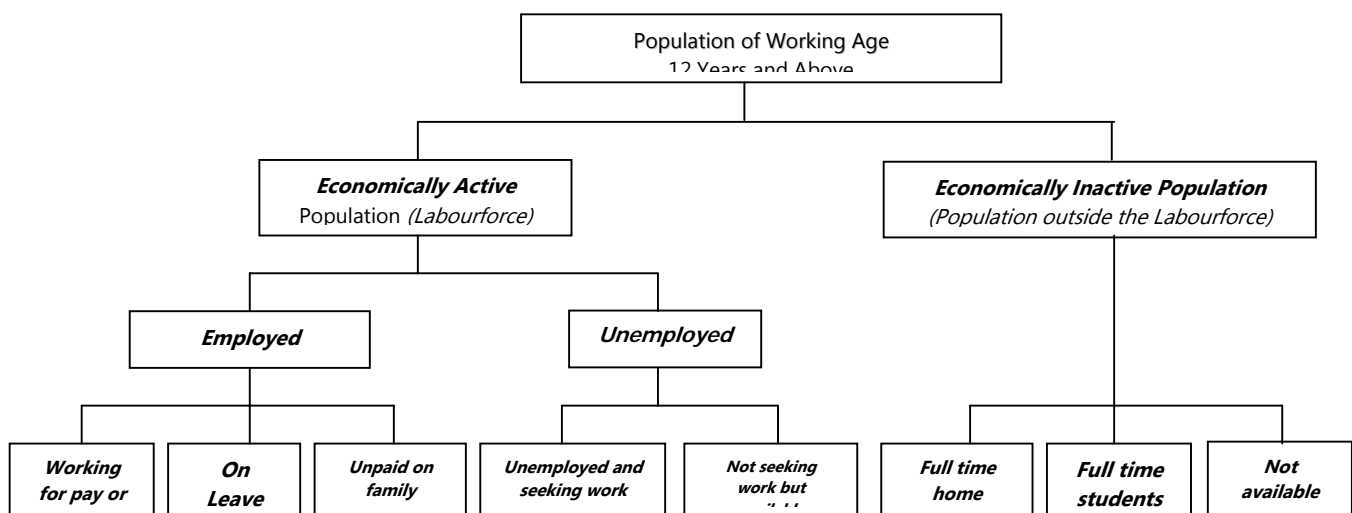
Table 6.1:   Population 12 years and Over by Broad Age Groups-Residence and Sex- 1990 and 2000

Residence and sex	Year	Size	Total	12-19	20-24	25-29	30-59	60+	Not Stated
Total	1990	329,934	100	32.1	14.2	10.7	34.4	7.6	1.0
	2000	434,409	100	30.7	14.8	12.1	35.1	7.3	0.0
Percent increase		31.7							
Male	**1990**	155,023	100	32.9	13.0	10.3	34.1	8.8	0.9
	2000	207,804	100	31.3	13.4	11.8	35.3	8.2	0.0
Percent increase		34							
Female	**1990**	174,911	100	31.3	15.3	11.1	34.7	6.5	1.1
	2000	226,605	100	30.2	16.1	12.2	34.9	6.6	0.0
Percent increase		29.6							
Residence									
Rural									
Total	1990	277,548	100	31.4	14.0	10.6	34.8	8.1	1.1
	2000	364,422	100	30.2	14.6	12.0	35.5	7.6	0.0
Percent increase		31.3							
Male	**1990**	130,059	100	32.3	12.8	10.3	34.2	9.5	0.9
	2000	174,350	100	30.8	13.2	11.8	35.6	8.5	0.0
Percent increase		34.1							
Female	**1990**	147,489	100	30.5	15.0	10.9	35.4	7.0	1.2
	2000	190,072	100	29.6	15.9	12.3	35.4	6.8	0.0
Percent increase		28.9							
Urban									
Total	**1990**	52,386	100	35.9	15.1	11.3	32.4	4.4	0.9
	2000	69,987	100	33.4	15.9	12.1	32.7	5.8	0.0
Percent increase		33.6							
Male	**1990**	24,964	100	36.0	13.5	10.7	33.7	5.1	1.0
	2000	33,454	100	33.7	14.6	12.2	33.3	6.2	0.0
Percent increase		34							
Female	**1990**	27,422	100	35.7	16.7	11.8	31.1	3.9	0.8
	2000	36,533	100	33.1	17.1	12.1	32.2	5.5	0.0
Percent increase		33.2							

Sources: 1990 and 2000 Census of Population and Housing

Figure 6.2 Current Economically Active Population (12 Years and Over) ,Luapula Province,1990 and 2000

	Labour Force	Employed	Unemployed	Inactive
1990	157861	140331	17530	169440
2000	267726	249800	17926	166683
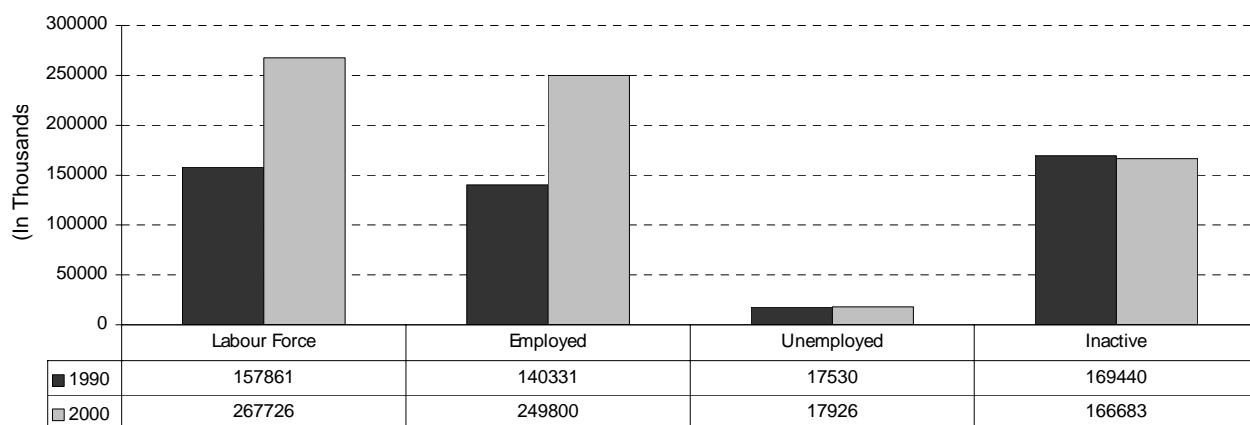
Sources: 1990 and 2000 Census of Population and Housing

6.4   The Economically Inactive Population

This category includes all persons who are full time housewives/home-makers, full time students and those who are not available for work aged 12 years and over. Table 6.2 shows the current economically inactive population by reason of activity, residence and sex in 2000. Slightly over three fifth (60.7 percent) of the inactive population is female, while about two fifth (39.3 percent) are male. Studying (50.1 percent) is the most important reason for inactivity, followed by homemaking (30.6) and lastly other reasons (19.3 percent). Groups of people included in the category of those who are economically inactive for "other reasons" include pensioners, those that are too old to work, prisoners, invalids, beggars and the disabled. In both rural and urban areas, the reasons for inactivity are in an order similar to the one for the whole country. The only thing to note is that there are slightly more home makers in the rural (30.8 percent) than in the urban areas (29.4 percent); slightly more students in the urban areas (53.5 percent) than in the rural areas (49.4 percent); there are more economically inactive people for other reasons in rural areas (19.8 percent) compared to urban areas (17.1 percent).

In 2000, males are economically inactive mainly because of studying (73.6 percent) while females are inactive primarily because of home making (47.7 percent).

Table 6.2:   **Current Economically Inactive Population By Reason For Inactivity, Residence And Sex, Luapula, 2000**

Residence and Sex	Reason For Inactivity				
	Total Number	Total	Home maker	Student	Other
Luapula Province					
Total	161,353	100	30.6	50.1	19.3
Rural	132,326	100	30.8	49.4	19.8
Urban	29,027	100	29.4	53.5	17.1
Sex					
Male	63,332	100	4.1	73.6	22.4
Female	98,021	100	47.7	35	17.3

Sources: 1990 and 2000 Census of Population and Housing

6.5   Economically Active Population (Labour force)

Figure 6.1 gives an illustration of the economically active population and economically inactive population. The economically active population or the Labour force is defined as all persons aged 12 years and above of either sex whose main economic activity status is to supply their labour force to the production of **economic** goods and services. It is composed of the employed and unemployed persons. It includes all those who are working, those who are unemployed but seeking work and those not seeking work but available for work. Included also are those unpaid on family business. The economically active population by residence and sex are given in Table 6.3. According to this table, the labour force increased by about 70 percent, from 157,861 in 1990 to 267,726 in 2000 in absolute terms. However, the average annual growth rate was 5.5 percent. Its average annual growth rate in labour force between 1990 and 2000 is higher than the national average of 3.8 percent, presenting a difference of 1.7 percent. The increase of 106.3 percent in the female labour force is more than the increase of 47.5 in the male labour force. A big proportion of the labour force (86.7 percent in 1990 and 89.9 percent in 2000) is in rural areas, as compared to the labour force in urban areas (13.3 percent in 1990 and 10.1 percent in 2000).

Table 6.3:   **Trends in the Labour force and the average Annual Growth Rate of the Labour Force by Districts**

District	1990	2000	Average Annual Growth Rate
Zambia	2,162,487	3,165,151	3.8
Luapula Province	157,861	267,726	5.5
Chiengi	-	23,783	-
Kawambwa	24,9256	26,476	0.6
Mansa	45,274	65,302	3.7
Milenge	-	10,944	-
Mwense	24,232	43,992	6.1
Nchelenge	32,505	30,943	-0.5
Samfya	30,925	66,286	7.9

Sources: 1990 and 2000 Census of Population and Housing

Note: "* " New Districts, "-" Not applicable as they refer to either new or non-existent districts.

Samfya and Mwense districts recorded the highest average annual growth rates (above the provincial annual growth rate of 5.5 percent) in the Labourforce between 1990 and 2000 of 7.9 percent and 6.1 percent respectively. Nchelenge recorded a negative average annual growth rate of –0.5 Percent. The other two districts Mansa and Kawambwa also registered an average annual growth rate in the labourforce below the provincial level as shown in the table 6.3.

In terms of percentage distribution of the labourforce in 2000, Samfya district had the highest (25 Percent), followed by Mansa and Mwense districts with 24.4 percent and 16.4 percent respectively. Milenge district had the least with 4.1 percent

Table 6.4:   Percentage Distribution of the Labour force by Districts, Luapula, 2000

Districts	Both sexes	Male	Female
Luapula Province	100.0	100.0	100.0
Chiengi	8.9	10.8	6.5
Kawambwa	9.9	12.3	7.1
Mansa	24.4	23.1	25.9
Milenge	4.1	3.5	4.8
Mwense	16.4	13.9	19.5
Nchelenge	11.6	15.0	7.4
Samfya	24.8	21.4	28.8

Sources: 2000 Census of Population and Housing

The employed population includes all persons who: work for remuneration in the form of wages, salaries, commissions or pay in kind; operate their own businesses without employing others and; work in a family business or farm without pay or profit. Of the 267,726 total labour force in Luapula in 2000, 249,800 or 93.3 percent are employed. The employed population increased by 78.0 percent from 140,331 in 1990 to 249,800 in 2000. The increase of 119.0 percent in the female employed labour force is much more than the increase of 53.8 percent in the male employed labour force. The proportion of the employed population residing in rural areas slightly increased from 88.0 percent in 1990 to 88.4 percent in 2000 while the proportion of the employed labour force residing in urban areas decreased from 12.0 percent in 1990 to 11.6 percent in 2000.

The unemployed population is composed of those who are unemployed and seeking work and those who are not seeking work but are available for work. According to Table 6.5 the unemployed population has increased by 2.3 percent from 17,530 in 1990 to 17,926 in 2000. There was a decrease of 4.0 percent in the male unemployed population while the female unemployed population increased by 12.1 percent

In 1990 there were more unemployed people in the rural areas (81.6 percent for total; 81.4 percent for males and 81.8 for the urban areas (18.4 percent for total; 18.6 percent for males and 18.2 for females). In 2000, the same situation prevailed, there were more unemployed persons residing in rural areas (61.9 percent for total; 61.3 percent for males and 62.8 percent for females) than urban areas (38.1 percent for total; 38.7 percent for males and 37.2 percent for females). However, the proportion of the unemployed residing in urban areas increased.

Table 6.5:   Current Economically Active Population 12 Years and Over by Residence and Sex, Luapula 1990 and 2000

Activity and Sex Status	Residence							
	1990				2000			
	Total Number	Total	Rural	Urban	Total Number	Total	Rural	Urban
Population								
Total	329,934	100	84.1	15.9	434,409	100	83.9	16.1
Male	155,023	100	83.9	16.1	207,804	100	83.9	16.1
Female	174,911	100	84.3	15.7	226,605	100	83.9	16.1
Labour Force								
Total	157,861	100	87.3	12.7	267,726	100	86.6	13.4
Male	98,630	100	86.3	13.7	145,509	100	85.9	14.1
Female	59,231	100	89.0	11.0	122,217	100	87.5	12.5
Employed								
Total	140,331	100	88.0	12.0	249,800	100	88.4	11.6
Male	87,906	100	86.9	13.1	135,214	100	87.7	12.3
Female	52,425	100	90.0	10.0	114,586	100	89.1	10.9
Unemployed								
Total	17,530	100	81.6	18.4	17,926	100	61.9	38.1
Male	10,724	100	81.4	18.6	10,295	100	61.3	38.7
Female	6,806	100	81.8	18.2	7,631	100	62.8	37.2
Inactive								
Total	169,440	100	81.2	18.8	166,683	100	79.5	20.5
Male	55,118	100	79.6	20.4	62,295	100	79.3	20.7
Female	114,322	100	82.0	18.0	104,388	100	79.6	20.4
Not Stated								
Total	2,633	100	79.3	20.7	0.0	0.0	0.0	0.0
Male	1,275	100	81.5	18.5	0.0	0.0	0.0	0.0
Female	1,358	100	77.5	22.5	0.0	0.0	0.0	0.0

Sources: 1990 and 2000 Census of Population and Housing

The economically inactive population comprises all persons 12 years and over who are classified neither as employed nor as employed during the reference period; i.e. the part of the population that is considered to be outside the labour force. The economic inactive population declined slightly by 1.6 percent from 169,440 in 1990 to 166,683 in 2000. Economic inactivity in males has increased by 13 percent from 55,118 in 1990 to 62,295 in 2000. In contrast, female economic inactivity has declined by 8.7 percent from 114,322 in 1990 to 104,388 in 2000. In 2000 there are more economically inactive persons in the rural areas than in the urban areas. The same situation pertained for 1990 with more economically inactive persons residing in rural areas than in urban areas.

Table 6.6 shows the economically active and economically inactive population by age, sex and nature of current economic activity. For labourforce and the employed, the peak age group is 35-54 years (28.2 percent for total; 29.2 percent for males and 27.0 percent for females and 29.2 percent for total; 30.2 percent for males and 28.1 percent for females).

For the unemployed population, the peak is in the age groups 12-19 (37.9 percent for total, 30.6 percent for males and 47.4 percent for females) and 20-24 (23.9 percent for total, 24.6 percent for males and 23.1 percent for females).

In so far as the economically inactive population is concerned, the peak is in the 12-19 age-group largely due to the fact that this is the age-range where you have a lot of school going persons on a full time basis.

Figure 6.3 shows a diagrammatic presentation by age and sex of the economically active population in 2000. The peak is in age-range 35-54.

Table 6.6: Economically Active Population (12 Years and older) by Age, Sex, and nature of current Economic Activity, Luapula Province 2000

Activity and Sex	Total Number	Total	Age Group							
			12-19	20-24	25-29	30-34	35-54	55-64	65+	Not Stated
Labour Force										
Total	267,726	100	17.3	16.6	14.8	12.3	28.2	6.5	4.3	0.0
Male	145,509	100	14.5	15.6	15.5	13.2	29.2	6.7	5.3	0.0
Female	122,217	100	20.6	17.9	14.0	11.2	27.0	6.2	3.2	0.0

	Number	%	12-19	20-24	25-29	30-34	35-54	55-64	65+	Not stated
Employed										
Total	249,800	100	15.8	16.1	14.9	12.6	29.2	6.8	4.6	0.0
Male	135,214	100	13.2	14.9	15.4	13.6	30.2	7.0	5.6	0.0
Female	114,586	100	18.8	17.5	14.2	11.5	28.1	6.5	3.3	0.0
Unemployed										
Total	17,926	100	37.9	23.9	14	7.7	13.2	1.9	1.4	0.0
Male	10,295	100	30.6	24.6	16.1	8.9	15.8	2.3	1.8	0.0
Female	7,631	100	47.7	23.1	11.2	6.1	9.7	1.4	0.8	0.0
Inactive										
Total	166,683	100	52.3	12.0	7.6	5.8	13.1	3.8	5.4	0.0
Male	62,295	100	70.6	8.4	3.3	2.5	6.4	2.8	5.9	0.0
Female	104,388	100	41.4	14.1	10.2	7.8	17.1	4.4	5.0	0.0

Sources: 1990 and 2000 Census of Population and Housing

Figure 6.3: Economically Active Population (12 and Over) by Age and Sex, Luapula Province, 2000
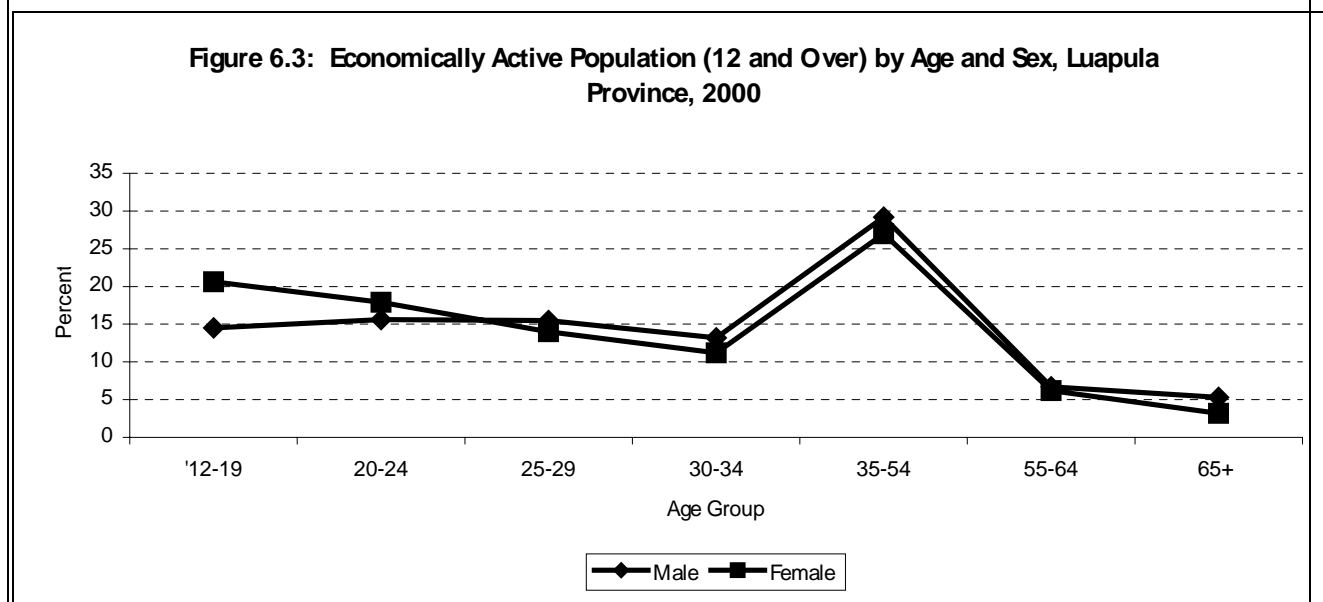
Sources: 1990 and 2000 Census of Population and Housing

6.6   Economic Dependency Ratios

Economic dependency measures the extent to which the economically inactive population is dependent on the economically active population. Therefore the economic dependency ratio is the economically inactive population divided by the economically active population.

Table 6.7 shows the current economically active population and dependency ratios by sex and residence. The table shows that the ratios have decreased for all categories. The decreases are most for the female (193.0 percent in1990 to 85.4 percent in 2000) and the urban areas (159.0 percent in 1990 to 95.1 percent in 2000). Diagrammatical illustrations of the decreases are indicated in Figure 6.4.

The decline in the economic dependency ratio at national level between 1990 and 2000 is less than the decline of the ratio in the province (114 in 1990 to 79 in 2000 at national level versus 107.3 in 1990 to 62.3 in 2000 at provincial level). The economic dependency ratio for the province is lower than the national economic dependency ratio, in 2000.

Table 6.7   Current Economically active population and Economic Dependency Ratio by Sex and Residence 1990 and 2000.

Labour force	1990	2000
Total Luapula	157,861	267,726
Male	98,630	145,509
Female	59,231	122,217
Rural	137,843	231,862
Urban	20,018	35,864
Economic dependency ratio		
Total Luapula	107.3	62.3
Male	55.9	42.8
Female	193.0	85.4
Rural	99.8	57.2
Urban	159.0	95.1

Sources: 1990 and 2000 Census of Population and Housing

Figure 6.4: Economic Dependency Ratio by Sex, Luapula Province, 1990 and 2000
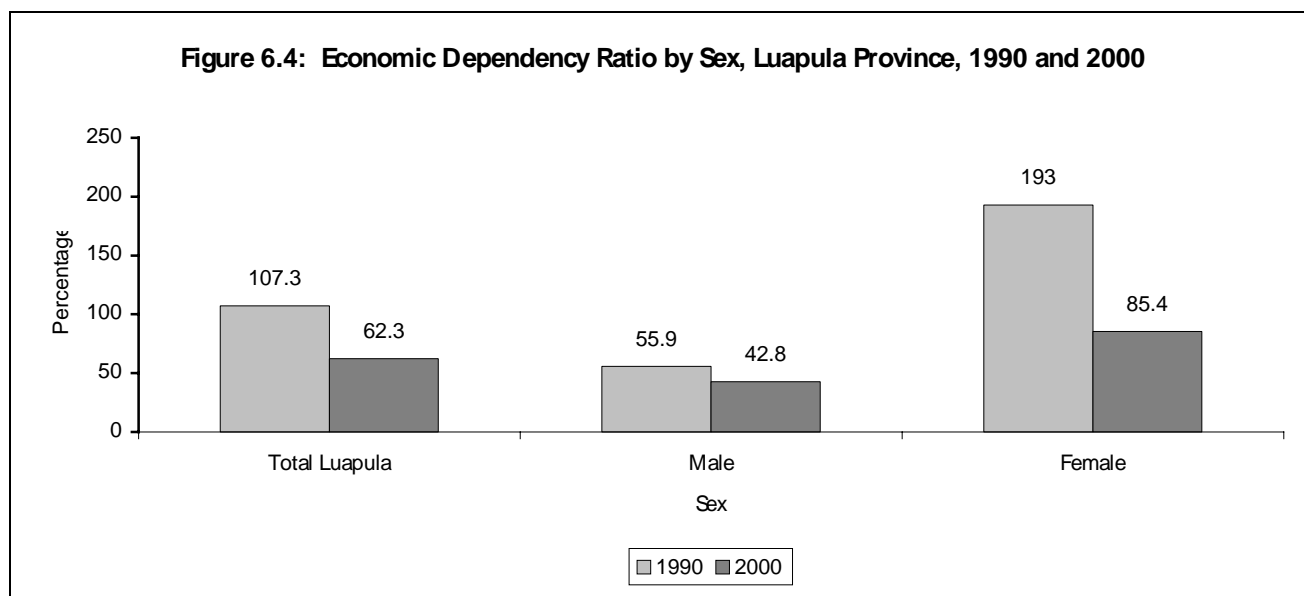
Sources: 1990 and 2000 Census of Population and Housing

6.7   Current Labour Force Participation Rates

The Labour force participation rate is defined as the proportion of persons of a particular age- group who are in the labour force. It measures the extent to which a particular age and/or sex group is involved in economic activities. Labour force participation rates by district and sex are shown in Table 6.8.

There has been an increase in the working-age population involved in economic activities between the two censuses. The labour force participation rate increased from 47.8 percent in 1990 to 61.6 percent in 2000. The increase in the female labour force from 33.9 percent to 53.9 is more than the increase for males from 63.6 percent to 70.0 percent.

The provincial labour force participation rates are slightly above the national rates, in both 1990 and 2000 (61.6 percent compared to 56 percent).

The Labour force participation rates have increased most in Samfya district (45.5 percent in 1990 to 74.8 percent in 2000) followed by Mwense district (47.6 percent in 1990 to 74.0 percent in 2000. Kawambwa district recorded a slight decline from (48.1 percent in 1990 to 45.8 percent in 2000).

Table 6.8 Trends in Labour force Participation Rates by Districts and Sex, 1990 and 2000 (Percentage)

Province/Districts	1990			2000		
	Both sexes	Male	Female	Both sexes	Male	Female
Zambia	**46.6**	**62.2**	**31.9**	**56.0**	**67.0**	**45.0**
Luapula Province	47.8	63.6	33.9	61.6	70.0	53.9
Districts						
Chiengi	-	-	-	49.8	68.9	32.3
Kawambwa	48.1	64.4	33.4	45.8	64.5	28.6
Mansa	51.3	63.4	40.4	63.8	68.6	59.4
Milenge	-	-	-	75.9	73.8	77.9
Mwense	47.6	60.2	36.6	74.0	72.0	75.8
Nchelenge	45.8	67.0	26.6	48.3	69.4	27.9
Samfya	45.5	62.3	31.4	74.8	74.6	74.9

Sources: 1990 and 2000 Census of Population and Housing

The increase in the rural labour force participation rate (from 49.7 percent to 63.6 percent) is greater than the increase in the urban areas (from 38.2 percent in 1990 to 51.2 percent in 2000).

The increase in labour force participation rates is greater for females than for males in both rural and urban areas. In the rural areas, the female participation rate increased from 35.7 percent in 1990 to 56.3 percent in 2000, while the male participation rate increased from 65.5 percent in 1990 to 71.7 percent in 2000. In the urban areas, the female labour force participation rate increased from 23.8 percent in 1990 to 41.8 percent in 2000, while the participation rate of males increased from 54.0 percent in 1990 to 61.5 percent in 2000.

An examination of the labour force participation rates by age reveals that they are lowest (19.1 percent) in the age-group 12-14 years, rose with the increase in ages to reach a peak of 78.1 percent for the age-groups 40-

44 years and 45-49 years, and then started to decline until it reached 40.8 percent for the oldest age-group 75 years and over. The pattern by residence is similar to the total .The peak is reached in age group 40-44 years in rural areas whereas in urban areas the peak is reached in the age group 45-49 years. The pattern for sexes in both rural and urban is slightly different. In both rural and urban areas the peak for males was reached in the age group 30-34.For females in rural areas the peak is reached in 50-54 and in urban areas the peak is reached in the age group 45-49.

The male labour force participation rates are higher than those for females at every age group apart from age groups 12-14 and 15-19. This pattern is the same between the two sexes and in both rural and urban areas.

Table 6.9:   Current Labour Force Participation Rates by Age, Sex and Residence, Luapula, 1990 and 2000

| | Current Participation Rates | | | | | | | | |
| | Total | | | Rural | | | Urban | | |
Age-Group	Both	Male	Female	Both	Male	Female	Both	Male	Female
1990	47.8	63.6	33.9	49.7	65.5	35.7	38.2	54	23.8
2000	61.6	70	53.9	63.6	71.7	56.3	51.2	61.5	41.8
2000 Census Age Group									
Total	61.6	70	53.9	63.6	71.7	56.3	51.2	61.5	41.8
12 – 14	19.1	18	20.2	20.8	19.4	22.3	10.8	10.8	10.8
15 – 19	44.3	41.9	46.4	47.3	44.5	49.8	30.4	30.3	30.4
20 – 24	69.1	81.3	59.7	71.5	83.9	62.1	57.4	69.1	48.2
25 – 29	75.8	91.6	61.8	77.2	92.5	63.7	68.7	87	51.8
30 – 34	77.3	92.5	62.7	78.3	92.8	64.3	71.8	90.7	53.7
35 – 39	77.3	91.9	63.7	78.3	92.2	65.4	71.9	90.5	54.4
40 – 44	78.1	91.9	65.1	79.2	92.4	66.6	72.1	89.0	56.9
45 – 49	78.1	91.6	65.6	78.9	92.4	66.8	73.2	87.7	58.6
50 – 54	76.3	89.1	65.7	77.6	90.1	67.3	68	82.7	54.8
55 – 59	75.4	86.4	65.1	77	87.9	66.9	65.8	77.8	53.8
60 – 64	70.8	83.5	58.9	72.8	84.7	61.5	57.7	75.4	41.5
65 – 69	68	80	54.4	69.6	81.3	56.2	55.9	69.5	41
70 – 74	55.4	68	39	57.6	70.3	40.8	41.5	52.5	27.7
75+	40.8	51.1	26.2	43.2	53.5	27.8	25.4	32.9	17.4

Sources: 1990 and 2000 Census of Population and Housing

Figure 6.5: Current Labour Force Participation Rates by Age and Sex, Luapula Province,2000
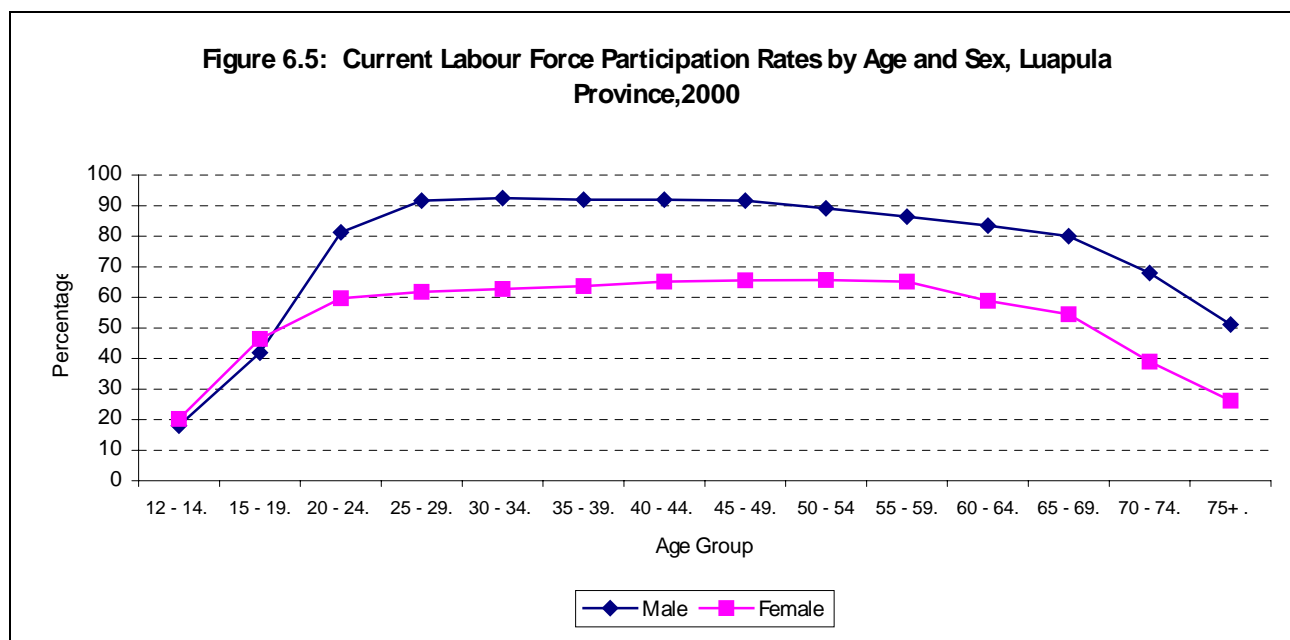
Sources: 1990 and 2000 Census of Population and Housing

Figure 6.6: Current Labour Force Participation Rates by Age and Sex, Luapula Province Urban, 2000
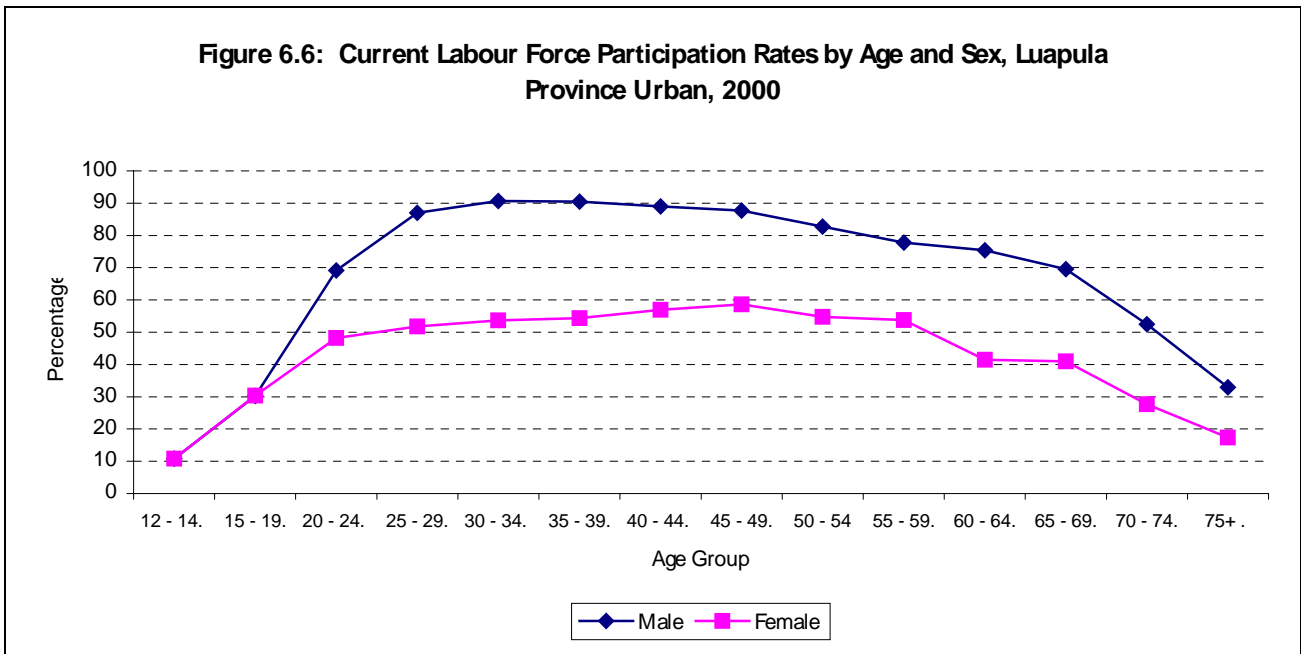
Sources: 1990 and 2000 Census of Population and Housing

6.8   Employment Status, Occupation And Industrial Classification

The occupational and industrial structure and employment status of a country's workforce reflect the level of its economic development and the efficiency with which it uses and allocates its resources. If economic progress is experienced in a country, this will easily be seen from the increased division and specialization of its labour force. In an economy in which economic progress is negligible, it is typical to find the majority of the workforce employed in it's primary industries. The labour force is found for various forms of self-employment activities and unskilled work. These activities are in the agricultural sector, and other occupations characterized by low skill requirements.

6.8.1   Employment Status

Employment status refers to whether a worker is an employer, employee, self-employed or an unpaid family worker. An employer is a person who operates his or her own economic enterprise or engages independently in a profession or trade, and hires one or more employees. An employee is a person who works for a public or private employer and receives remuneration in wages, salary, commission, tips, piece rates, or pay in kind. A self-employed worker is a person who operates his or her own economic enterprise or engages independently in a profession or trade, and hires no employees. Finally, an unpaid family worker is a person who works without pay in an economic enterprise operated by a related member of the same household (including peasant farmers).

Table 6.10 shows that the usually working population increased by 95.9 percent between 1990 and 2000 from 130,428 to 255,514. In terms of employment status, the total self-employed persons as a proportion of the total usually working population increased from 35.9 percent in 1990 to 43.1 in 2000. The ratio of the self-employed persons by sex has also increased between the two periods. However, the increase in the male self-employed persons (from 43.3 percent in 1990 to 58.5 percent in 2000) is more than the increase in the female self-employed persons (from 22.4 percent in 1990 to 26.0 percent in 2000). With regard to residence, a similar pattern is observed where the proportion of the male self-employed population has increased by a bigger percentage (from 45.3 percent in 1990 to 60.0 percent for the rural areas and from 30.3 percent to 48.0 percent for the urban areas) than the female self-employed population which has increased from 21.1 percent in 1990 to 24.7 percent in 2000 for the rural areas and from 34.0 percent in 1990 to 36.5 percent in 2000, for urban areas

There was decrease in the proportion of the workforce classified as employers. From a proportion of 1.4 percent in 1990 it dropped to only 0.6 percent in 2000. A similar trend by sex and residence is observed.

The proportion of the total population classified as employees decreased from 14.3 percent in 1990 to 8.1 percent in 2000. The decrease in the male employees (from 18.5 percent in 1990 to 13.2 percent in 2000 is more than the decrease in the female employees (from 6.8 percent in 1990 to 2.5 percent in 2000).

The proportion of the unpaid family workers has increased in general from 47.2 percent in 1990 to 48.2 percent in 2000. There were larger increases in the urban unpaid family workers especially for females who increased from 32.6 percent in 1990 to 51.2 percent in 2000. There was a decrease in the proportion of the unpaid family workers in the rural areas except for the female unpaid family workers.

The economic transformation of Luapula province economy between 1990 and 2000 could have led to these developments. For examples companies folded up especially Kawambwa Tea Company and Mansa Batteries. This could account for the significant decline in the proportion of the employers. Poverty levels during the same period have increased. In order to cope with the hard times, we see an increase in the self-employed population and the employees. This is consistent with the increase in the labour force participation rates between 1990 and 2000

Figure 6.7: Usually Working Population (12 Years and Over) by Employment Status, Sex and Residence, Luapula Province, 1990 and 2000
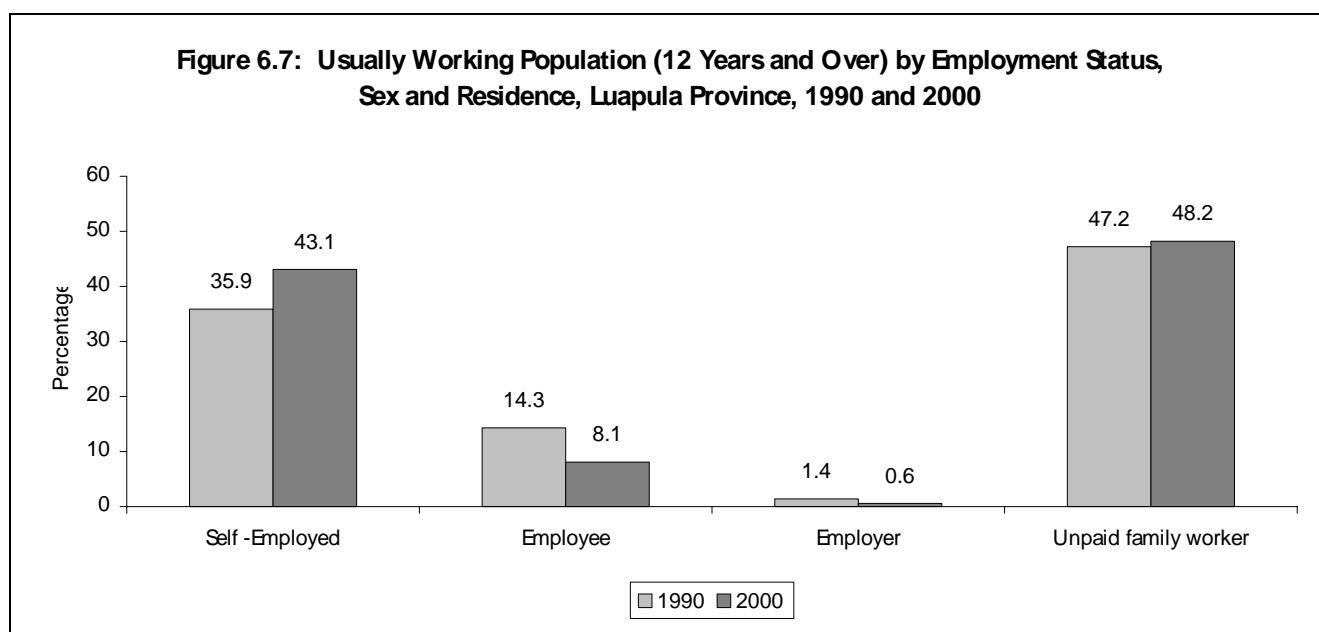
Sources: 1990 and 2000 Census of Population and Housing

Table 6.10: **Percent Distribution of the Usually Working Population 12 Years and Over by Employment Status, Sex and Residence 1990 and 2000**

Employment Status and Sex	Residence and Year					
	Total		Rural		Urban	
	1990	2000	1990	2000	1990	2000
Total Number						
Total	130,428	255,514	114,896	225,028	15,532	30,486
Male	84,264	134,519	73,357	117,692	10,907	16,827
Female	46,164	120,995	41,539	107,336	4,625	13,659
Total						
Total	100	100	100	100	100	100
Male	100	100	100	100	100	100
Female	100	100	100	100	100	100
Self –Employed						
Total	35.9	43.1	36.5	43.1	31.4	42.8
Male	43.3	58.5	45.3	60.0	30.3	48.0
Female	22.4	26.0	21.1	24.7	34	36.5
Employee						
Total	14.3	8.1	10.3	6.2	44.7	21.8
Male	18.5	13.2	13.6	10.8	51.2	29.7
Female	6.8	2.5	4.3	1.2	29.4	12.1
Employer						
Total	1.4	0.6	1.2	0.6	3	0.5
Male	1.9	1.0	1.6	1.0	3.5	0.7

Female	0.6	0.1	0.4	0.1	1.9	0.2

Unpaid family worker

Total	47.2	48.2	51	50.0	18.9	34.9
Male	35.2	27.4	38.5	28.2	13.1	21.6
Female	69	71.4	73.1	74.0	32.6	51.2

Not Stated

Total	1.2	0.0	1.0	0.0	2.0	0.0
Male	1.1	0.0	1.0	0.0	1.9	0.0
Female	1.2	0.0	1.1	0.0	2.1	0.0

Sources: 1990 and 2000 Census of Population and Housing

6.8.2   Working population by occupation

Occupation is a concept, which identifies a set of characteristics of a job and a group of specific tasks that are performed by a person.

The distribution of male and female workers among occupations showed some similarities. The three most important occupations for males are Agriculture (71.0 percent in 1990 and 83.4 percent in 2000), Sales workers (4.6 percent in 1990 and 5.1 percent in 2000), and Production and related workers (3.5 percent in 1990 and 4.0 percent in 2000).

The three most important occupations for females are Agriculture (69.9 percent in 1990 and 86.1 percent in 2000), Sales workers (6.0 percent in 1990 and 6.4 percent in 2000) and Production and related workers (2.7 percent in 1990 and 1.9 percent in 2000.

In rural areas, the distribution of workers among the various occupations is similar to the one for total Luapula except that the proportion of workers who are in Agriculture and related occupations is much higher in rural areas. The differences between the distributions of male and female workers over the various occupations in rural areas are not so significant. The distribution of workers over occupations in urban areas is different from both that of the total and that of the rural areas. In urban areas, workers are more widely distributed over many occupations, and not concentrated in few occupations. The five most important occupations in urban areas are Agric workers (51.2 percent in 2000), Sales Workers (20.1 percent ion 2000), Production and related workers (8.5 percent in 2000) Professional, technical and related workers (7.4 percent) and Service workers (5.8 percent).

Table 6.11: Percent Distribution of the Usually Working Population By Occupation, Sex and Residence, -1990 and 2000

Occupation		Percentage of Working Population								
		Total			Rural			Urban		
		Both Sexes	Males	Females	Both Sexes	Males	Females	Both Sexes	Males	Females
Total Number of Workers	1990	130,428	84,264	46,164	114,896	73,357	41,539	15,532	10,907	4,625
	2000	255,514	134,519	120,995	225,028	117,692	107,336	30,486	16,827	13,659
Total (%)	1990	100	100	100	100	100	100	100	100	100
	2000	100	100	100	100	100	100	100	100	100
Prof.Tech Workers	1990	4.4	4.9	3.3	3.1	3.6	2.1	13.8	13.6	14.3
	2000	1.9	2.7	1.0	1.1	1.7	0.5	7.4	9.1	5.3
Admin & Manag. Workers	1990	0.2	0.3	0.1	0.1	0.1	0.0	1.1	1.4	0.3
	2000	0.1	0.1	0.0	0.0	0.0	0.0	0.4	0.6	0.1
Clerical Workers	1990	0.8	0.8	0.8	0.3	0.4	0.2	4.7	3.9	6.7
	2000	0.3	0.4	0.2	0.1	0.1	0.0	1.9	2.2	1.4
Sales Workers	1990	5.1	4.6	6.0	3.5	3.2	4.0	17.2	14.2	24.1
	2000	5.7	5.1	6.4	3.7	3.1	4.4	20.1	18.5	22.1
Service Workers	1990	2.6	2.9	2.0	1.6	1.6	1.7	9.8	12.1	4.6
	2000	1.1	1.2	0.9	0.4	0.5	0.4	5.8	6.4	5.1
Agric.	1990	70.6	71.0	69.9	77.2	78.2	75.5	21.9	23.0	19.2
	2000	84.7	83.4	86.1	89.2	88.6	89.9	51.2	46.9	56.4
Prodn. And Trans. worker	1990	3.2	3.5	2.7	2.5	2.7	2.2	8.4	8.8	7.4
	2000	3.0	4.0	1.9	2.2	3.0	1.5	8.5	11.2	5.1
Unclassified	1990	2.2	1.9	2.9	2.0	1.5	2.8	4.0	4.1	3.8
	2000	0.1	0.1	0.1	0.0	0.0	0.1	0.2	0.2	0.1

Not stated	1990	10.9	10.1	12.3	9.7	8.7	11.5	19.1	18.9	19.6
	2000	3.3	3.1	3.5	3.1	2.9	3.4	4.6	4.8	4.4

Sources: 1990 and 2000 Census of Population and Housing

Figure 6.8: Usually Working Population (12 Years and Over) by Occuaption, Luapula Province, 1990 and 2000
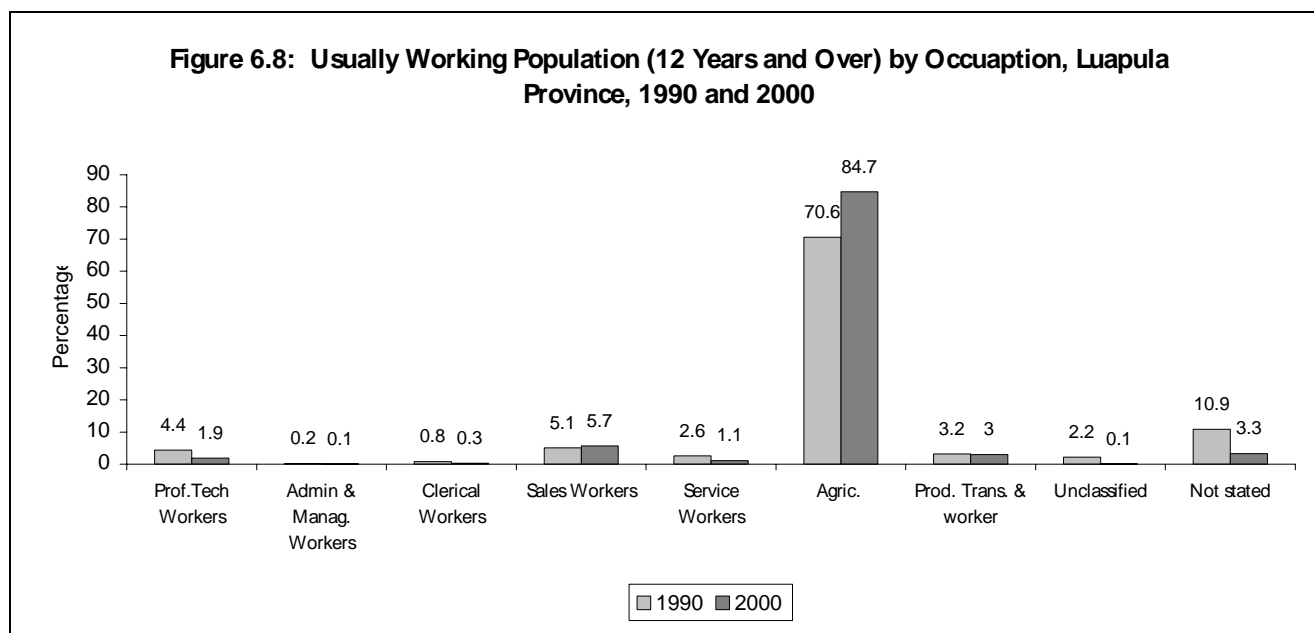
Sources: 1990 and 2000 Census of Population and Housing

6.8.3 Working population by Industry

Industry or economic sector defines the type of product or service produced at one's workplace. The distribution of the usually working population 12 years and over by industry and employment status for 1990 and 2000 is shown in Table 6.12

The industrial structure in Luapula continues to be dominated by the Agriculture industry. In 2000 the Agriculture sector employed 83.8 percent of the workers, the Mining industry employed 0.1 percent, secondary activities together employed 2.2 percent, while tertiary industries together employed 8.9 percent. In comparison to 1990, trade and agriculture were the only sectors that have recorded an increase. Trade increased from 2.0 percent in 1990 to 5.1 percent in 2000 and Agriculture increased from71.3 percent in 1990 to 83.8 percent in 2000 respectively. The rest of the sectors have shown decreases. The most significant are Community Services (8.0 percent in 1990 to 3.1 percent in 2000) and Manufacturing (2.5 percent in 1990 to 1.5 percent in 2000). A study of the mobility of workers from one industry to another shows that all apart from trade, non-agricultural industries experienced manpower losses during the 1990's, while the Agricultural and Trade industries are the only industries which gained manpower. The industrial distribution of workers by employment status revealed that the unpaid family workers (80.0 percent in 1990 and 90.4 percent in 2000) and the self-employed (77.9 percent in 1990 and 83.7 percent in 2000) are mostly in the Agricultural sector. Employees are more widely distributed over the industries than any other employment status. Employers were more predominant in Agriculture (47.0 percent in 1990 and 78.0 percent in 2000).

Table 6.12: Percent Distribution of the Usually Working Population (12 Years and Over) by Employment Status and Industry, Luapula, 1990 and 2000

Industry and Year		Total Number Working	Self-employed	Employee	Employer	Unpaid Family Worker	Not stated
Total Number	1990	130,428	46,828	18,729	1,834	61,511	1,526
	2000	255,514	110,115	20,696	1,471	6,086	0
Total Percentage	1990	100	100	100	100	100	100
	2000	100	100	100	100	100	0
Agriculture	1990	71.3	77.9	29.9	47.1	80	31.5
	2000	83.8	83.7	45.7	78.2	90.4	0.0
Mining	1990	0.1	0.0	0.6	0.6	0.0	0.3
	2000	0.0	0.0	0.2	0.0	0.0	0.0
Manufacturing	1990	2.5	3.7	5.9	3.9	0.9	2.2

	2000	1.5	2.1	4.2	1.6	0.6	0.0
Electricity	1990	0.3	0.1	1.7	1	0.0	0.3
	2000	0.1	0.0	1.2	0.2	0.0	0.0
Construction	1990	0.9	1.0	3.0	2.8	0.2	0.4
	2000	0.6	0.8	3.2	1.3	0.1	0.0
Trade	1990	2.0	3.4	3.3	4.7	0.5	1.1
	2000	5.1	7.1	5.9	5.7	3.1	0.0
Transport	1990	0.8	0.2	4.7	1.8	0.1	0.6
	2000	0.3	0.1	3.3	0.9	0.0	0.0
Finance	1990	2.1	3.8	3.6	2.9	0.4	0.9
	2000	0.4	0.4	1.6	0.7	0.2	0.0
Community	1990	8.0	3.8	34.8	22.8	2.8	5.6
	2000	3.1	1.2	27.0	4.4	0.7	0.0
Other	1990	1.9	1	2.8	1.9	2.2	2.6
	2000	0.0	0.0	0.0	0.0	0.0	0.0
Not Stated	1990	10.1	5.1	9.7	10.5	12.9	54.5
	2000	5.0	4.6	7.8	7.1	4.9	0.0

Sources: 1990 and 2000 Census of Population and Housing
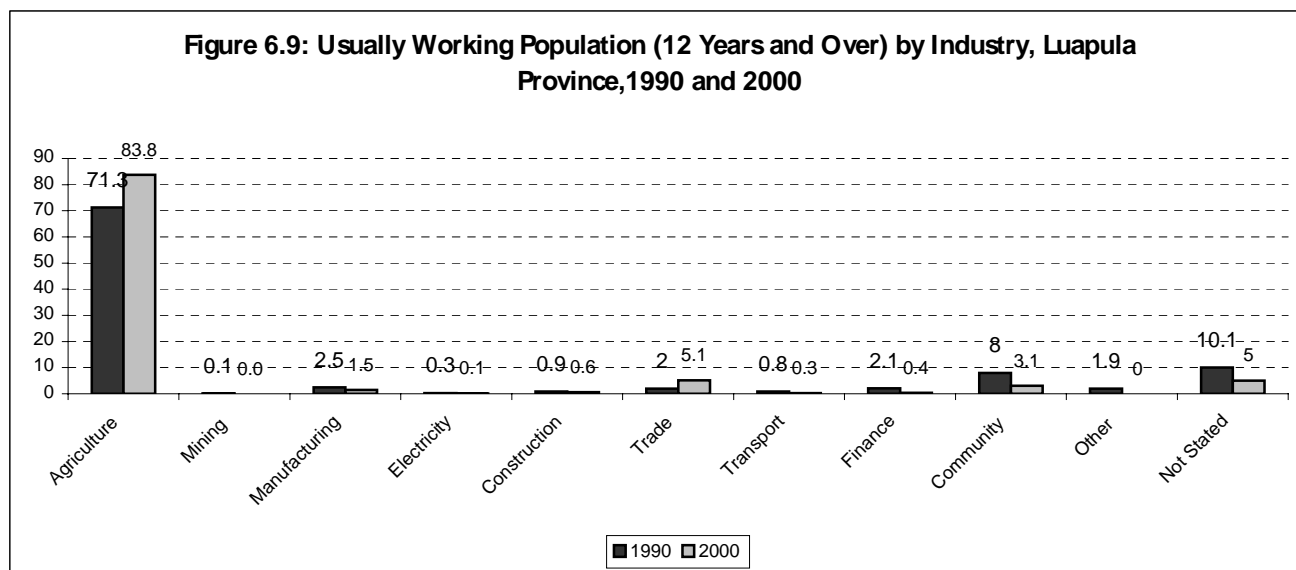
Figure 6.9: Usually Working Population (12 Years and Over) by Industry, Luapula Province,1990 and 2000

Sources: 1990 and 2000 Census of Population and Housing

The distribution of the usually working population by employment status in each industry is shown in Table 6.13. Unpaid family workers (47.2 percent in 1990 and 48.2 percent in 2000) was the most predominant status for all industries. The Employees are prominent in all industries, except those of Agriculture and Trade in both 1990 and 2000. The employment status of employer is not very predominant in any industry in both Censuses. Self-employed is prominent in the Trading and Manufacturing industries in 2000 (60.4 percent in trade and 58.0 percent in Manufacturing). Unpaid family workers are dominant in the Agricultural industry in both Censuses.

Table 6.13: Percent Distribution of the Usually Working Population (12 Years and Over) by Employment Status and Industry, Luapula, 1990 and 2000

Industry and Year		Total Number Working	Total	Self Employed	Employee	Employer	Unpaid Family Worker	Not Stated
Total	1990	130,428	100.0	35.9	14.3	1.4	47.2	1.2
	2000	255,514	100.0	43.1	8.1	0.6	48.2	0.0
Agriculture	1990	92,946	100.0	39.3	6.0	0.9	53.3	0.5
	2000	214,149	100.0	43.0	4.4	0.5	52.0	0.0
Mining	1990	171	100.0	11.1	70.3	7.0	8.8	2.9
	2000	46	100.0	15.2	82.6	0.0	2.2	0.0
Manufacturing	1990	3,317	100.0	52.1	33.4	2.1	11.4	1.0
	2000	3,903	100.0	58.0	22.1	0.6	19.3	0.0
Electricity	1990	367	100.0	7.6	83.6	5.2	2.5	1.1
	2000	303	100.0	14.2	81.8	1.0	3.0	0.0
Construction	1990	1,217	100.0	39.1	45.9	4.2	10.3	0.5
	2000	1,632	100.0	51.2	40.4	1.2	7.3	0.0
Trade	1990	2,595	100.0	61.0	14.4	3.3	11.1	0.7
	2000	13,002	100.0	60.4	9.5	0.6	29.5	0.0
Transport	1990	1,065	100.0	10.1	83.2	3.1	2.8	0.8
	2000	826	100.0	11.1	83.3	1.6	4.0	0.0
Finance	1990	2,788	100.0	63.5	24.4	1.9	9.7	0.5

	Year	Number	Total					
	2000	950	100.0	45.2	34.2	1.1	19.6	0.0
Community	1990	10,406	100.0	17.2	32.7	4.0	15.3	0.8
	2000	7,831	100.0	17.5	71.3	0.8	10.3	0.0
Other	1990	2,416	100.0	19.9	21.3	1.5	55.6	1.7
	2000	0	0.0	0.0	0.0	0.0	0.0	0.0
Not Stated	1990	13,140	100.0	18.0	13.8	1.5	60.4	6.3
	2000	12,872	100.0	17.5	71.3	0.8	10.3	0.0

Sources: 1990 and 2000 Census of Population and Housing

Table 6.14 and Table 6.15 show the distribution of the usually working population by industry, sex and residence for the year 2000. The majority of the labour force is employed in the Agricultural sector (84 percent) followed by Trade, Restaurant and Hotel sector with 5 percent. By residence, the rural areas employ 88 percent in the Agricultural industry. The community and Personal Services and the Trade, Restaurants and Hostels account for 2 percent and 3 percent respectively. In urban areas Agriculture, Trade, Community and Personal services sector account for 52 percent, 18 percent and 13 percent respectively.

Table 6.14:	**Percent Distribution of Usually Working Population by Industry, Residence and Sex, Luapula Province, 2000**

Industry	Total Number	Rural	Urban	Male	Female
Total Number	255,514	225,028	30,486	134,519	120,995
Total Percentage	100.0	100.0	100.0	100.0	100.0
Agriculture	84	88	52	82	85
Mining & Quarrying	0	0	0	0	0
Manufacturing	2	1	4	2	1
Electricity, Gas & Water	0	0	1	0	0
Construction	1	1	2	1	0
Trade, Restaurant and Hotel	5	3	18	4	6
Transport and Communication	0	0	2	1	0
Finance and Real Estates	0	0	2	0	0
Community and Personal Services	3	2	13	4	2
Not Stated	5	5	7	5	5

Sources: 2000 Census of Population and Housing

Disaggregated by sex, 85 percent of the total usually working population of females are in the Agricultural sector while 6 percent are in Trade, Restaurant and Hotel sector .For males, 82 percent are in Agricultural sector while 4 percent are in Community and Personal services sector and Trade, restaurant and hotel.

Table 6.15:	**Percent Distribution of Usually Working Population by Industry, Residence and Sex, Luapula Province, 2000**

Industry	Total Number	Percent Total	Percent Male	Percent Female	Rural Number	Percent Total	Percent Male	Percent Female	Urban Number	Percent Total	Percent Male	Percent Female
Total	255,514	100	53	47	225,028	100	52	48	30,486	100	55	45
Agriculture	214,149	100	52	48	198,441	100	52	48	15,708	100	51	49
Mining & Quarrying	46	100	96	4	34	100	94	6	12	100	100	0
Manufacturing	3,903	100	56	44	2,815	100	56	44	1,088	100	56	44
Electricity, Gas & Water	303	100	95	5	99	100	94	6	204	100	95	5
Construction	1,632	100	97	3	1,146	100	97	3	486	100	99	1
Trade, Restaurant and Hotel	13,002	100	46	54	7,467	100	43	57	5,535	100	51	49
Transport and Communication	826	100	96	4	288	100	99	1	538	100	95	5
Finance and Real Estates	950	100	64	36	285	100	59	41	665	100	66	34
Community and Personal Services	7,831	100	66	34	3,777	100	70	30	4,054	100	63	37
Not Stated	12,872	100	53	47	10,676	100	52	48	2,196	100	57	43

Sources: 2000 Census of Population and Housing

For the total working population by industry, sex and residence, 53 percent were males and 47 percent were females. The Mining, Electricity, Construction and Transport sector account for the majority of the male working population of 96 percent, 95 percent, 97 percent and 96 percent respectively. The distribution by rural and urban does not differ much from the total distribution.

## 6.9	Educational Attainment

The main objective of human resource development is to secure the optimal number of people with the right qualifications for the right jobs at the right time.

It is necessary for country to invest time and money in the development of its human resources because of the benefits, which result from increased efficiency, and productivity of those who receive training. Then specific type and number of skills required will be determined by the needs of economic growth and development. The total human resources needed in a country will by definition be equal to the number required to maintain the existing level of output, plus the number of required to produce the planned additional volume of output, not forgetting to add some percentage for those who will die, retire, be upgraded, become disabled or emigrate. The information required on the development of human resources should give indications of the number of workers who possess skills that are critical for sustained economic development. Professional education is training which will enable a person to practice in an occupation in which only those who have acquired a pre-determined amount of knowledge, usually at degree level can practice. Vocational education is training which prepares one for a specific occupation or family of occupations, but at a level that is lower than professional education.

Figure 6.16 shows the distribution of the usually working population 12 years and over by professional/vocational training and occupation in 2000. According to this table 96.6 percent of the provinces working population had absolutely no professional /vocational education while only 3.4 percent had such education. The distribution among the various occupations shows that about more than four fifths of those in the Professional, Technical and related occupations have professional education, while slightly below one fifth do not have. About two third of the Administrative and Managerial occupations have professional education while above a third does not have. For the Clerical and related workers, the distribution is almost equal (56.8 with no professional education while 43.2 percent have). Over four fifths of the sales, service, Agriculture and production workers do not have professional education. A comparison of the distribution of male and female workers by professional/vocational workers does not show significant differences.

An examination of the levels of training of those who are reported to have professional education shows that over four fifths (84.4 percent) are trained at Certificate level, less than a fifth (12.6 percent) are trained up to Diploma level and only 3.0 percent are trained up to Degree level. Except for the Administrative and Managerial workers (21.2 percent), the proportion that has been trained up to Degree level is still very low by 2000. A substantial number of workers have trained up to Diploma level were in the three occupations; Administrative and managerial (37.2 percent); Professional and technical (17.1 percent) and Sales workers (14.4 percent). The majority (ranging from 41.6 percent to 94.2 percent) of the workers are trained up to Certificate level in all the remaining occupations. The proportion of Diploma and degree holders is higher for males than for females, in all the occupations except for females in the Administrative and Managerial occupation who have more degree holders. On the contrary, there is a high proportion of females with certificate than males.

Figure 6.10: Usually Population (12 Years and Over) by professional Training, Occupation,Luapula Province
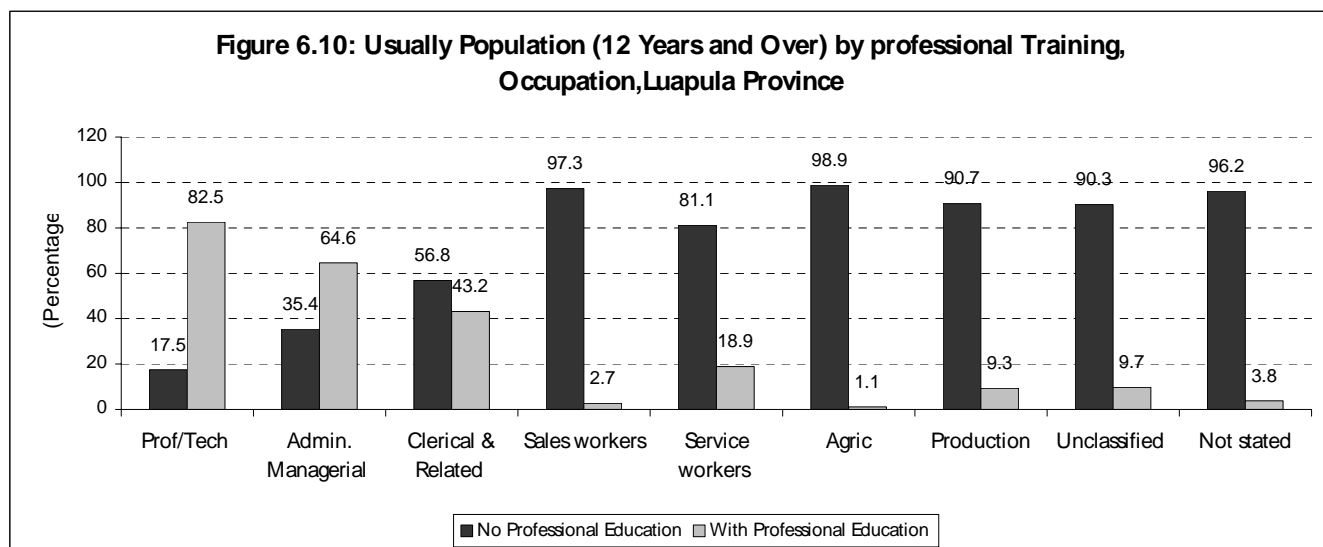
Sources: 1990 and 2000 Census of Population and Housing

Table 6.16: Usually Working Population 12 Years and over by Professional/Vocational Training; Occupation and Sex (Percent), Total Luapula, 2000

Sex and occupational Category	Total usually Working Population	Working Population			Working Population With Professional Education				
		Total	No Professional Education	With Professional Education	Number Having Professional Education	Total	Certificate	Diploma	Degree
Both Sexes									
Total	255,514	100	96.6	3.4	8,795	100	84.4	12.6	3.0
Prof/Tech	4,847	100	17.5	82.5	4,001	100	79.3	17.1	3.6
Admin. Managerial	175	100	35.4	64.6	113	100	41.6	37.2	21.2
Clerical & Related	769	100	56.8	43.2	332	100	86.4	12.3	1.2
Sales workers	14,501	100	97.3	2.7	395	100	82.8	14.4	2.8
Service workers	2,696	100	81.1	18.9	509	100	90.4	8.3	1.4
Agric	216,298	100	98.9	1.1	2,404	100	90.9	6.9	2.2
Production	7,632	100	90.7	9.3	706	100	94.2	5.1	0.7
Unclassified	155	100	90.3	9.7	15	100	80.0	6.7	13.3
Not stated	8,441	100	96.2	3.8	320	100	82.5	12.8	4.7
Males									
Total	134,519	100	94.9	5.1	6,824	100	81.9	14.8	3.4
Prof/Tech	3,583	100	18.1	81.9	2,935	100	74.9	20.9	4.2
Admin. Managerial	151	100	31.8	68.2	103	100	41.7	39.8	18.4
Clerical & Related	545	100	67.5	32.5	177	100	82.5	15.3	2.3
Sales workers	6,796	100	95.9	4.1	282	100	77.3	19.5	3.2
Service workers	1,612	100	71.4	28.6	461	100	90.0	8.7	1.3
Agric	112,139	100	98.2	1.8	1,982	100	89.5	8.1	2.4
Production	5,369	100	88.5	11.5	620	100	93.9	5.3	0.8
Unclassified	89	100	87.6	12.4	11	100	72.7	9.1	18.2
Not stated	4,235	100	94.0	6.0	253	100	79.4	15.0	5.5
Females									
Total	120,995	100	98.4	1.6	1,971	100	93.1	5.1	1.8
Prof/Tech	1,264	100	15.7	84.3	1,066	100	91.4	6.7	2.0
Admin. Managerial	24	100	58.3	41.7	10	100	40.0	10.0	50.0
Clerical & Related	224	100	30.8	69.2	155	100	91.0	9.0	0.0
Sales workers	7,705	100	98.5	1.5	113	100	96.5	1.8	1.8
Service workers	1,084	100	95.6	4.4	48	100	93.8	4.2	2.1
Agric	104,159	100	99.6	0.4	422	100	97.6	1.2	1.2
Production	2,263	100	96.2	3.8	86	100	96.5	3.5	0.0
Unclassified	66	100	93.9	6.1	4	100	100.0	0.0	0.0
Not stated	4,206	100	98.4	1.6	67	100	94.0	4.5	1.5

Sources: 1990 and 2000 Census of Population and Housing

Table 6.17 shows the usual working population 12 years and over by professional/vocational training, occupation and sex in 1990. Intercensal comparisons of training in human resources shows that the proportion of those having professional education declined from 6.6 percent in 1990 to 3.4 percent in 2000 while those having no professional qualification have increased from 93.4 percent in 1990 to 96.6 percent in 2000. In all the occupation with the exception of sales and Agriculture, there has been increase in the proportion of personnel having professional education.

The comparison of those educational levels reached by those having professional/vocational training shows that the proportion of those who were trained at certificate and diploma level declined (from 86.7 percent in 1990 to 84.4 percent in 2000 for Certificate and from 12.7 percent in 1990 to 12.6 percent in 2000 for Diploma). The proportion of those trained at degree level increased from 0.6 percent in 1990 to 3.0 percent in 2000. The above pattern of change between the two censuses is maintained between the two censuses in all occupations. It must be noted that there is a remarkable increase in the proportion of those trained at Degree level in the two occupations of Administrative and Managerial (from 3.9 percent in 1990 to 21.2 percent in 2000, and Professional and Technical (from 1.1 percent in 1990 to 3.6 percent in 2000).

Although Luapula province has made big strides in increasing the number of workers who have received professional/vocational training at Certificate, Diploma and Degree levels in view of the fact that the province only had very few persons with university and secondary education at the time of independence in 1964-the

above data still shows that the bulk of the province's workforce is unskilled (and may hence have low productivity), while critical skills in the professional, Technical, administrative, managerial and related occupations may still be too inadequate to enable the country to sustain appreciable development efforts.

Table 6.17: **Usually Working Population 12 Years and over by Professional/Vocational Training; Occupation and Sex (Percent), Luapula Province, 1990**

Sex and occupational Category	Total usually Working Population	Working Population		Working Population With Professional Education				
		Total	With Professional Education	Number Having Professional Education	Total	Certificate	Diploma	Degree
Both Sexes								
Total	130,428	100	93.4	6.6	8,552	86.7	12.7	0.6
Prof/Tech	5,661	100	33.3	66.7	3,736	81.0	17.9	1.1
Admin. Managerial	251	100	38.6	61.4	154	59.7	36.4	3.9
Clerical & Related	1,081	100	59.3	40.7	437	93.1	6.6	0.2
Sales workers	6,708	100	93.6	6.4	431	85.8	14.2	0.0
Service workers	3,412	100	84.8	15.2	516	93.8	6.2	0.0
Agric	92,101	100	97.8	2.2	2,043	93.4	6.5	0.1
Production	4,153	100	91.7	8.3	345	90.4	9.6	0.0
Unclassified	2,911	100	95.4	4.6	133	84.2	13.5	2.3
Not stated	14,150	100	94.6	5.4	757	92.6	7.4	0.0
Male								
Total	84,264	100	91.7	8.3	6,947	85.1	14.2	0.6
Prof/Tech	4,115	100	31.4	68.6	2,793	77.3	21.4	1.2
Admin. Managerial	230	100	37.8	62.2	143	57.3	38.5	4.2
Clerical & Related	707	100	68.1	31.9	224	88.8	10.7	0.4
Sales workers	3,920	100	91.5	8.5	333	83.2	16.8	0.0
Service workers	2,479	100	80.2	19.8	488	93.6	6.4	0.0
Agric	59,847	100	96.9	3.1	1,857	93.2	6.8	0.0
Production	2,919	100	89.5	10.5	306	89.5	10.5	0.0
Unclassified	1,571	100	93.0	7.0	109	83.5	14.7	1.8
Not stated	8,476	100	91.8	8.2	694	92.8	7.2	0.0
Female								
Total	46,164	100	96.5	3.5	1,605	93.4	6.0	0.6
Prof/Tech	1,546	100	38.4	61.6	943	92.0	7.2	0.7
Admin. Managerial	21	100	47.6	52.4	11	90.9	9.1	0.0
Clerical & Related	374	100	42.9	57.1	213	97.7	2.3	0.0
Sales workers	2,788	100	96.5	3.5	98	94.9	5.1	0.0
Service workers	933	100	97.0	3.0	28	96.4	3.6	0.0
Agric	32,254	100	99.4	0.6	186	95.2	3.8	1.1
Production	1,234	100	96.8	3.2	39	97.4	2.6	0.0
Unclassified	1,340	100	98.2	1.8	24	87.5	8.3	4.2
Not stated	5,674	100	98.9	1.1	63	90.5	9.5	0.0

Sources: 1990 and 2000 Census of Population and Housing.

Table 6.18 shows the usually working population 12 years and over by field of training and Professional/vocational training level completed by 2000. The biggest proportion of the province workforce of 67.7 percent had not received training at any level by 2000. There is more concentration of training in the Social sciences and arts than in the natural sciences. The following are the five most important fields of training for those who received professional/vocational training in 2000: Teacher training (29.2 percent); Nursing (20.9 percent); Mechanical Engineering (4.4 percent); Agriculture, Forestry and Fishery (4.0 percent); and Accountancy (4.0 percent).

A comparison of fields of training by level of training completed shows patterns, which are similar to the one, described for the total workers who had received professional training by 2000.

Table 6.18: **Usually Working Population (12 Years and Over) by Field of Training and Professional/vocational Training, Luapula Province, 2000**

Field of Training	Total usually Working Population	No Professional Education	Professional/vocational training			
			Total	Certificate	Diploma	Degree
Total Working Number	255,514	246,719	8,795	7,421	1,109	265
Total	100.0	100.0	100.0	100.0	100.0	100.0

Natural science	0.0	0.0	0.6	0.2	2.1	6.0
Civil engineering	0.0	0.0	0.6	0.5	1.4	1.1
Elec. & Electronic Engineering	0.1	0.0	2.0	2.0	2.3	1.1
Mechanical Engineering	0.2	0.0	4.4	4.5	3.5	4.5
Chemical Engineering	0.0	0.0	0.1	0.1	0.2	0.0
Mining Engineering	0.0	0.0	1.0	1.1	0.5	1.5
Industrial Engineering	0.0	0.0	0.0	0.0	0.0	0.0
Metallurgical Engineering	0.0	0.0	0.1	0.1	0.2	0.0
Architectural& T/Planning	0.0	0.0	0.1	0.1	0.2	1.1
Other Engineering	0.0	0.0	0.7	0.6	0.7	1.9
Medicine and Surgery	0.0	0.0	0.8	0.3	3.0	6.4
Pharmacy	0.0	0.0	0.5	0.5	0.4	0.4
Dentistry	0.0	0.0	0.6	0.6	0.5	1.1
Nursing	0.7	0.0	20.9	22.4	15.0	3.4
Medical Technology	0.0	0.0	1.4	0.6	4.1	12.1
X-RAY Technology	0.0	0.0	0.2	0.1	0.4	2.3
Veterinary	0.0	0.0	0.3	0.2	0.5	0.0
Statistics	0.0	0.0	0.2	0.2	0.5	0.0
Mathematics	0.0	0.0	0.2	0.1	0.6	0.4
Computer Science	0.0	0.0	0.3	0.3	0.6	0.4
Economics	0.0	0.0	0.5	0.4	0.4	3.4
Accountancy	0.1	0.0	4.0	3.2	10.0	3.0
Teacher Training	1.0	0.0	29.2	29.8	28.0	18.1
Law and Jurisprudence	0.1	0.0	2.7	2.7	2.8	2.3
Journalism	0.0	0.0	0.2	0.1	0.6	1.5
Fine Arts	0.0	0.0	0.4	0.4	0.5	1.1
Physical Education	0.0	0.0	0.2	0.1	0.6	0.4
Library Science	0.0	0.0	0.1	0.1	0.2	0.0
Social Welfare	0.0	0.0	0.6	0.5	0.8	3.0
Criminology	0.1	0.0	1.6	1.8	0.4	0.0
Business Administration	0.1	0.0	2.1	1.6	5.3	1.9
Secretarial Training	0.0	0.0	1.4	1.6	0.8	0.4
Shorthand Typing	0.0	0.0	0.9	1.1	0.0	0.0
Clerical Typing	0.0	0.0	1.3	1.5	0.1	0.0
Operating of Off. Machine	0.0	0.0	0.5	0.5	0.4	0.4
Service Trade	0.0	0.0	0.7	0.8	0.4	0.0
Radio & TV Broadcasting	0.0	0.0	0.1	0.0	0.2	0.0
Fire Protection & Fire Fighting	0.0	0.0	0.2	0.2	0.0	0.4
Agriculture, Forestry & Fishery	0.1	0.0	4.0	3.7	5.1	6.4
Food and drink Processing	0.0	0.0	0.3	0.4	0.1	0.8
Wood working	0.1	0.0	2.9	3.3	0.6	0.8
Textile Trades	0.0	0.0	1.1	1.3	0.2	0.0
Leather Trades	0.0	0.0	0.0	0.0	0.0	0.0
Other Programmes	0.3	0.0	9.6	10.1	5.6	12.1
No Training	67.7	70.2	0.0	0.0	0.0	0.0
Not stated	28.8	29.8	0.3	0.3	0.6	0.4

Sources: 1990 and 2000 Census of Population and Housing.

6.10 Unemployment

The unemployed population consists of all persons 12 years and over who are actively seeking work or are available for work during reference period, i.e. the last seven days before the enumeration day. Poor economic conditions are primarily responsible for unemployment, although demographic trends do affect the growth and composition of the labour force. A high unemployment ratio generally means that many people are without jobs because of a shortfall in employment opportunities. The unemployment rate is found by measuring the number of unemployed persons against the labour force.

Table 6.19 and Table 6.20 show unemployment ratios by sex and residence for 1990 and 2000. There was a decline in the overall unemployment rate from 11.1 percent in 1990 to 6.7 percent in 2000. Females have experienced a bigger drop from 11.5 percent in 1990 to 6.2 percent in 2000 while the male unemployment rate declined from 10.9 percent in 1990 to 7.1 percent in 2000.

In the rural areas the unemployment rate has declined for both male and females. The total unemployment rate has declined from 10.4 percent in 1990 to 4.8 percent in 2000. The Male unemployment rate has declined from 10.2 percent in 1990 to 5.0 percent in 2000 while the Female unemployment rate has declined from 10.6 percent in 1990 to 4.5 percent in 2000. However the unemployment rate increased in the urban areas. The

total unemployment rate increased from 16.1 percent in 1990 to 19.0 percent in 2000. There male urban unemployment rate increased (from 14.8 percent in 1990 to 19.4 percent in 2000) while the urban female unemployment rate declined slightly (from 19.0 percent in 1990 to 18.6 percent in 2000). The increase in the unemployment rates in the urban areas could be accounted for by the fact that there were a lot of job losses because a good number of companies were either liquidated or privatized. Correspondingly, this can explain the decrease in unemployment rates in the rural areas probably because those who lost jobs in the urban areas got employed in the rural areas.

Unemployment rates have increased most in Kawambwa district (9.7 percent in 1990 to 16.6 percent in 2000. Mansa, Mwense Nchelenge and Samfya districts recorded declines in unemployment rates from 10.1 percent in 1990 to 7.3 percent in 2000 for Mansa, from 10.7 percent in 1990 to 1.0 percent in 2000 for Mwense from 12.3 percent in 1990 to 11.5 percent in 2000 for Nchelenge and from 12.7 percent in 1990 to 3.6 percent in 2000 for Samfya. Disaggregated by sex, the unemployment rates for males have increased most in Kawambwa district. Mwense district registered the biggest decrease in the male unemployment rate from 11.4 percent in 1990 to 1.0 percent in 2000. The female unemployment rate increased most in Kawambwa districts and declined most in Mwense district.

The total unemployment rate for the province is below the national unemployment rate in 2000 (8 percent compared with the national rates of 13 percent). The same pattern prevailed in 1990.

Table 6.19:   Trends in Unemployment Rates by Sex and Districts, Luapula Province, 2000

District	1990			2000		
	Total	Male	Female	Total	Male	Female
Zambia	**15**	**14.1**	**16.7**	**12.9**	**14.1**	**11.3**
Luapula Province	11.1	10.9	11.5	6.7	7.1	6.2
Districts						
Chiengi	-	-	-	9.0	7.0	12.9
Kawambwa	9.7	9.2	10.5	16.6	15.1	19.7
Mansa	10.1	10.2	10.0	7.3	8.4	6.2
Milenge	-	-	-	1.9	2.4	1.5
Mwense	10.7	11.4	9.6	1.0	1.3	0.8
Nchelenge	12.3	11.1	15.1	11.5	9.7	15.6
Samfya	12.7	12.5	13.1	3.6	3.7	3.6

Sources: 1990 and 2000 Census of Population and Housing.

Note: "* " New Districts, "-" Not applicable as they refer to either new or non-existent districts

Table 6.20: Unemployment Rates by Sex and residence 1990 and 2000

Residence	Sex	1990	2000
Luapula	Total	11.1	6.7
	Male	10.9	7.1
	Female	11.5	6.2
Rural	Total	10.4	4.8
	Male	10.2	5.0
	Female	10.6	4.5
Urban	Total	16.1	19.0
	Male	14.8	19.4
	Female	19	18.6

Sources: 1990 and 2000 Census of Population and Housing

Current unemployment rates by age, sex and residence in 2000 are shown in Table 6.21.and illustrated for in 2000 in figure 6.11.This table shows that unemployment is a more serious problem in the young age groups 12-14 (18.0 percent); 15-19 (13.8 percent); 20-24 (9.6 percent) and 25-29 (6.3 percent). This pattern is the same for both sexes, and in both rural and urban areas.

The overall unemployment rate of 7.1 percent for males is more than that of females of 6.2 percent. A comparison of the rates by age between the two sexes shows that apart from the age-group 12-14 years, the male unemployment rates are higher than the female unemployment rates at all ages. In rural areas, apart from the age group 12-14 and the older age group (75+), the male unemployment rates were higher than the female unemployment rates at all ages, while in urban areas, the female unemployment rates were higher than the male unemployment rates in the age groups 12-14, 15-19 and 70+. In the remaining age groups the male unemployment rates were higher than the female unemployment rates.

Table 6.21: Current Unemployment Rates by Age, Sex and Residence 2000

Age Group	Total			Rural			Urban		
	Both	Male	Female	Both	Male	Female	Both	Male	Female
Total.	6.7	7.1	6.2	4.8	5.0	4.5	19.0	19.4	18.6
12 - 14.	18.0	17.1	18.8	14.6	13.7	15.4	49.7	47.8	51.5
15 - 19.	13.8	14.4	13.4	10.1	10.5	9.7	40.8	40.4	41.2
20 - 24.	9.6	11.1	8.1	6.4	7.6	5.2	29.0	31.6	26.2
25 - 29.	6.3	7.4	5.0	4.2	4.9	3.4	18.7	20.8	15.5
30 - 34.	4.2	4.7	3.4	3.1	3.5	2.5	11.1	12.1	9.4
35 - 39.	3.5	4.1	2.8	2.6	3.1	2.1	8.8	9.9	7.1
40 - 44.	3.0	3.7	2.0	2.3	2.8	1.5	7.3	8.8	5.2
45 - 49.	3.3	4.3	2.0	2.1	2.7	1.4	10.4	13.3	6.1
50 - 54.	2.4	2.9	1.9	1.7	2.1	1.2	7.6	8.2	6.9
55 - 59.	2.2	2.7	1.6	1.5	1.8	1.2	6.9	8.1	5.2
60 - 64.	1.7	2.0	1.2	1.4	1.6	1.0	4.2	5.1	2.5
65 - 69.	2.4	2.9	1.5	2.0	2.5	1.2	5.8	6.6	4.4
70 - 74.	1.9	2.0	1.6	1.4	1.5	1.0	6.9	6.7	7.4
75+	1.8	1.6	2.3	1.3	1.2	1.4	7.9	6.7	10.3
Not Stated	-	-	-	-	-	-	-	-	-

Sources: 1990 and 2000 Census of Population and Housing

Figure 6.11: Usually Unemployed By Age and Sex ,Luapula Province,2000
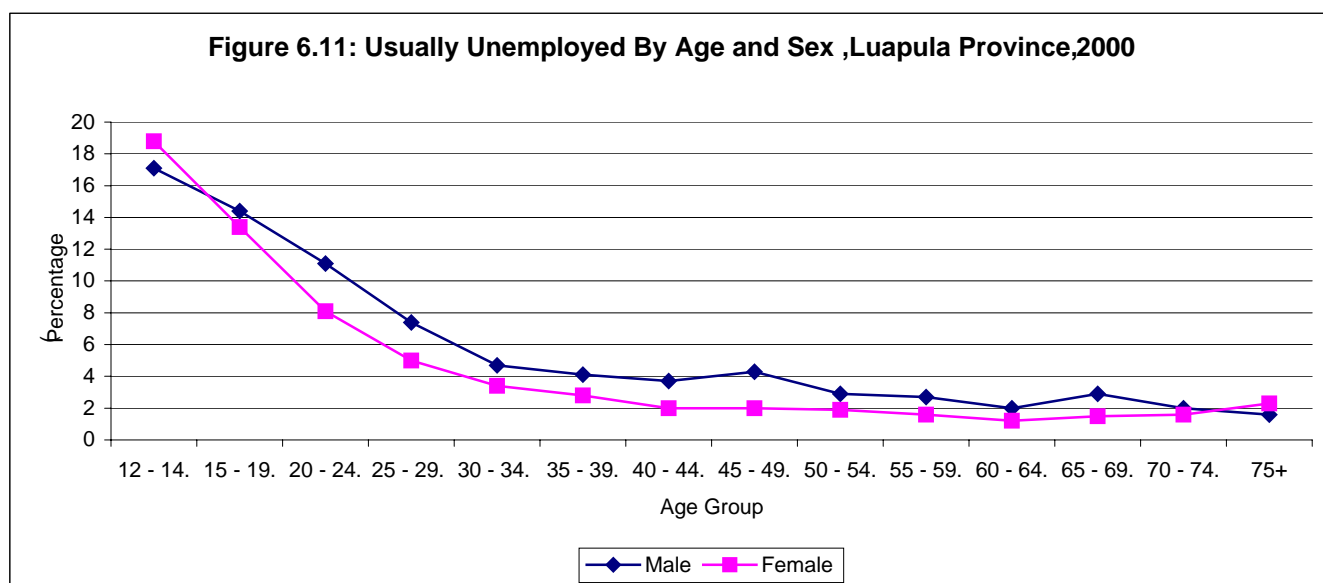
Sources: 1990 and 2000 Census of Population and Housing

Table 6.22 shows the usually unemployed population by level of education completed and age in 2000. More than three quarters (78.4 percent) of the unemployed population either have no education or they have completed a rudimentary education of grade 1 to 7. Less than a fifth of the unemployed population (19.6 percent) had secondary school education of grade 8 to 12. Those who had 'A' level education and Degree constitute 2.0 percent. The distribution of the unemployed population by age shows that the proportion of those who have no education increase with the increase in age, while the proportion of those with grade 1-7 and 8-12 decrease with the increase in age.

The data in table 6.22 suggests that unemployment in the province is a bigger problem for those with little or no education. However, this also appears to be a growing problem for those with a secondary education of grade 8-12, especially in the age group 20-54 years.

Table 6.22: Usually Unemployed, by Level of Academic Educational Completed and Age, Luapula total, 2000

Age Group	Total Number Unemployed	Total	None	Grade 1-7	Grade 8-12	A Level	Degree
Total	178,895	100.0	22.8	55.6	19.6	0.3	1.7
12 - 14	43,640	100.0	11.2	85.9	2.9	0.0	0.0
15 - 19	51,305	100.0	13.3	56.9	29.5	0.3	0.0
20 - 24	23,518	100.0	23.3	37.6	37.6	0.7	0.8
25 - 29	14,070	100.0	28.3	39.8	28.3	0.3	3.3
30 - 34	10,076	100.0	30.9	42.2	20.4	0.2	6.3
35 - 39	7,820	100.0	33.2	42.9	16.8	0.2	6.9
40 - 44	5,745	100.0	32.5	43.7	16.7	0.9	6.2
45 - 49	4,402	100.0	37.0	43.4	13.3	0.2	6.2
50 - 54	3,999	100.0	46.6	40.4	8.5	0.2	4.4
55 - 59	2,819	100.0	49.8	37.9	7.7	0.2	4.4
60 - 64	3,040	100.0	59.3	33.2	4.0	0.1	3.4
65 - 69	2,628	100.0	61.4	31.6	4.1	0.1	2.9
70 - 74	2,416	100.0	62.8	31.3	4.0	0.2	1.8
75+	3,417	100.0	66.6	28.8	2.8	0.1	1.7

Sources: 1990 and 2000 Census of Population and Housing

6.11   Marital Status of the Unemployed

Table 6.23 shows the distribution of the currently unemployed population by marital status, sex and residence. According to the table, the majority (60.5 percent) of the unemployed population have never been married, close to a third (29.1 percent) were married and 9.8 percent were either widowed, divorced or separated. The proportion of the never married unemployed population between both sexes is higher in urban areas than in the rural areas.

Table 6.23:   Currently Unemployed by Marital Status, Sex and Residence, (Percent), Luapula, 2000

Residence And Sex	Total Number Unemployed	Total	Never Married	Married	Widowed	Divorced	Separated	Marital Status Living Together/ Cohabiting
Total								
Both Sexes	17,926	100	60.5	29.4	2.6	3.8	3.4	0.4
Male	10,295	100	59.3	36.0	1.0	1.7	1.6	0.3
Female	7,631	100	62.1	20.4	4.7	6.6	5.8	0.4
Rural								
Both Sexes	11,101	100	58.6	31.1	2.3	3.9	3.8	0.4
Male	6,308	100	56.8	38.3	0.9	1.8	1.8	0.3
Female	4,793	100	60.9	21.6	4.1	6.6	6.5	0.4
Urban								
Both Sexes	6,825	100	63.7	26.5	3.1	3.6	2.7	0.4
Male	3,987	100	63.4	32.4	1.2	1.4	1.3	0.3
Female	2,838	100	64.1	18.3	5.7	6.7	4.6	0.6

Sources: 1990 and 2000 Census of Population and Housing

6.12   Summary

The size of the working-age population in Luapula has increased by 31.7 percent between 1990 and 2000. The distribution of this population by age shows that it declines with the increase in age, just as the total population.

The Labour force has increased by about 70 percent between 1990 and 2000, 86.6 percent of the Labour force is in rural areas, while 13.4 percent is in urban areas. More than a quarter (28.2 percent) of the Labour force is in the middle age group of 35-39 years.

The employed population has increased by 78.0 percent. The female employed population has increased by an impressive 119.4 percent, while male employed Labour force increased by 53.8 percent. The increase in the female employed population must have been due both to the increased female participation in informal sector activities, as well as due to the improved coverage of informal sector activities in the 2000 Census compared to the 1990 Census.

The number of the unemployed has increased by 2.3 percent between 1990 and 2000. The size of the male unemployed population has declined by 4.0 percent, while that of females has increased by 12.1 percent. There were more unemployed persons in the rural than in the urban areas for both males and females. In 2000, unemployment was a more serious problem among the young age group 12-29 years than among the adult age group of 30 years and over.

The economically inactive population declined by 1.6 percent against an increase of 69.6 percent in the Labour force between 1990 and 2000. This implies that most of the 31.7 percent increase in the working-age population between 1990 and 2000 reduced the inactive population but increased the Labour force. Hence the Labour force participation rate has increased from 47.8 percent in 1990 to 61.6 percent in 2000. Similarly the overall unemployment rate has reduced from 11.1 percent in 1990 to 6.7 percent in 2000 Economic activities are still organized around family Labour as evidenced by the predominance 91.3 percent) of workers who are classified as either self-employed or unpaid family workers. In contrast, only 8.7 percent are classified as employees or employers. The transformation of the province economy in the 1990's seems to reduced employment opportunities in the formal sector, thereby forcing a large part of the Labour force into self-employment of the informal sector.

There is a large concentration of workers (84.7 percent) in the Agricultural and related occupations because of the ease with which it is easy to enter the sector even with very low educational attainment.. Lack of

industrialization in the province is reflected by the continued predominance of the primary economic activities of Agriculture, which employed over three quarters (84.7 percent) of the workforce in 2000. This situation has been exacerbated by the economic recession of the 1990's, which has caused manpower losses in all the non-agricultural industries and manpower gains in the Agriculture industry.

Chapter 7

FERTILITY LEVELS, PATTERNS AND TRENDS

7.1   Introduction

Fertility is one of the three dynamics of population change; the other two being mortality and migration. Fertility analysis is important in understanding past, current and future trends of population size, composition and growth. Information on fertility levels, patterns and trends experienced by a country is important for socio-economic planning, monitoring and evaluating programs.

7.2   Concepts and Definitions:

- **Fertility:** refers to the frequency of occurrence of live births among women in a population.

- **Crude Birth Rate (CBR):** is the number of live births per thousand mid-year population during a specified period.

- **Completed Family Size (Mean Parity):** is the number of children ever born to women who have completed their reproduction i.e. those aged 45-49.

- **Age Specific Fertility Rate (ASFR):** is the number of live births per thousand women of a specific age group during a specific period.

- **Total Fertility Rate (TFR):** is the number of children that a woman would have by the end of her childbearing period if she were to experience the currently observed age-specific fertility rates.

- **Child Woman Ratio (CWR):** is the ratio of all children aged 0-4 to women aged 15-49 in the population.

- **General Fertility Rate (GFR):** is the number of live births occurring during a specified period per thousand women of childbearing age.

- **Gross Reproduction Rate (GRR):** refers to the average number of female births that a woman would give birth to by the time she reached the end of her reproduction if she experienced age specific fertility rates prevailing in that year.

- **Net Reproduction Rate (NRR):** refers to the average number of female births born to women aged 15-49, that would survive to the end of their reproductive period after experiencing the prevailing fertility and mortality levels.

7.3   Nature and Quality of Fertility Data

7.3.1.   Data Availability and Limitations

The 2000 Census of Population and Housing collected data on fertility using a question on Children Ever Born (CEB) and a question on births in the last twelve months prior to the census. Information was collected from all women present in the household at the time of enumeration. Information on CEB was collected from women aged 12 years and older, while information on births in the last 12 months prior to the census was collected from women aged 12-49 years.

The question on CEB provides required information for estimating lifetime fertility of women. Estimates of Completed Family Size (Mean Parity) were computed using data from this question.

Information collected using the question on births in the 12 months prior to the census is useful in estimating current fertility. Data collected using this question was used in the computation of Age Specific Fertility Rates (ASFR), Total Fertility Rates (TFR), Gross Reproduction Rates (GRR) and the Net Reproduction Rates (NRR).

It is important to note that data on CEB sometimes do not yield good results due to omission of births, particularly by women aged 35 years and above. Children who died soon after birth, those born before marriage and not living with the mother for example, are usually omitted in the census, especially that birth histories are not used to collect this information in the census. Mean parities calculated from children ever born data are also affected by age misreporting by women (See Chapter 2).

In order to reduce on the chances of children being omitted, especially children who have died or live in different households from those of their mothers, the 2000 Census of Population and Housing included questions on whether the child lives in the same household as the mother or whether the child lives elsewhere, and whether the child died. The sex of the child was asked for each of these questions.

Table 7.1: Comparison of TFR obtained from the Gompertz Technique and the Trussel/Brass PF Ratio Technique by Province, Zambia, 2000

Province	Gompertz Relational 2+2 Points based on ASFR and CEB Avg. (20-34)	Trussel-Brass PF Ratio Avg. (P2/F2:P3/F3: P4/F4)
Zambia	**6.0**	**6.0**
Central	6.2	6.1
Copperbelt	5.2	5.2
Eastern	6.6	6.7
Luapula	7.0	7.1
Lusaka	4.6	4.6
Northern	6.9	7.0
North Western	6.3	6.6
Southern	6.3	6.3
Western	5.8	5.9

Source: CSO, 2000 Census of Population and Housing

7.4 Fertility Levels, Patterns and Trends, 1980-2000

Table 7.2 shows observed and adjusted age specific fertility rates (ASFR) and total fertility rates (TFR) for Luapula province, rural and urban estimated for the 2000 Census. Luapula province has the highest TFR of 7.1 (among all provinces). Rural areas have a TFR of 7.3 compared to 5.9 for women in urban areas.

The ASFR provides a measure of fertility variation by age of women and helps in the calculation of Total Fertility Rate (TFR). In this chapter ASFR refers to the prevailing fertility patterns for women aged 15-49 when plotted on a graph, the ASFR shows a characteristic pattern with an initial rise from low levels in the younger ages rising to a peak usually in the 20s and then falling in the older ages (See figure 7.1).

Table 7.2: Age Specific Fertility rate (ASFR) and Total Fertility rate (TFR), (Residence), Luapula Province, 2000

Age Group	Total				Rural				Urban			
	Total Women	Births	Observed ASFR	Adjusted ASFR	Total Women	Births	Observed ASFR	Adjusted ASFR	Total Women	Births	Observed ASFR	Adjusted ASFR
15-19	43,294	4,742	0.110	0.160	35,652	4,153	0.116	0.167	7,642	589	0.077	0.125
20-24	36,542	9,078	0.248	0.315	30,287	7,826	0.258	0.322	6,255	1,252	0.200	0.281
25-29	27,757	7,268	0.262	0.322	23,339	6,317	0.271	0.327	4,418	951	0.215	0.290
30-34	21,761	4,925	0.226	0.275	18,482	4,346	0.235	0.281	3,279	579	0.177	0.232
35-39	17,260	3,081	0.179	0.213	14,633	2,765	0.189	0.222	2,627	316	0.120	0.156
40-44	13,469	1,221	0.091	0.102	11,319	1,097	0.097	0.107	2,150	124	0.058	0.072
45-49	10,489	331	0.032	0.031	8,969	297	0.033	0.032	1,520	34	0.022	0.024
Observed TFR			5.7				6.0				4.3	
Adjusted TFR				7.1				7.3				5.9

Source: CSO, **2000 Census of Population and Housing**

The table, as well as Figure 7.1 show that child bearing is at its peak in the age group 25-29. The figure also clearly shows that urban women have lower ASFR at all ages. The peak of childbearing for women occurs in the age group 25-29 for both rural and urban women.

Figure 7.1 Age Specific Fertility Rate (ASFR), Luapula Province, Rural and Urban, 2000

Age Group	15-19	20-24	25-29	30-34	35-39	40-44	45-49
Total	0.16	0.315	0.322	0.275	0.213	0.102	0.031
Rural	0.167	0.322	0.327	0.281	0.222	0.107	0.032
Urban	0.125	0.281	0.29	0.232	0.156	0.072	0.024
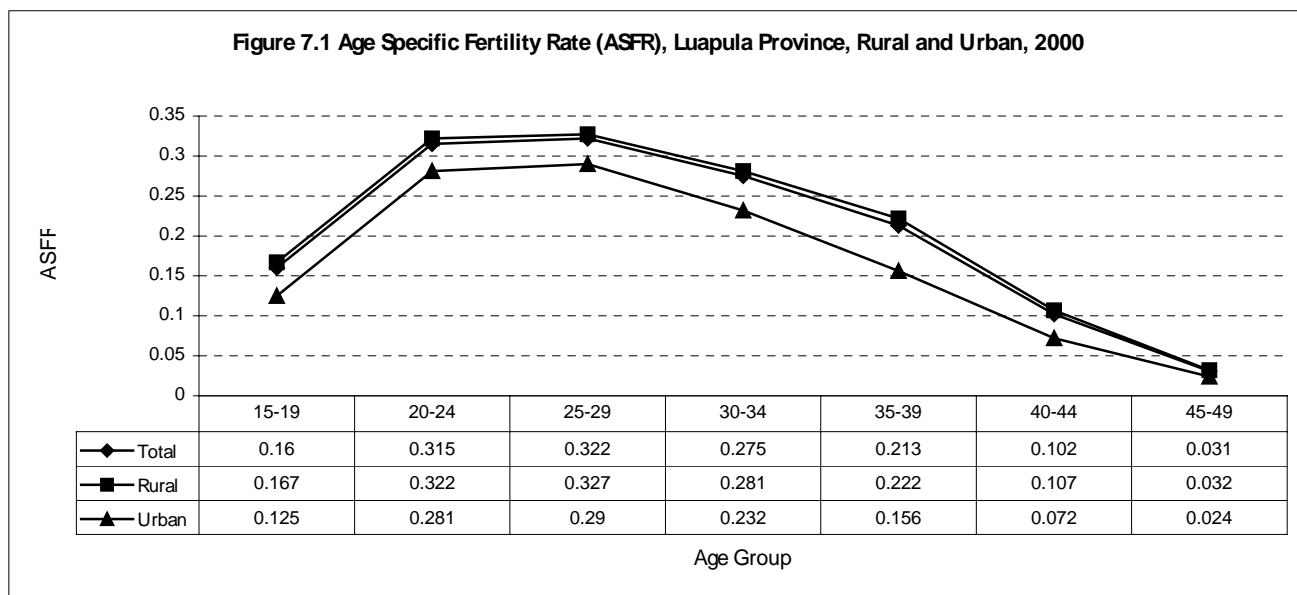
Source: CSO, **2000 Census of Population and Housing**

Figure 7.2 shows that the Total Fertility Rate has remained high showing little change between 1990 and 2000 from 7.2 to 7.1. Total Fertility Rates have remained constant among rural women at 7.3, while TFR has declined by one child among urban women, from 6.9 in 1990 to 5.9 in 2000.

Figure 7.2: Total Fertility Rate (TFR), Luapula Province, Rural and Urban, 1990 and 2000
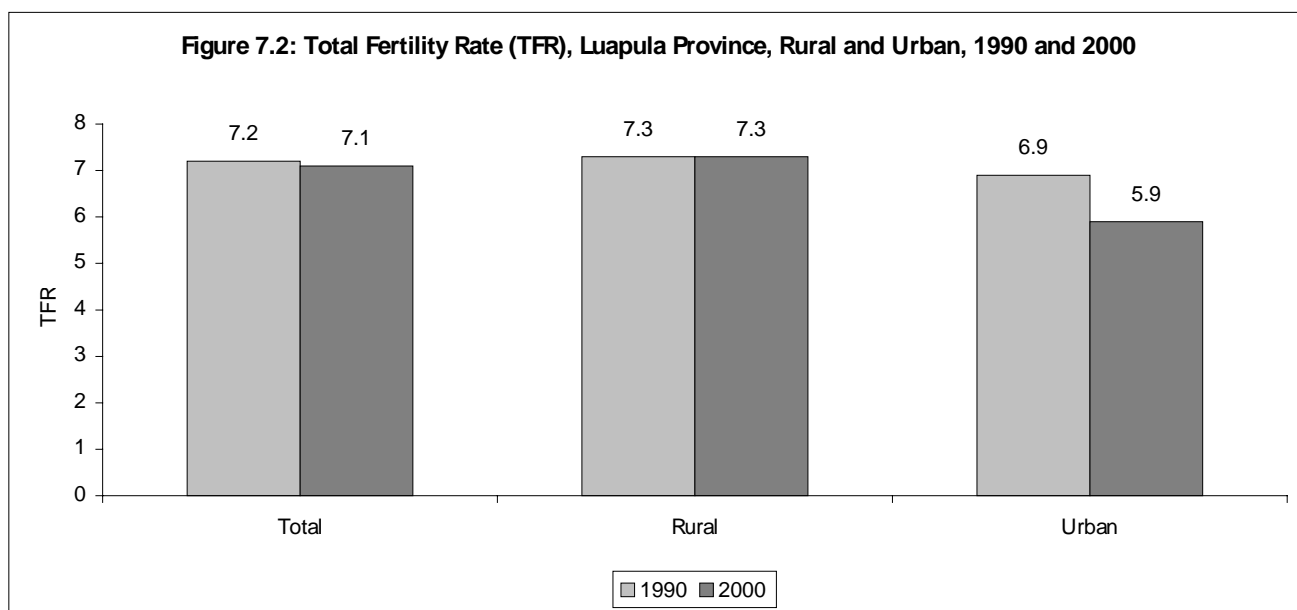
Source: CSO, 2000 **Census of Population and Housing**

The TFRs for Districts of Luapula Province are shown in Figure 7.3. Chiengi has the lowest TFR in the province (6.7) while Milengi has the highest (7.8).

Figure 7.3: Adjusted Total Fertility Rate by District, Luapula Province, 2000
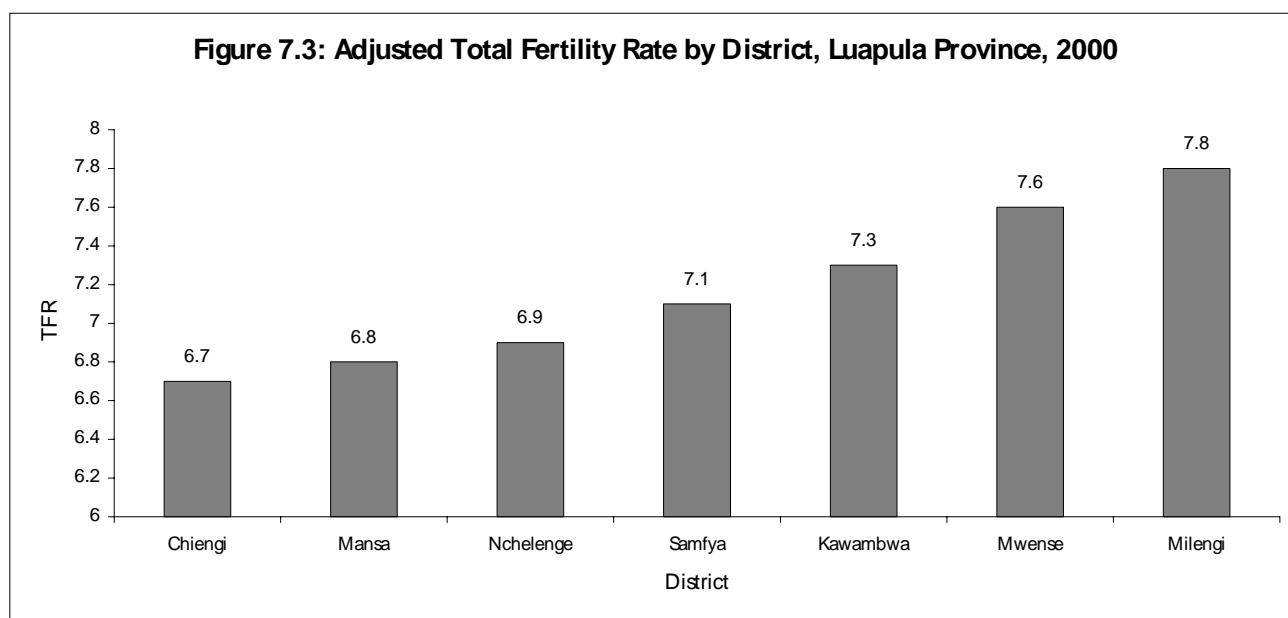
7.5   Fertility Differentials by Background Characteristics of Women Aged 15-49

This section shows differences in levels of fertility according to various background characteristics of women. These include marital status and economic status.

7.5.1   Fertility Differentials by Marital Status of Women Aged 15-49

Marital status has a bearing on the fertility levels of women because of the amount of exposure to the risk of pregnancy that married women have compared to the unmarried. Table 7.3 shows that TFR is highest among the married (7.1) followed by the widowed (5.8) and least among the never married (3.1).

Table 7.3:   Fertility Differentials by Marital Status, Luapula Province, 2000

District	Marital status						
	Total	**Married**	**Separated**	**Divorced**	**Widowed**	**Never Married**	**Living Together**
Chiengi	6.7	6.9	5.3	3.8	3.8	3.1	5.3
Kawambwa	7.3	7.5	5.7	5.6	4.9	2.3	4.9
Mansa	6.8	7.4	6.1	4.4	3.2	1.2	3.9
Milengi	7.8	8.3	5.0	6.7	6.5	3.7	5.0
Mwense	7.6	8.4	6.5	5.5	6.0	3.2	7.8
Nchelenge	6.9	7.2	5.4	4.8	4.7	1.5	5.8
Samfya	7.1	7.1	5.3	4.7	5.8	2.3	3.5
Luapula	7.1	7.1	5.6	5.5	5.8	3.1	5.5

7.5.2   Fertility Differentials by Economic Status of Women Aged 15-49

Table 7.4 shows the fertility levels of working and non working women. Detailed definitions of working are shown in Chapter 6 of this report. Women classified as working have a slightly lower fertility rate of 6.9 than those classified otherwise (7.1). This pattern is similar for all the districts in the province.

Table 7.4:   Fertility Differentials by Economic Status, Luapula Province, 2000

District	Economic Status		
	Total	Working	Not Working
Chienge	6.7	6.6	6.8
Kawambwa	7.3	7.0	7.4
Mansa	6.8	6.6	7.0
Milenge	7.8	7.7	7.9
Mwense	7.6	7.2	7.7
Nchelenge	6.9	6.5	7.1
Samfya	7.1	6.8	7.2
Luapula	**7.1**	**6.9**	**7.1**

Source: CSO, **2000 Census of Population and Housing**

7.5.3   Fertility Differentials by Level of Education of Women Aged 15-49
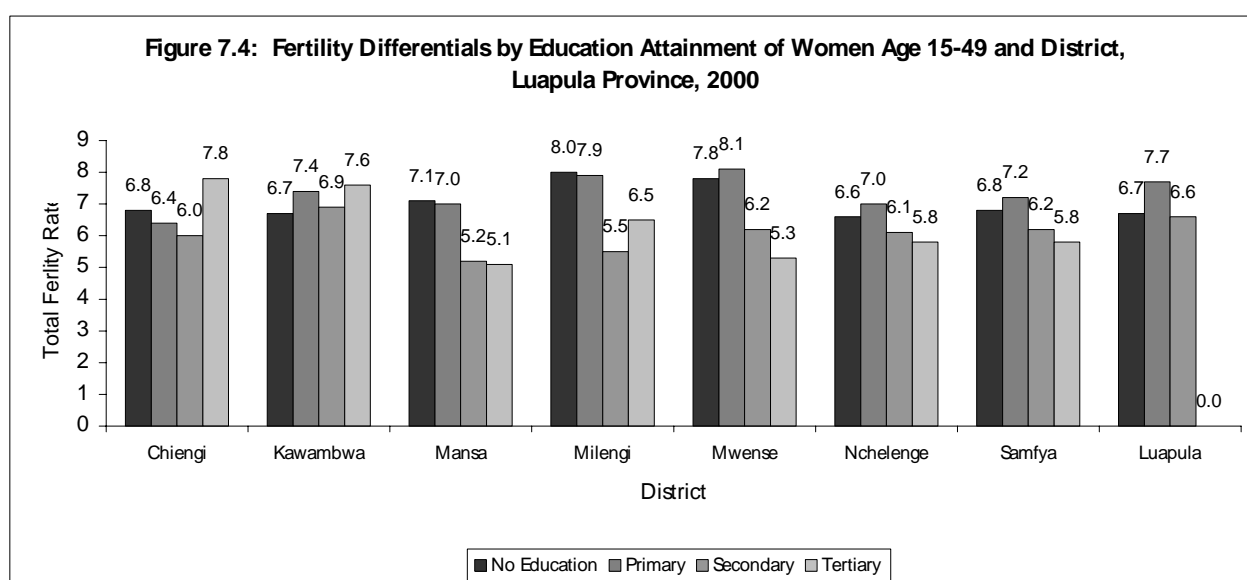
Table 7.5 shows the fertility levels according to women's levels of education in Luapula Province. It is expected that women with tertiary education would have lower fertility than women in other education categories. However, in Luapula province, this is not the case. Women with tertiary education are seen to have a higher TFR than those in other categories. For instance, women with tertiary education had a TFR of 7.7 compared with TFR of 6.7 for women without any schooling. These figures, however, may not necessarily reflect the true picture but may be because of the small number of cases.

Table 7.5:   Fertility Differentials by level of Education, Luapula Province, 2000

District					Level of Education
	Total	No Education	Primary	Secondary	Tertiary
Chiengi	6.7	6.8	6.4	6.0	7.8
Kawambwa	7.3	6.7	7.4	6.9	7.6
Mansa	6.8	7.1	7.0	5.2	5.1
Milengi	7.8	8.0	7.9	5.5	6.5
Mwense	7.6	7.8	8.1	6.2	5.3
Nchelenge	6.9	6.6	7.0	6.1	5.8
Samfya	7.1	6.8	7.2	6.2	5.8
Luapula Province	**7.1**	**6.7**	**7.7**	**6.6**	**7.7***

Source: 2000 Census of Population and Housing
Note: (*) Rates may not represent the true fertility levels due to insufficient number of cases.

Figure 7.4: Fertility Differentials by Education Attainment of Women Age 15-49 and District, Luapula Province, 2000

Source: CSO, **2000 Census of Population and Housing**

7.6   Gross Reproduction Rate (GRR)

The Gross Reproduction Rate (GRR) is 2.8 for Luapula province implying that three daughters will replace a woman experiencing the fertility pattern prevailing at the time of the census by the time she reaches the end of her reproductive period. Urban women have a GRR of 2.1, one daughter less than their rural counterparts with a GRR of 3.0.

Table 7.6:   Gross Reproduction Rate (GRR), Luapula Province, Rural/ Urban, 2000

Age Group	Total			Rural			Urban		
	Total Women	Female Births	ASFR(f)	Total Women	Female Births	ASFR(f)	Total Women	Female Births	ASFR(f)
15-19	43,294	2,325	0.054	35,652	2,058	0.058	7,642	267	0.035
20-24	36,542	4,524	0.124	30,287	3,893	0.129	6,255	631	0.101
25-29	27,757	3,550	0.128	23,339	3,078	0.132	4,418	472	0.107
30-34	21,761	2,344	0.108	18,482	2,065	0.112	3,279	279	0.085
35-39	17,260	1,535	0.089	14,633	1,383	0.095	2,627	152	0.058
40-44	13,469	614	0.046	11,319	568	0.050	2,150	46	0.021
45-49	10,489	154	0.015	8,969	141	0.016	1,520	13	0.009
GRR			**2.8**			**3.0**			**2.1**

Source: CSO, **2000 Census of Population and Housing**

7.7   Net Reproduction Rate

The Net Reproduction Rate is more useful in theoretical demography because it helps in determining the replacement levels of women by taking into consideration the effect of both fertility and mortality on the daughters born to women. An NRR equal to 1.0 is referred to as the "replacement level fertility" because it indicates that on average each woman will be replaced by exactly one daughter after a generation. A higher value indicates a growing population while a lower value shows a declining population.

Table 7.7 shows that the NRR for women in Luapula province is 1.8 implying that of the three daughters born to women, two will survive to the end of their reproductive age given the prevailing mortality and fertility patterns. The NRR for rural areas is higher (2.1) than that of urban areas (1.4).

Table 7.7:   Net Reproduction Rate (NRR), Luapula Province, Rural and Urban, 2000

Age Group	Total			Rural			Urban		
	ASFR (f)	Survival Ratios	*ASFR (f)	ASFR (f)	Survival Ratios	*ASFR (f)	ASFR (f)	Survival Ratios	*ASFR (f)
15-19	0.054	0.7119	0.0384	0.058	0.7520	0.0436	0.035	0.7055	0.0247
20-24	0.124	0.6912	0.0857	0.129	0.7329	0.0945	0.101	0.6845	0.0691
25-29	0.128	0.6677	0.0855	0.132	0.7111	0.0939	0.107	0.6607	0.0707
30-34	0.108	0.6415	0.0693	0.112	0.6867	0.0769	0.085	0.6342	0.0539
35-35	0.089	0.6125	0.0545	0.095	0.6597	0.0627	0.058	0.6048	0.0351
40-44	0.046	0.5813	0.0267	0.050	0.6304	0.0315	0.021	0.5733	0.0120
45-49	0.015	0.5490	0.0082	0.016	0.5995	0.0096	0.009	0.5408	0.0049
NRR			**1.8**			**2.1**			**1.4**

Source: CSO, **2000 Census of Population and Housing**

Note*: *ASFR at prevailing rates of mortality*

Table 7.8 shows that the NRR has declined from 2.6 in 1980 to 2.1 in 1990 and 1.8 in 2000. This implies that population will continue to grow but at a declining rate.

Table 7.8:   Trends in Net Reproduction Rate (NRR), Luapula Province, 1980-2000

Residence	Year of Census		
	1980	1990	2000
Total	2.6	2.1	1.8
Rural	2.6	2.2	2.1
Urban	2.8	2.0	1.4

Sources: CSO, **1980 and 2000 Census of Population and Housing**

7.8   Mean Parity

Mean Parity is the number of children ever born to women who have completed their reproduction i.e. those aged 45-49. The mean parity for the women aged 15-49 is usually referred to as the Completed Family Size (CFS) and should be equal to TFR under constant fertility, mortality and migration.

Table 7.9 shows that the Completed Family Size (CFS) or mean parity for women in Luapula Province is 7.3 children per woman, with rural women having a higher CFS of 7.3 compared with their urban counterparts with 7.0 children per woman.

A comparison of the TFR with the mean parity also shows trends in fertility. While TFR is a measure of current fertility, mean parity measures completed fertility. Women age 45–49 have given birth to an average of 7.3 children. The TFR (7.1) is slightly lower than the CFS and this can be attributed to the observed slight fertility decline overtime.

Table 7.9:   Observed Mean Parity, Luapula Province, Rural and Urban, 2000

Age Group	Total	Rural	Urban
15-19	0.3	0.4	0.3
20-24	1.6	1.7	1.3
25-29	3.1	3.2	2.7
30-34	4.7	4.8	4.1
35-39	5.9	6.0	5.5
40-44	6.9	6.9	6.6
45-49	**7.3**	**7.3**	**7.0**

Source: CSO, **2000 Census of Population and Housing**

Table 7.10 and Figure 7.4 show that the Mean Parity for the age group 45-49 for Luapula Province, has declined slightly from 7.7 children per woman in 1990 to 7.3 children per woman in 2000. The decline in the Mean Parity has occurred more in the older women, age 30-45.
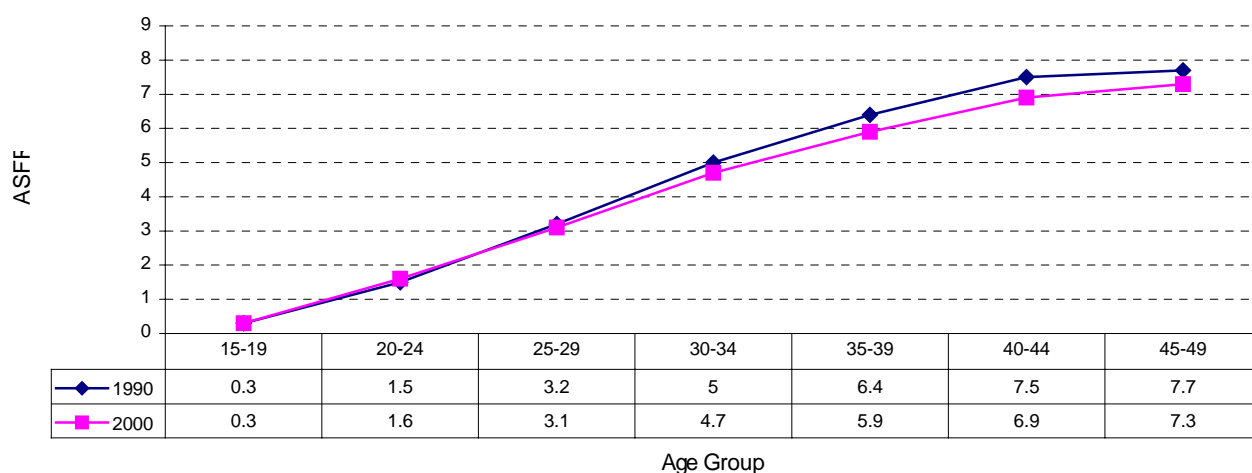
Table 7.10:   Observed Mean Parity, Luapula Province, 1990-2000

Age Group	Mean Parity (1990)*	Mean Parity (2000)
15-19	0.3	0.3
20-24	1.5	1.6
25-29	3.2	3.1
30-34	5.0	4.7
35-39	6.4	5.9
40-44	7.5	6.9
45-49	**7.7**	**7.3**

Sources: CSO, **1990 and 2000 Census of Population and Housing**

Note: 1990 estimates extracted from Analytical Report Vol. 2 of the 1990 Census of Population, Housing and Agriculture, CSO 1995.

Figure 7.5: Observed Mean Parity, Luapula Province, Rural and Urban, 1990 and 2000

Age Group	15-19	20-24	25-29	30-34	35-39	40-44	45-49
1990	0.3	1.5	3.2	5	6.4	7.5	7.7
2000	0.3	1.6	3.1	4.7	5.9	6.9	7.3

Sources: CSO, 1990 and 2000 Census of Population and Housing

7.9   Other Fertility Indicators

Table 7.11 shows a summary of fertility indicators for districts of Luapula Province. The table shows that the Crude Birth Rate (CBR) range from 40.2 in Mansa to 47 in Milengi. Generally, fertility rates are highest in Milengi and lowest in Mansa and Chiengi.

Table 7.11:   Summary of Fertility Indicators by District, Luapula Province, 2000

District	Adjusted Total Fertility Rate	Crude Birth Rate	General Fertility Rate	Child Woman Ratio	Mean Parity	Gross Reproduction Rate
Chiengi	6.7	44.6	179.0	749	7.0	2.7
Kawambwa	7.3	40.3	176.0	759	7.2	2.7
Mansa	6.8	40.2	173.2	788	7.5	2.7
Milengi	7.8	47.0	213.5	941	7.4	3.4
Mwense	7.6	46.9	205.3	826	7.3	3.2
Nchelenge	6.9	42.8	179.1	801	7.2	2.8
Samfya	7.1	40.6	175.0	814	7.2	2.7

Source: CSO, **2000 Census of Population and Housing**

7.10   Summary

Fertility levels for Luapula Province have declined over the period 1990-2000, from 7.3 to 7.1.This decline has been attributed to the decline in urban areas in which the TFR dropped from 6.9 in 1990 to 5.9 in 2000 while that of the rural areas has remained constant over the period at 7.3.

Child bearing is at its peak in the age group 25-29 years after which it declines steadily. Milengi has the largest TFR (7.8) among the districts while Chiengi has the least (6.7).

Generally, fertility rates are highest in Milenge and lowest in Mansa and Chiengi. These include Crude Birth Rate, General Fertility Rate, Child Woman Ratio, Mean Parity and Gross Reproduction Rate.

Chapter 8

CHILD AND ADULT MORTALITY

8.1   Introduction

Basic demographic information on the number of deaths by age and sex in a population is a critical input for the determination and evaluation of health policies and programmes, according to the World Health Organisation (WHO, 2002:1). Specifically, child mortality data are important for evaluating and monitoring progress on governments' child survival targets and intervention measures. Equally important for planning and programme implementation purposes is information on adult mortality. This is of particular importance in the era of HIV/AIDS as the pandemic affects the most productive and reproductive ages (15-49 years).

Indirect demographic methods are used to derive both child and adult mortality indicators. Information on child mortality estimation was based on the reports of the mothers, aged 15-49 years, of the survival of their children by sex. This gives information on children surviving and not surviving out of the total children ever born per woman (mother) in the reproductive age group (15-49 years). The United Nations Mortality measurement package, Mortpak-Lite as well as Q-5, were used to compute child mortality indicators, namely, infant mortality rate (IMR), child mortality rate (CMR), under-five mortality rate (UMR) and life expectancy at birth (e_0) based on the Coale-Demeny North Model. It is worth noting that these child mortality indicators are based on life tables that were developed on mortality data in the pre-AIDS era. WHO (2002:13) notes that if deaths from HIV/AIDS were to be excluded, life expectancy at birth in some countries in Southern Africa including Zambia would be 15 to 20 years higher.

Information on the number of adult deaths by age and sex in the household was not collected in the 2000 round of Census of Population and Housing. Therefore, measurement of adult mortality was based on estimates of life expectancies by age for ages 10 - 70 years. The measurements were computed using the Population Analysis Spreadsheet (PAS) and two consecutive census populations by 5-year age groups as an input into the measurement (Preston-Bennett Mortality Technique) (US Bureau of the Census, 1994:161). This method indirectly takes into account the effects of the HIV/AIDS pandemic on the population that would not be captured from the model life tables and is also based on large numbers of the populations.

8.2   Concepts and Definitions

- *Mortality* refers to the occurrence of deaths in a population.

- *Infant mortality rate* (IMR) ($_1q_0$) refers to the number of deaths among infants aged below one year per thousand (1,000) live births per year

- *Child mortality rate* (CMR) ($_5q_1$) refers to the number of deaths among children aged between exact age one and five years per thousand (1,000) live births per year

- *Under-five mortality rate* (UMR) ($_5q_0$) refers to the number of deaths among children aged below five years per thousand (1,000) live births per year. UMR, therefore, constitutes both the infant and child mortality.

- *Life expectancy at birth* (e_0) refers to the average number of years a newly born child is expected to live, if the current existing mortality conditions were to prevail for a long time.

- *Life expectancy at exact age* (e_x) refers to the average number of years a person aged X years is expected to live, if the current existing mortality conditions were to prevail for a long time and;

- *Adult mortality* ($_{60}q_{15}$) refers to the number of deaths that occur to persons in the age range 15 to 60 years.

8.3 Infant Mortality Levels, Trends and Differentials

Table 8.1 shows infant mortality rates for Luapula Province from 1980 to 2000. Infant mortality rate (IMR) declined from 127 in 1980 to 166 deaths per 1000 live births in 1990. In 2000, it dropped to 138 deaths per 1000 live births. This suggests that survival chances for infants were better in 1980 than in both1990 and 2000.

Table 8. 1:   Infant Mortality Rate by Sex of Child, Residence and Districts, Luapula Province, 1980, 1990 and 2000

Residence and Sex	Infant Mortality Rate (Per '000)		
	1980	**1990**	**2000**
Zambia	**99**	**124**	**110**
Luapula Province	**127**	**166**	**138**
Residence			
Rural	129	170	141
Urban	111	139	115
Sex of Child			
Male	125.3	175	148
Female	128.7	157	127
Districts (2000)	**Total (2000)**	**Rural (2000)**	**Urban (2000)**
Chienge	161	162	127
Kawambwa	112	115	98
Mansa	120	123	109
Milenge	135	135	-
Mwense	150	149	175
Nchelenge	136	136	138
Samfya	155	163	105

Sources: CSO, 1980, 1990 and 2000 Censuses of Population and Housing

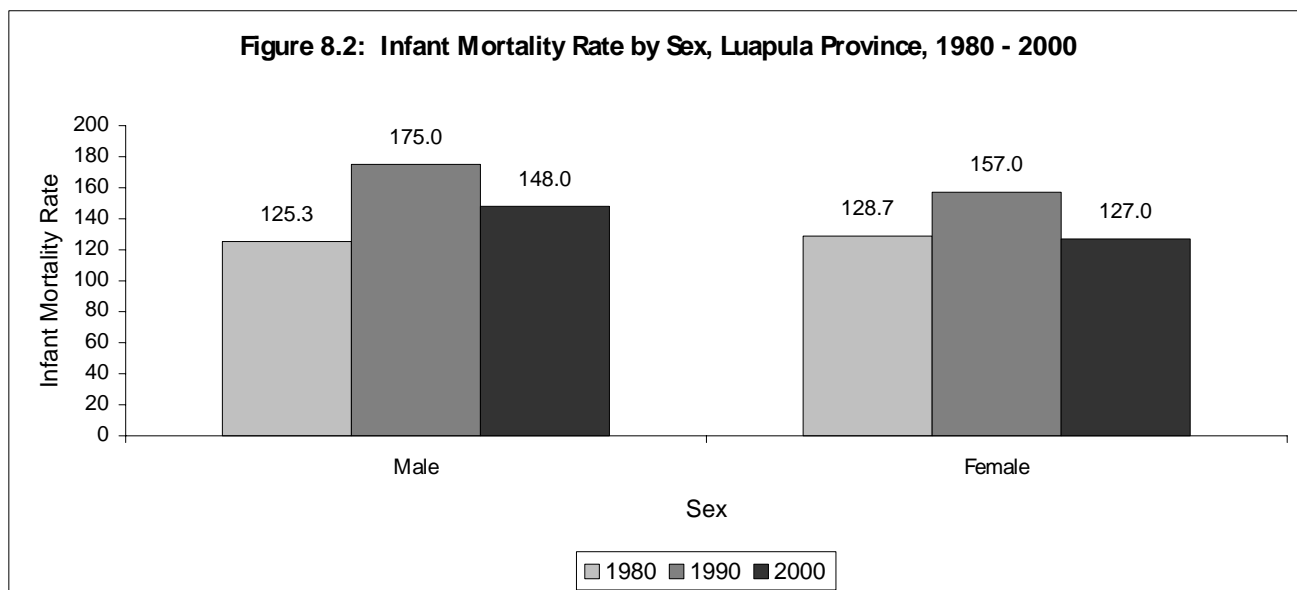### 8.3.1   Infant Mortality Rate by Residence

There are rural and urban differences in IMR. Table 8.1 and Figure 8.1 show declines in both rural and urban areas, between. 1990 and 2000. In rural areas, IMR decreased from 170 to 141 deaths per 1000 live birth while in urban areas, it declined from 139 to 115. This shows that rural areas have higher IMRs than urban areas.
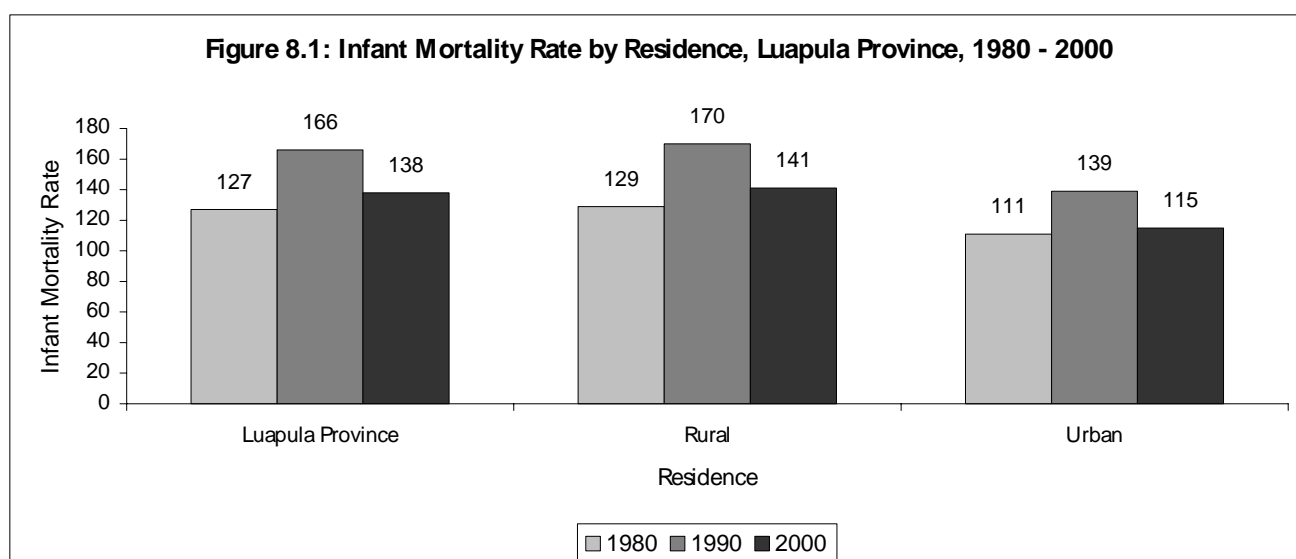
Sources: 1980, 1990 and 2000 Census of Population and Housing

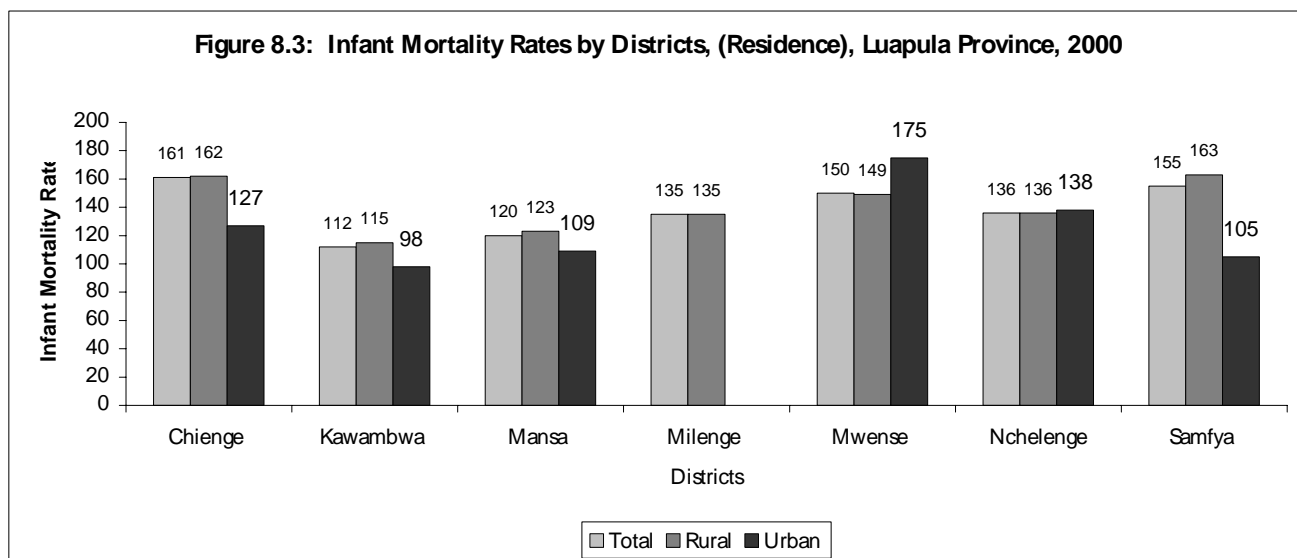### 8.3.2   Infant Mortality Rate by Sex

Figure 8.2 shows that IMR for females (127) is lower than that of males (148). A similar pattern is also observed in 1990 when the IMR was 175 for males and 157 for females. However, in 1980 IMR for females was higher than that of males.

Figure 8.2: Infant Mortality Rate by Sex, Luapula Province, 1980 - 2000

Sources: 1980, 1990 and 2000 Census of Population and Housing

8.3.3   Infant Mortality Rate by District

Figure 8.3 shows that IMR is very high in Chiengi (161), Samfya (155) and Mwense (150). In Luapula province, IMR is lowest in Kawambwa (112) although it is still high. In rural areas of all districts except Mwense and Nchelenge, IMR is higher than urban areas.
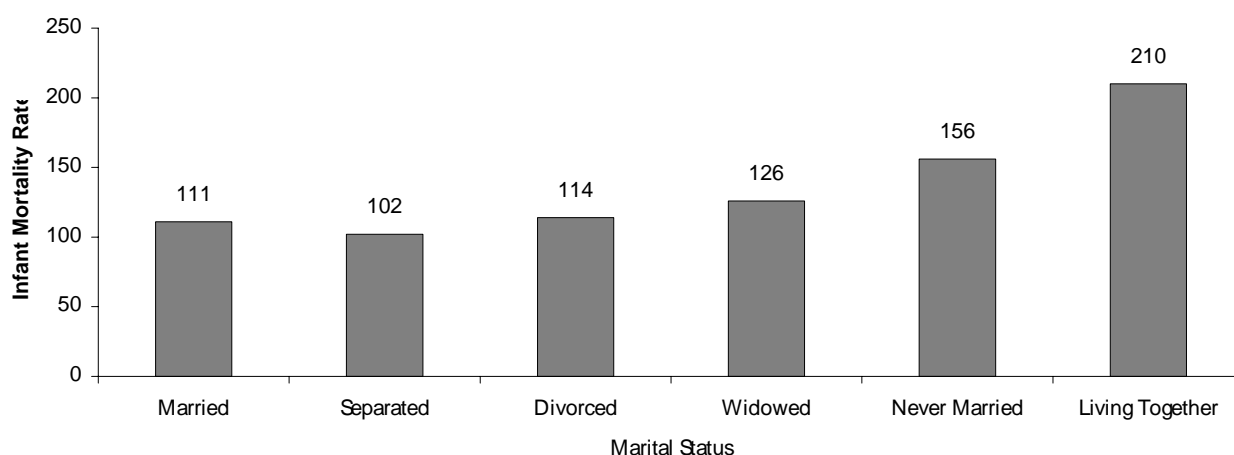
Figure 8.3: Infant Mortality Rates by Districts, (Residence), Luapula Province, 2000

Source: 2000 Census of Population and Housing

8.3.4   Infant Mortality Rate by Marital Status of the Mother

Figure 8.4 and Table 8.2 show that infants born to cohabiting mothers have the highest IMR of 120, while children born to separated mothers have the lowest (102).

Figure 8.4: Infant Mortality Rates by Marital Status, Luapula Province, 2000

Chart: Infant Mortality Rate (y-axis) vs Marital Status (x-axis)

- Married: 111
- Separated: 102
- Divorced: 114
- Widowed: 126
- Never Married: 156
- Living Together: 210

Source: 2000 Census of Population and Housing

Table 8.2 further shows that in rural areas. The highest IMR is among the cohabiting mothers (218) and lowest among the separated mothers (107). In urban areas, on the other hand, the highest IMR is among the never married mothers (133) and lowest among the divorced (74).

Table 8.2:   Infant Mortality Rates by Marital Status, Luapula Province, 2000
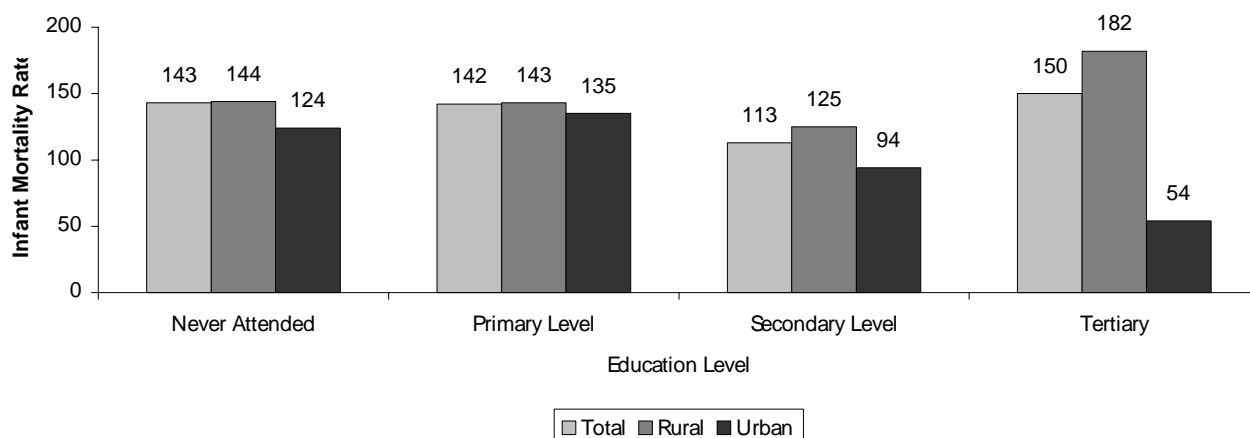
Marital Status	Infant Mortality Rate (per '000)		
	Total	Rural	Urban
Married	111	115	88
Separated	102	107	76
Divorced	114	120	74
Widowed	126	125	118
Never Married	156	167	133
Living Together	210	218	106

Source: 2000 Census of Population and Housing

8.3.5   Infant Mortality Rate by Educational Level of Mother

Results in Figure 8.5 indicate that IMR among infants born to mothers who have secondary education is lowest (113) while those born to women with tertiary education have the highest IMR of 150.

Figure 8.5: Infant Mortality Rate by Education Level, Luapula Province, 2000

Chart: Infant Mortality Rate (y-axis) vs Education Level (x-axis); Total, Rural, Urban

- Never Attended: Total 143, Rural 144, Urban 124
- Primary Level: Total 142, Rural 143, Urban 135
- Secondary Level: Total 113, Rural 125, Urban 94
- Tertiary: Total 150, Rural 182, Urban 54

Source: 2000 Census of Population and Housing

8.3.6   Infant Mortality by Economic Activity of the Mother

Figure 8.6 shows that Infants born to working mothers have higher chances of reaching age one than those born to non-working mothers, with IMR of 133 and 137 deaths per 1000 live births respectively. In both rural and urban areas, IMR is higher among the non working than working mothers.

Figure 8.6: Infant Mortality Rates by Economic Activity, Luapula Province, 2000
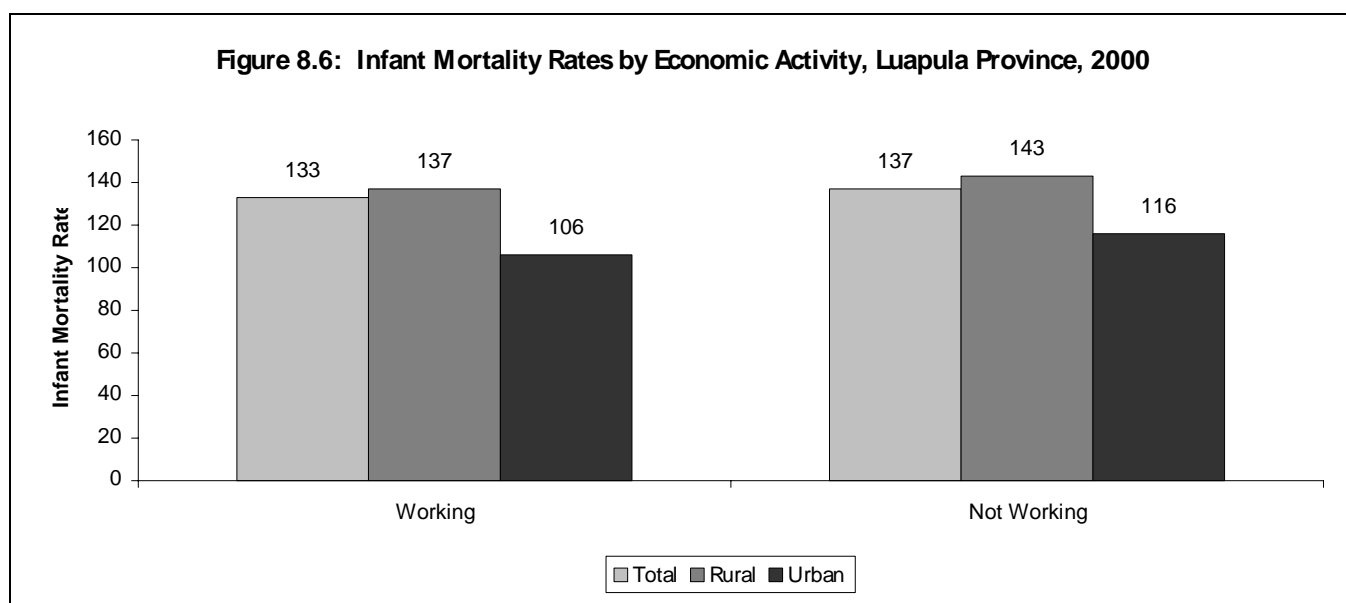
Source: 2000 Census of Population and Housing

8.4   Child Mortality Levels, Trends and Differentials

Table 8.3 shows that Child Mortality Rate (CMR) has declined between 1990 and 2000 by about 20 percent, from 137 to 110 deaths per 1000 children. In comparison with the national estimate of 82, Luapula province has a significantly high Child Mortality Rate of 110.

Table 8.3:   Child Mortality Rates by Residence and Sex, Luapula Province, 1980, 1990 and 2000

	Child Mortality Rate (Per '000)		
Residence and Sex	1980	1990	2000
Zambia	**71**	**96**	**82**
Luapula Province	**98.7**	**137**	**110**
Residence			
Rural	100.3	140	114
Urban	82.3	111	87
Sex of Child			
Male	96.7	136	112
Female	99.7	138	108
Districts (2000)	**Total (2000)**	**Rural (2000)**	**Urban (2000)**
Chienge	132	132	100
Kawambwa	84	88	69
Mansa	93	96	81
Milenge	108	108	-
Mwense	122	121	144
Nchelenge	109	108	111
Samfya	127	133	76

Sources: 1980, 1990 and 2000 Censuses of Population and Housing

## 8.4.1   Child Mortality Rate by Rural-Urban Residence of Mother

Figure 8.7 shows that CMR for rural areas is higher (114) that that of urban areas (87). The pattern has been the same in both 1980 and 1990.

Figure 8.7: Child Mortality Rate by Residence, Lupula Province, 1980-2000
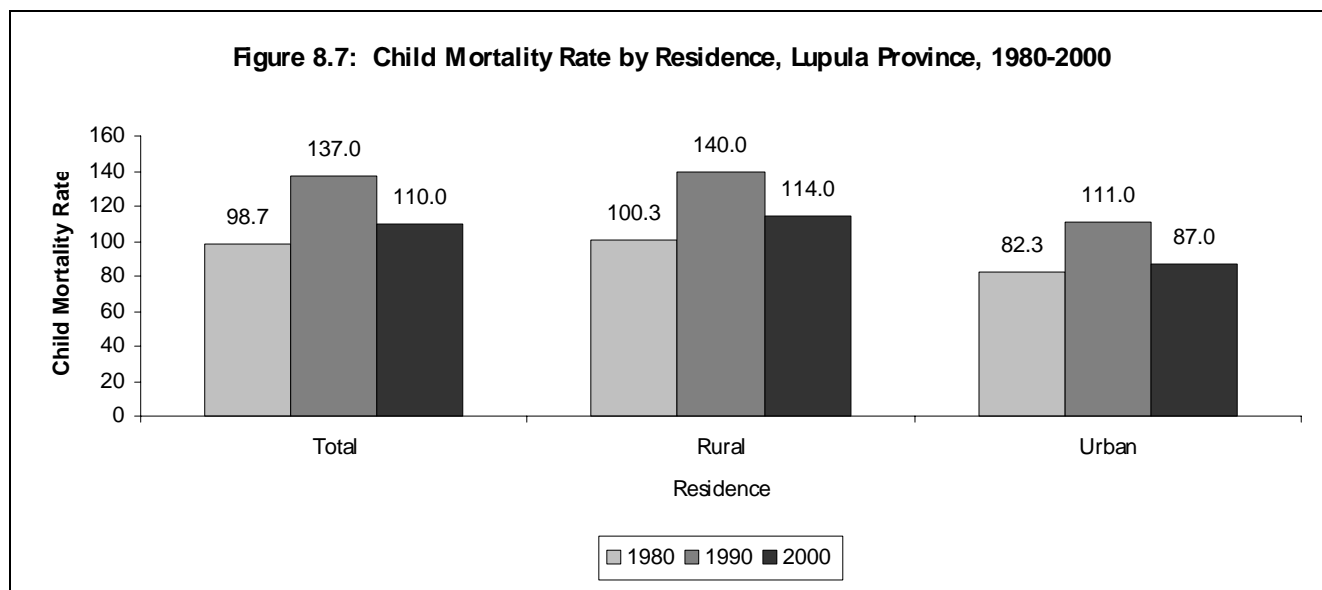
Sources: 1980, 1990 and 2000 Censuses of Population and Housing

8.4.2 Child Mortality Rate by Sex of the Child

There is a variation in CMR between male and female children. Figure 8.8 shows that CMR among male children (112 deaths per 1000 children) is higher than that of females (108 deaths per 1000 children). An opposite pattern is observed in 1990 (136 deaths per 1000 children for males and 138 deaths per 1000 children for females). In 1980 as well, the CMR among female children (99.7 deaths per 1000 children) was higher than that of the males (96.7 deaths per 1000 children).

Figure 8.8: Child Mortality Rate by Sex of Child, Luapula Province, 1980-2000
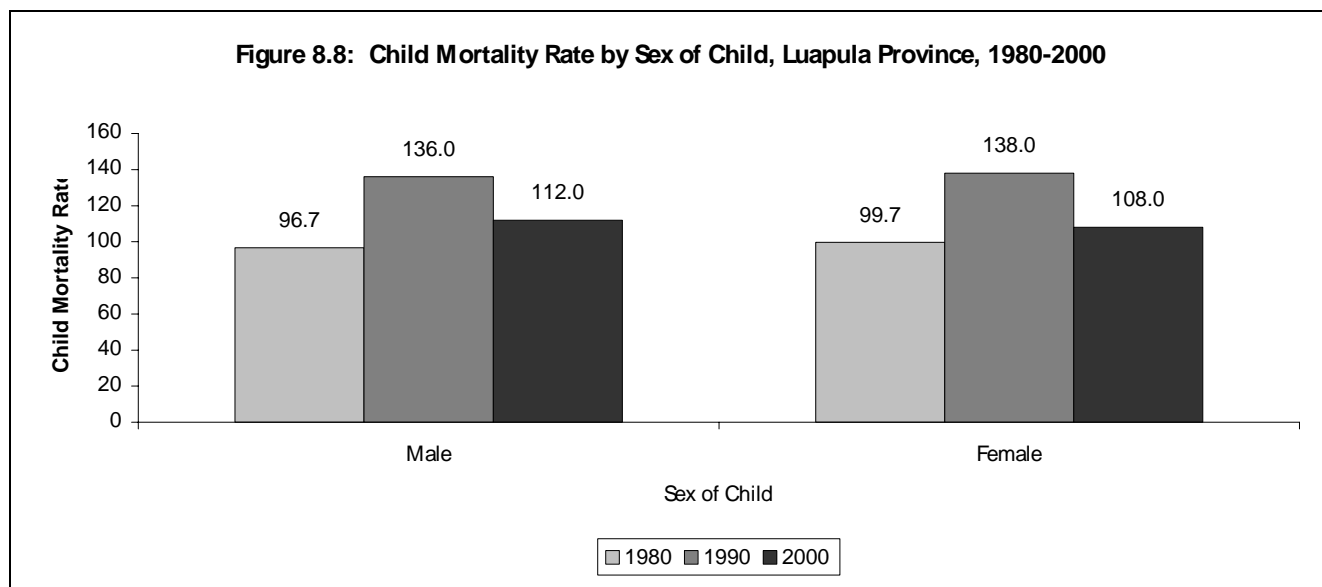
Source: 1980, 1990 and 2000 Censuses of Population and Housing

8.4.3 Child Mortality Rate by District

A comparison of CMR between districts is shown in Figure 8.9. CMR is very high in Chiengi (132), Samfya (127), Mwense (122) and low in Kawambwa (84) and Mansa (93).

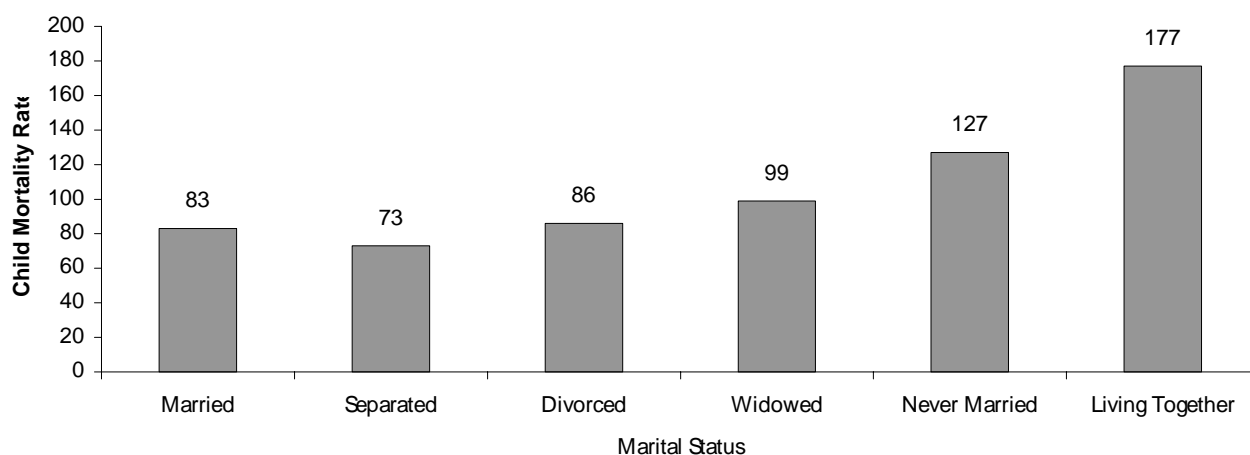**Figure 8.9: Child Mortality Rate by District, Luapula Province, 2000**
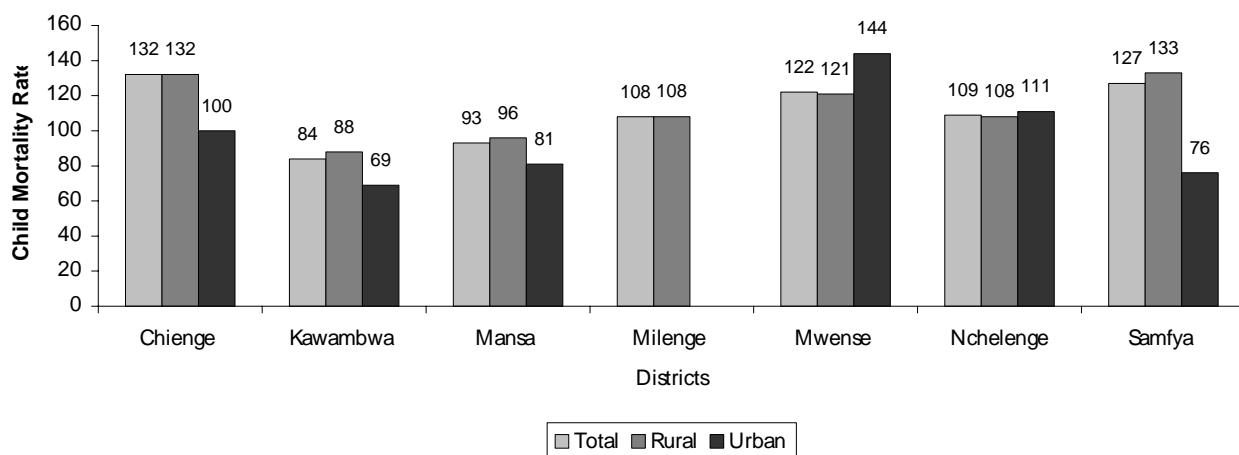
Source: 2000 Census of Population and Housing

8.4.4   Child Mortality by Marital Status of the Mother

Child mortality rate varies with marital status of mother. Figure 8.10 and Table 8.4 show that children born to cohabiting mothers have the highest chance of dying between age one and five (117 deaths per 1000 live births) followed by children born to never married mothers (127 deaths) while children born to separated mothers have the lowest chance of dying (73 deaths).

Figure 8.10: Child Mortality Rate by Marital Status, Luapula Province, 2000

Source: 2000 Census of Population and Housing

Table 8.4:   Child Mortality Rate by Marital Status and Residence, Luapula Province, 2000

Marital Status	Child Mortality Rate (per '000)		
	Total	Rural	Urban
Married	83	87	59
Separated	73	78	48

Divorced	86	93	46
Widowed	99	99	91
Never Married	127	137	106
Living Together	177	185	78

Source: 2000 Census of Population and Housing

In rural areas, CMR is highest among cohabiting mothers (185) and lowest among separated mothers (78). While CMR is also highest among cohabiting mothers (106) in urban areas, it is lowest among divorced mothers (46).

8.4.5   Child Mortality Rate by Education Level of Mother

Figure 8.11 shows that CMR varies with level of education of mother. CMRs are seen to decrease will increase level of education of mothers (no education to secondary). However, children born to mothers with tertiary education have the highest CMR.


Figure 8.11: Child Mortality Rate by Education Level, Luapula Province, 2000
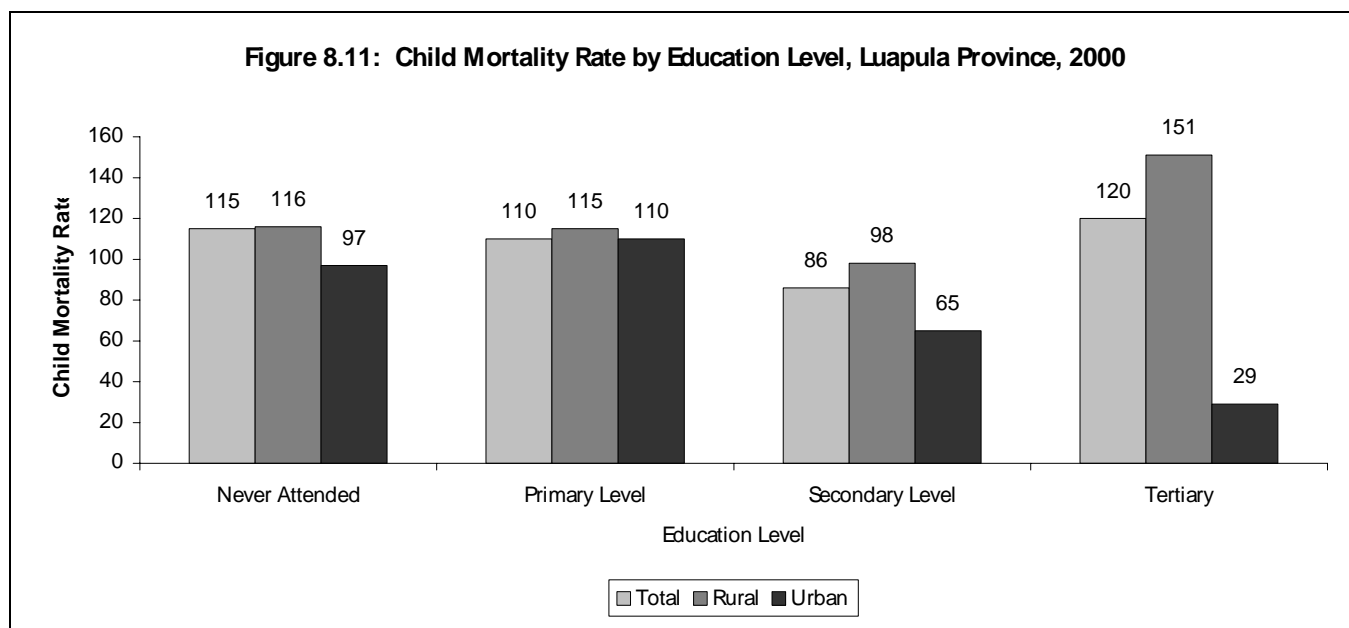
Source: 2000 Census of Population and Housing

8.4.6   Child Mortality Rate by Economic Activity of Mother

Figure 8.12 shows that children born to working mothers have a lower CMR (106) than those of non-working mothers. In both rural and urban areas, CMR is lower among the working mothers than among non working mothers.

Figure 8.12: Child Mortality Rate by Economic Activity, Luapula Province, 2000
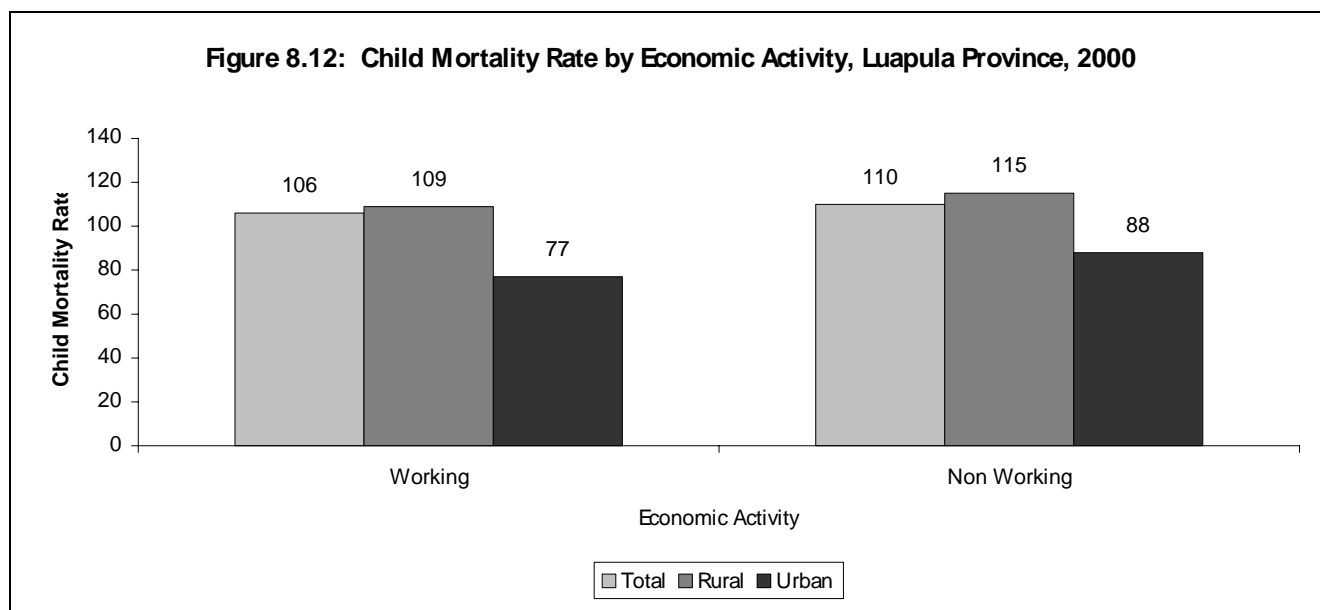
Source: 2000 Census of Population and Housing

8.5 Under Five Mortality Levels, Trends and Differentials

Table 8.5 shows that Under-five Mortality Rates (UMRs) in Luapula increased between the 1980 and 1990 from 161 deaths per 1000 children to 280 and declined to 233 in 2000.

**Table 8.5: Under Five Mortality Rate by Residence and Sex, Luapula Province, 1980, 1990 and 2000**

Characteristics	Under Five Mortality (Per '000)		
	1980	1990	2000
Zambia	**121**	**208**	**183**
Luapula Province	**160.7**	**280**	**233**
Residence			
Rural	164	286	239
Urban	135.3	234	192
Sex Of Child			
Male	159	287	243
Female	162.3	273	221
Districts (2000)	**Total** (2000)	**Rural** (2000)	**Urban** (2000)
Chienge	272	272	214
Kawambwa	187	193	159
Mansa	202	208	181
Milenge	228	228	-
Mwense	254	252	294
Nchelenge	231	229	234
Samfya	262	274	173

Sources: 1980, 1990 and 2000 Census of Population and Housing

8.5.1   Under Five Mortality Rate by Residence

Figure 8.13 shows the trends in UMR for rural and urban areas. In both rural and urban areas, the UMR increased between 1980 and 1990, then decreased in 2000. UMR levels have been higher in rural than urban areas in all the censuses. Currently, the UMR for rural areas is 239 while that of urban areas is 192 deaths per 1000 live births.

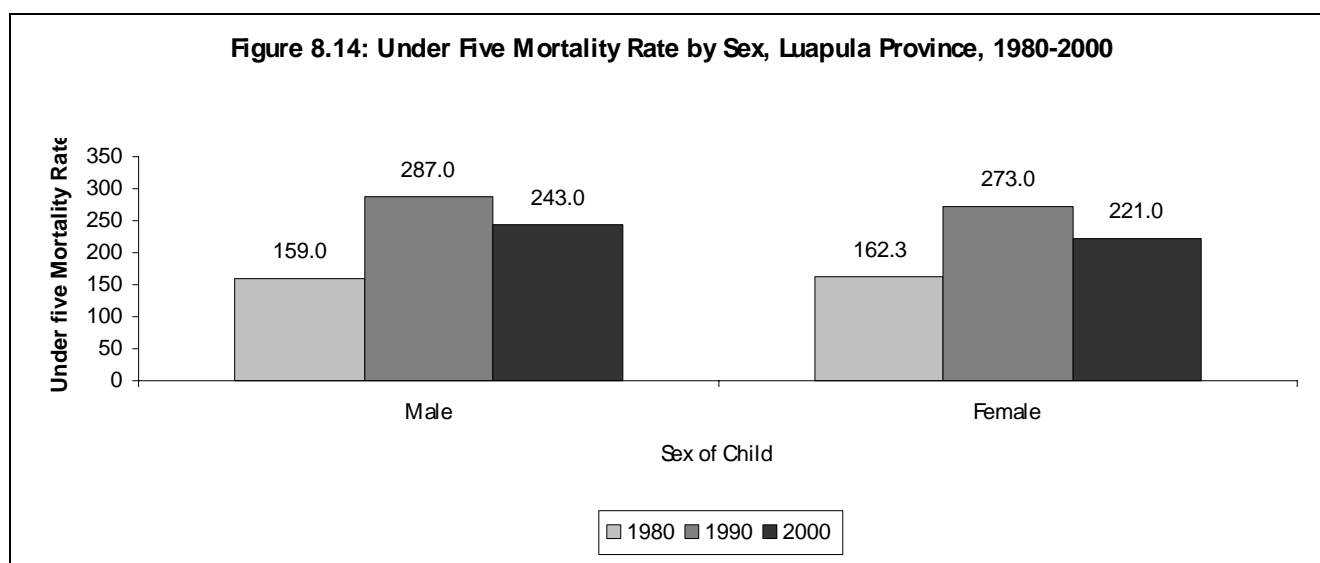Figure 8.13: Under Five Mortality Rate by Residence, Luapula Province, 1980-2000
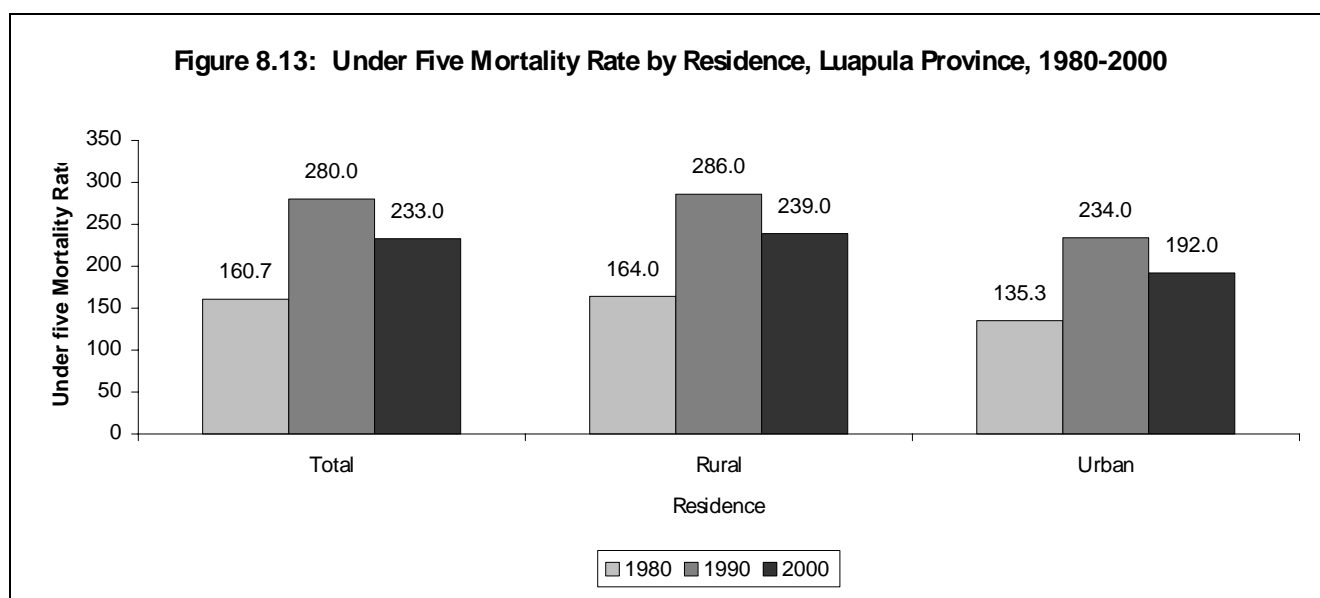
Source: 2000 Census of Population and Housing

8.5.2 Under Five Mortality Rate by Sex

Under Five Mortality Rate varies by sex of child. Figure 8.14 shows that males have a higher chance of dying before their fifth birthday compare to females (243 versus 221 deaths per 1000 children). A similar pattern is also observed in 1990 when 287 male and 273 female children die before reaching their fifth birthday (out of 1000 children). In 1980 however the opposite holds true. More female children celebrated their fifth birthday than male, (162 versus 159 deaths per 1000 children).

Figure 8.14: Under Five Mortality Rate by Sex, Luapula Province, 1980-2000
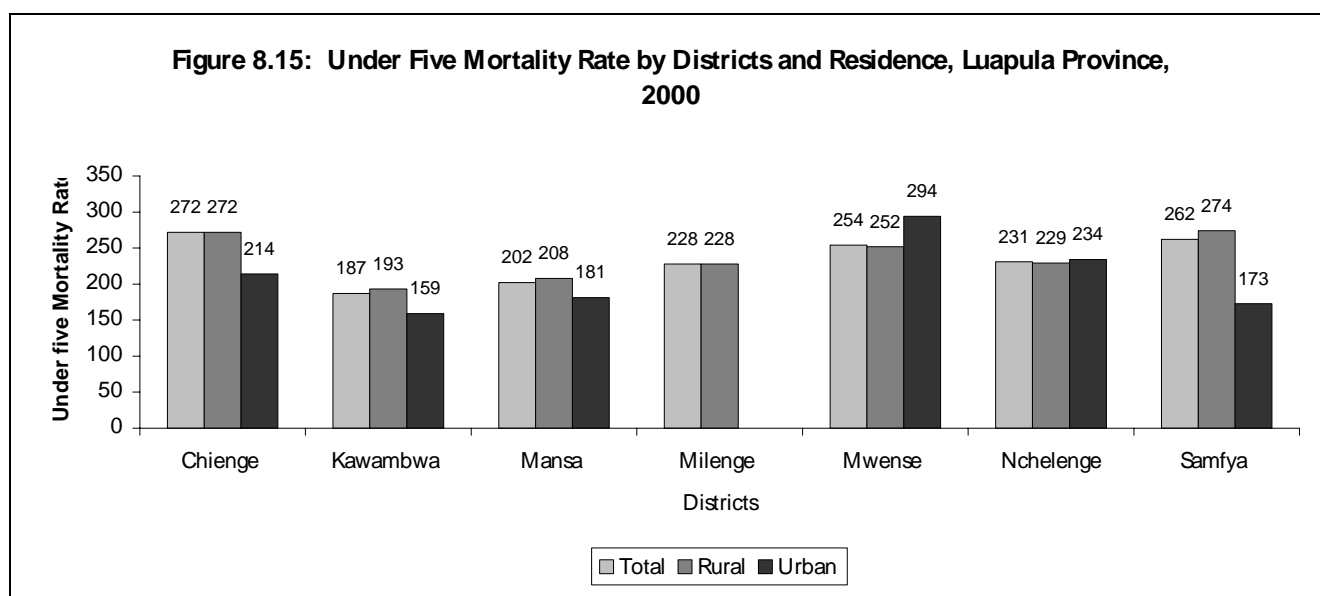
Source: 2000 Census of Population and Housing

8.5.3 Under Five Mortality Rate by District

Figure 8.15 shows that generally, UMR is very high for all districts of Luapula province. The rate ranges from 187 deaths per 1000 children in Kawambwa, to 272 in Chiengi. In Mwense and Nchelenge, UMR is lower in rural than urban areas. In the rest of the districts, the opposite holds true.

Figure 8.15: Under Five Mortality Rate by Districts and Residence, Luapula Province, 2000
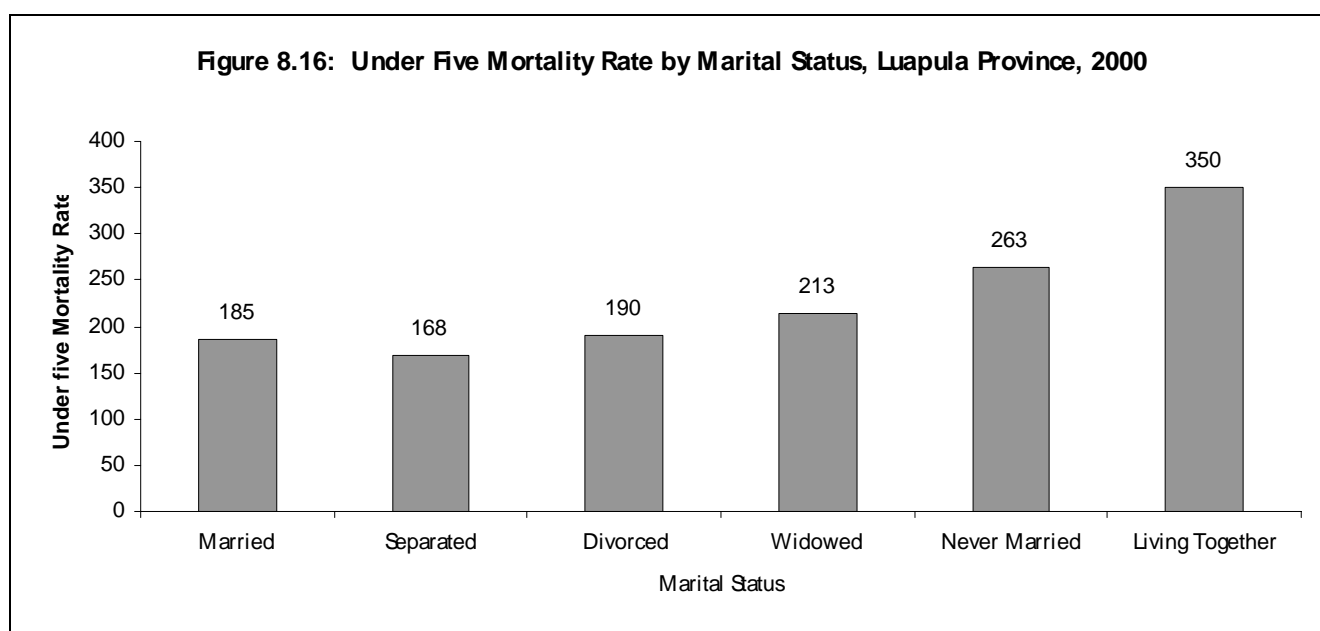

Source: 2000 Census of Population and Housing

8.5.4   Under Five Mortality Rate by Marital Status of Mother

Figure 8.16 shows the UMR differentials by marital status of mother. Children born to mothers who are cohabiting have the highest chances of dying before reaching age five (350 deaths per 1000 live births) followed by the married (263) and widowed (218). The lowest is among the separated mothers (163).

Figure 8.16: Under Five Mortality Rate by Marital Status, Luapula Province, 2000

Source: 2000 Census of Population and Housing

In rural areas, UMR is highest among cohabiting mothers (363) and lowest among the separated (176). On the other hand, in urban areas, it is highest among the never married (225) and lowest among the divorced (116).

Table 8.6:   Under Five Mortality Rate by Marital Status and Residence, Luapula Province, 2000

Marital Status	Under-five mortality Rate (per '000)		
	Total	Rural	Urban
Married	185	192	141
Separated	168	176	120
Divorced	190	202	116
Widowed	213	212	198
Never Married	263	282	225
Living Together	350	363	176

Source: 2000 Census of Population and Housing

8.5.5 Under Five Mortality by Education Level of Mother

UMR varies with to the level of education of mother. A comparison of children of mothers without education, primary or secondary shows that UMR decreases with increasing level of education. Babies born to mothers with no education are at the greatest risk of not celebrating their fifth birthday than those born to mothers with other education categories. It is worth noting that children born to mothers with tertiary education in this province have higher chances of dying before reaching age five than those born to mothers with secondary education (253 versus 189 deaths per 1000 children.

Figure 8.17: Under Five Mortality Rate by Education Level, Luapula Province, 2000
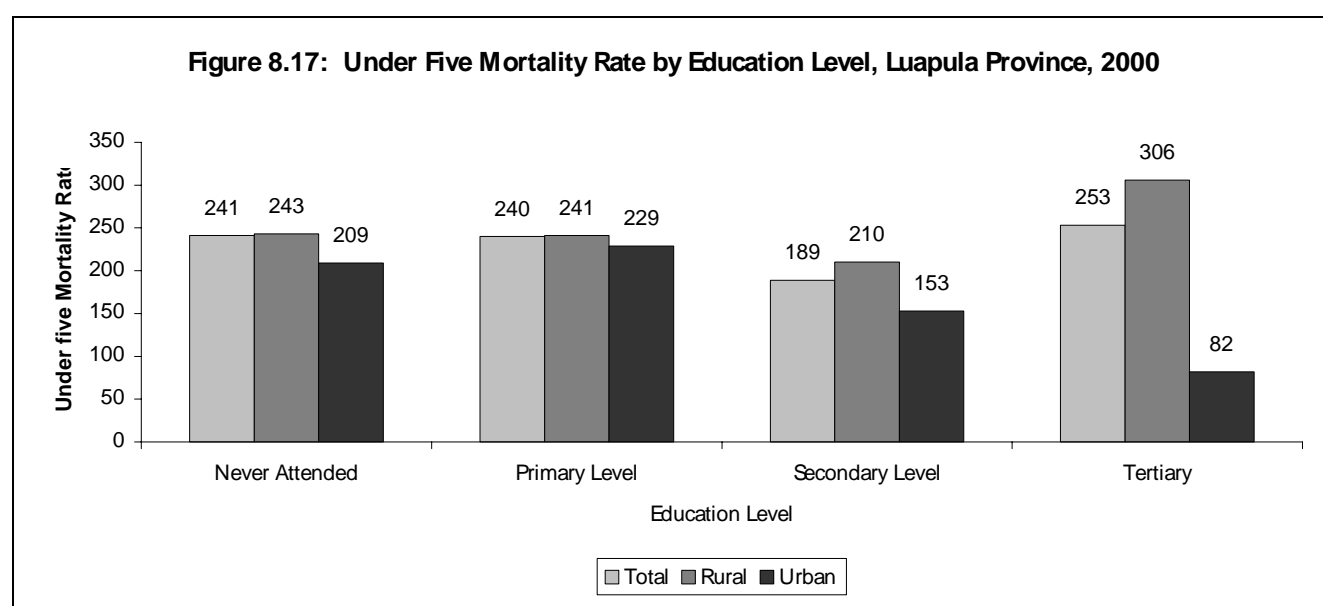
Source: 2000 Census of Population and Housing

8.5.6   Under Five Mortality Rate by Economic Activity of Mother

Results in Figure 8.18 show that children born to non-working mothers are at greater risks of dying before age five than those born to working mothers. The differences are marginal (231 versus 225 deaths per 1000 children, respectively), representing about 6 percent higher deaths among the non-working mothers.

Figure 8.18: Under Five Mortality Rate by Economic Activity, Luapula Province, 2000
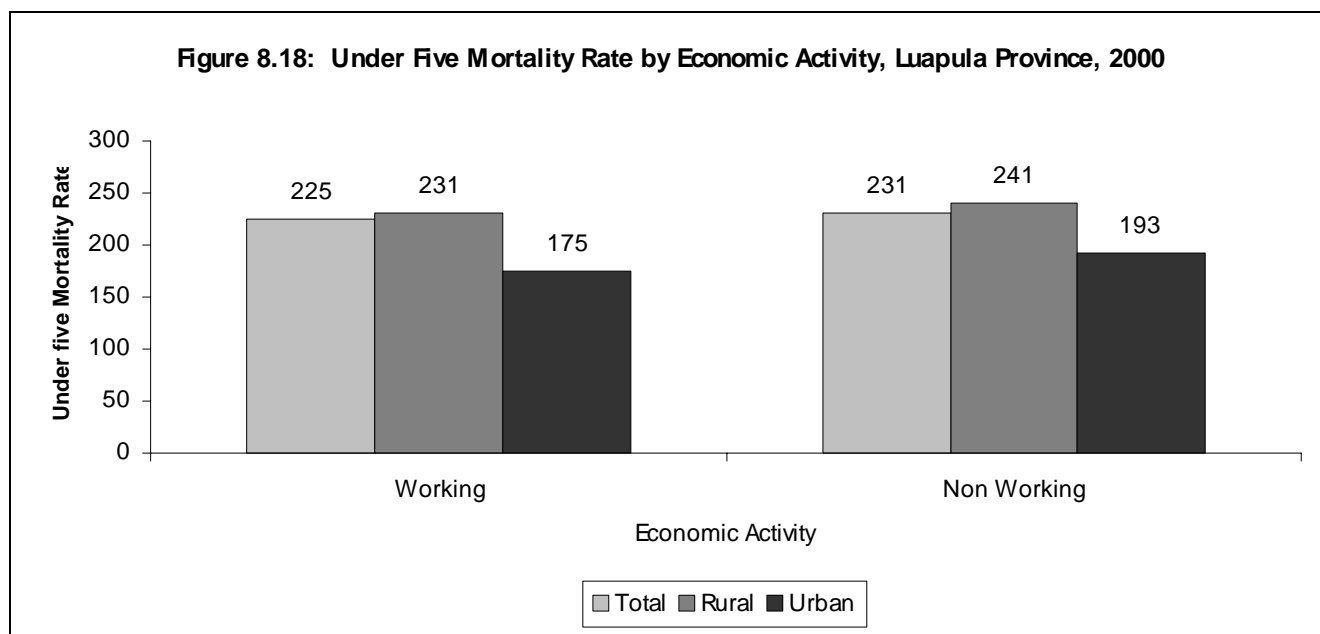
8.6 LIFE EXPECTANCY AT BIRTH: LEVELS, TRENDS AND DIFFERENTIALS

Table 8.7 shows that there has been an increase in Life Expectancy at birth decreased from 46.1 in 1990 to 39 in 1990 then increase to 44 in 2000. It is also observed that female babies experience higher expectation of life than males. In 1990 and 2000, life expectancy for males was higher than that of females (40 and 38.1 in 1990 and 53.4 and 45.3 in 2000). In 1980, however, life expectancy was higher for males (46.4 years) than the females (45.8 years).

Table 8.7: **Life Expectancy at Birth by Sex of Child, Residence and District, Luapula Province, 1980 – 2000**

Residence and Sex	Life Expectancy at Birth (Years)		
	1980	**1990**	**2000**
Zambia	**52**	**47.0**	**50.0**
Luapula Province	**46.1**	**39.0**	**43.8**
Residence			
Rural	45.8	38.4	43.3
Urban	49.4	43.2	48.3
Sex of Child			
Male	46.4	38.1	45.3
Female	45.8	40.0	53.4
Districts (2000)	**Total (2000)**	**Rural (2000)**	**Urban (2000)**
Chienge	40.3	40.1	47.6
Kawambwa	48.9	48.3	52.1
Mansa	47.3	43.2	49.6
Milenge	44.4	44.4	-
Mwense	41.7	41.9	37.6
Nchelenge	44.2	44.2	43.8
Samfya	40.8	39.4	50.5

The life expectancy at birth for Luapula province is lower than the national average in 2000 (44 years compared with 50 years).

8.6.1   Life Expectancy at Birth by Residence

Life expectancy at birth in rural areas is lower than that of urban areas. In the rural areas, life expectancy was 46, 38 and 43 years while in the urban areas it was 49, 43 and 48 years in 1980, 1990 and 2000 respectively (Figure 8.19).

Figure 8.19: Life Expectancy at Birth by Residence, Luapula Province, 1980-2000
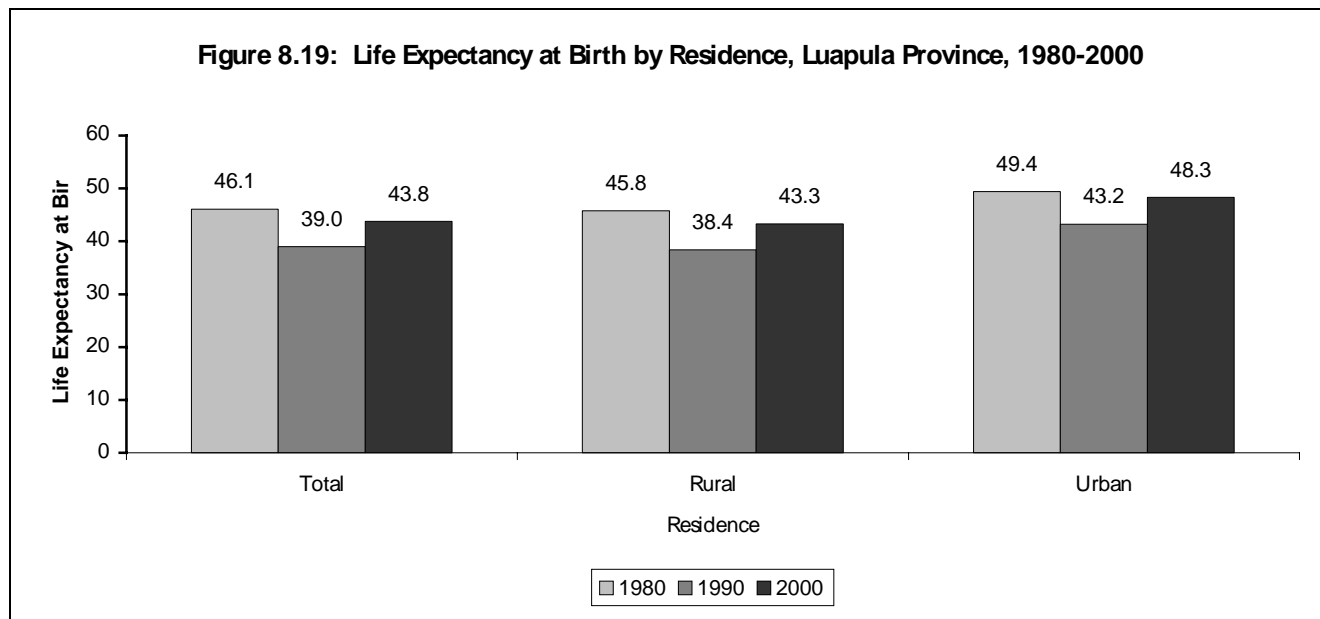
Source: 2000 Census of Population and Housing

8.6.2   Life Expectancy at Birth by District

A comparison of the districts shows that life expectancy is lowest in Chiengi (40.3) and highest in Kawambwa (48.9). In the rural areas of all districts, life expectancy at birth is lower than urban areas except Mwense and Nchelenge (Figure 8.20).

Figure 8.20: Life Expectancy at Birth by Districts and Residence, Luapula Province, 2000
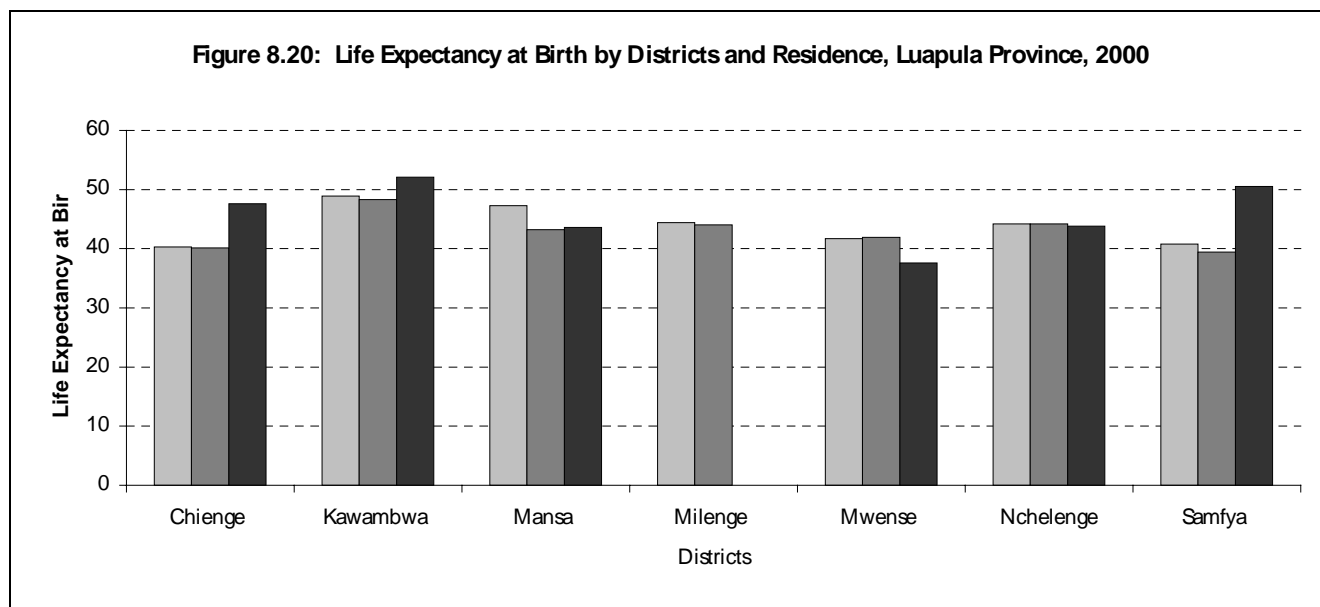
Source: CSO, 2000 Census of Population and Housing

8.6.3   Life Expectancy at Birth by Marital Status of the Mother

Figure 8.21 shows the Life Expectancy differentials by marital status of mother. Babies born to mothers who are separated have the highest life expectancy (51 years) while born to cohabiting mothers have the lowest (33 years). Babies born to those who are currently married, divorced and widowed are likely to survive up to 49, 49 and 46 years, respectively.

Figure 8.21: Life Expectancy at Birth by Marital Stauts, Luapula Province,2000
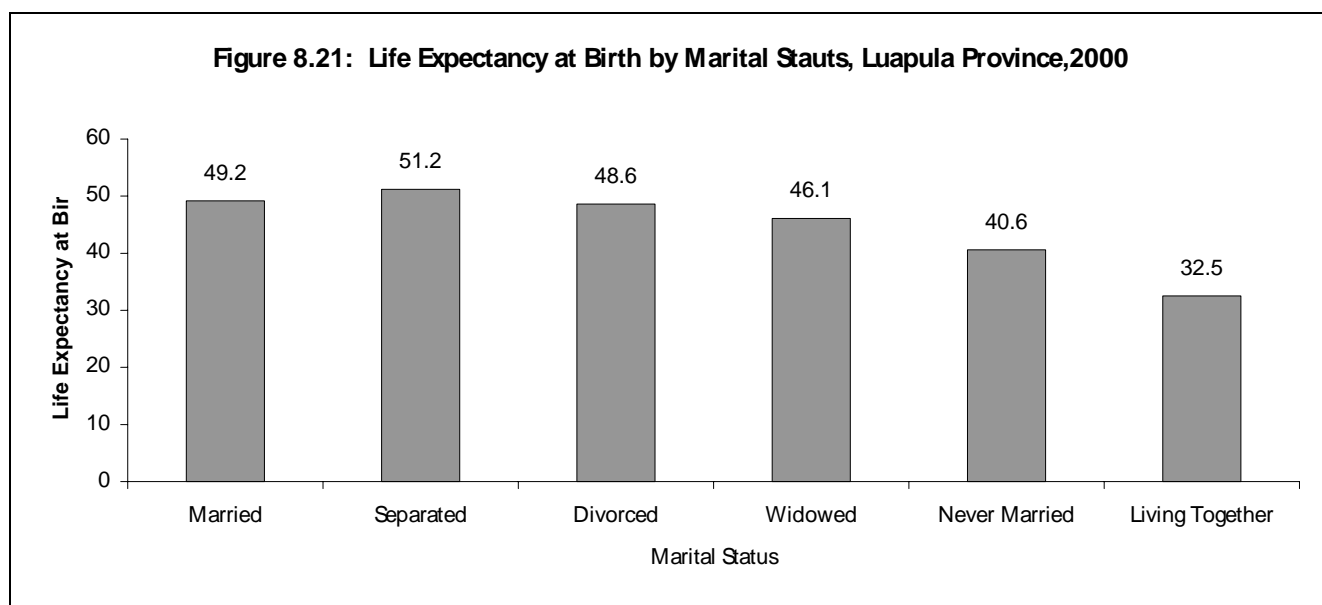
Source: 2000 Census of Population and Housing

Table 8.8:   Life Expectancy at Birth by Marital Status and Residence , Luapula Province, 2000

Marital Status	Life Expectancy at Birth (Years)		
	Total	Rural	Urban
Married	49.2	48.3	54.4
Separated	51.2	50.1	57.4
Divorced	48.6	47.3	57.9
Widowed	46.1	46.3	47.7
Never Married	40.6	38.8	44.8
Living Together	32.5	31.5	50.3

Source: 2000 Census of Population and Housing

8.6.4   Life Expectancy at birth by Education Level of Mother

Figure 8.22 shows the variations of life expectancy with the level of education of mother. Children born to women with secondary education have the highest life expectancy of 48.7 years while those born to women with tertiary education have the lowest with 41.7 years. There is no major variation of life expectation between children born to women with primary (43.1) and no schooling (42.9 years).

Figure 8.22: Life Expectancy at Birth by Education Level, Luapula Province, 2000
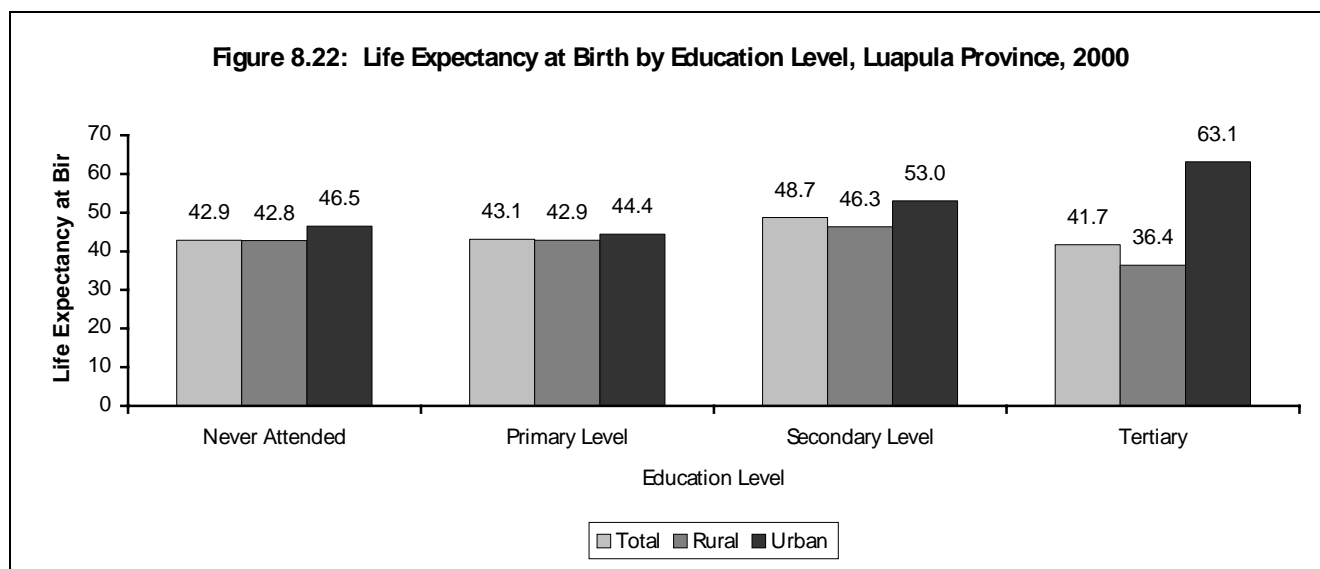
Source: 2000 Census of Population and Housing

8.6.5   Life Expectancy at birth by Economic Activity of Mother

Figure 8.23 shows that children born to working mothers have a higher expectation of life at birth (45 years) than those born to non-working mothers (44 years). Rural and urban areas show a similar pattern.

Figure 8.23: Life Expectancy at Birth by Economic Activity, Luapula Province.
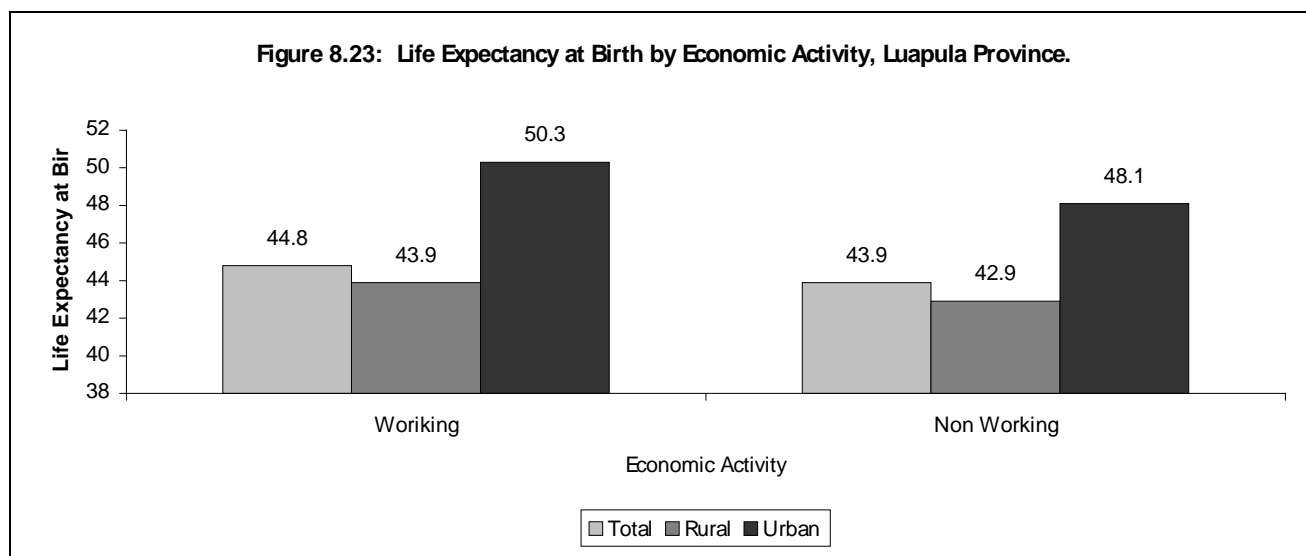
Source: 2000 Census of Population and Housing

8.7   Adult Mortality: Life Expectancy Levels, Trends and Differentials

Results in Figure 8.24 show that adult life expectancy levels in Luapula Province increased between 1980 and 1990, and the decreased between 1990 and 2000. The decrease may be attributed to the HIV/AIDS pandemic.

Figure 8.24: Trends in Adult Survivorship Levels by Sex of Adult, Luapula, 1980-2000

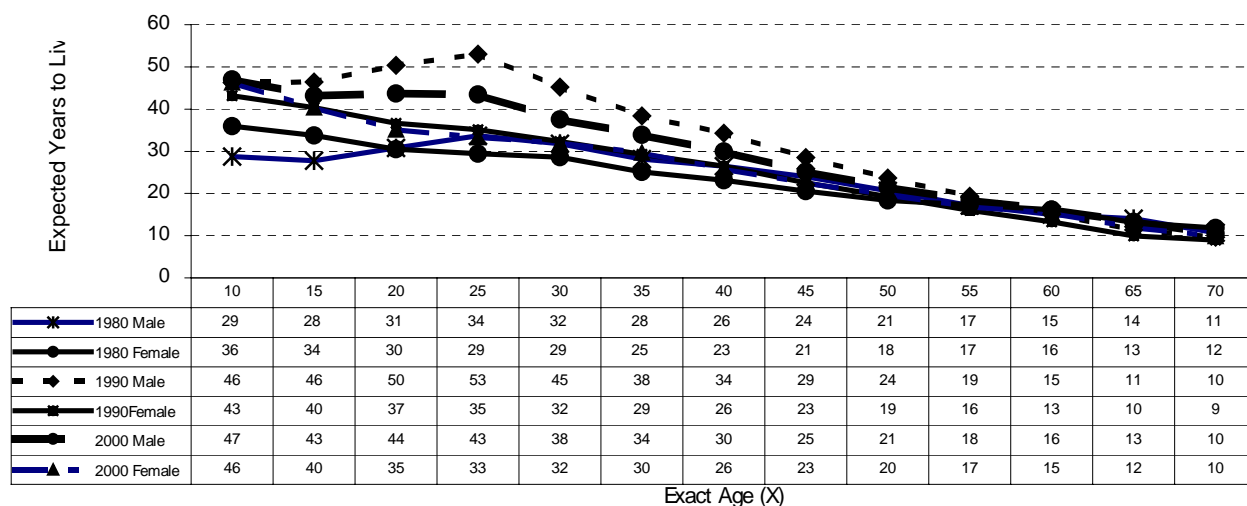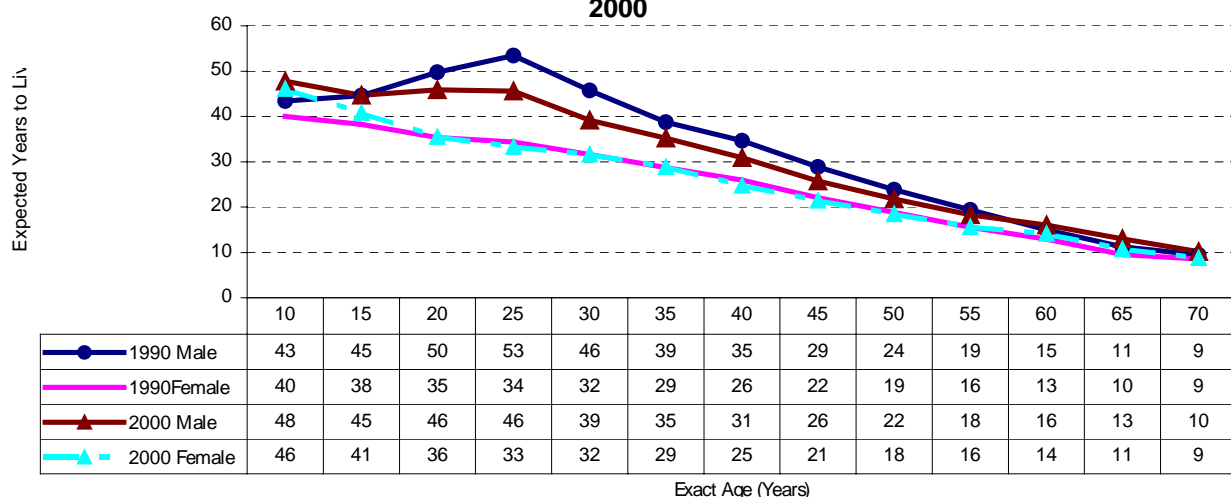|	10	15	20	25	30	35	40	45	50	55	60	65	70
1980 Male	29	28	31	34	32	28	26	24	21	17	15	14	11
1980 Female	36	34	30	29	29	25	23	21	18	17	16	13	12
1990 Male	46	46	50	53	45	38	34	29	24	19	15	11	10
1990 Female	43	40	37	35	32	29	26	23	19	16	13	10	9
2000 Male	47	43	44	43	38	34	30	25	21	18	16	13	10
2000 Female	46	40	35	33	32	30	26	23	20	17	15	12	10

Exact Age (X)

Source: 2000 Census of Population and Housing

There was a decrease of between 4 to 10 years in life expectancy of males between ages 20 and 45. In the case of females in the same age group, the decrease was minimal (between 0 and 2 years). Important to note is the fact that at age 35, there was a slight increase in life expectancy of females. At the older ages, life expectancy increased for females while that of males decreased.

Differentials by residence in Figures 8.25 and 8.26 show that males at ages 10 to 40 years and females at ages 10 15 years in rural areas have higher chances of surviving to older ages than their urban counterparts. At older ages, adult life expectancies are higher in urban than rural areas.
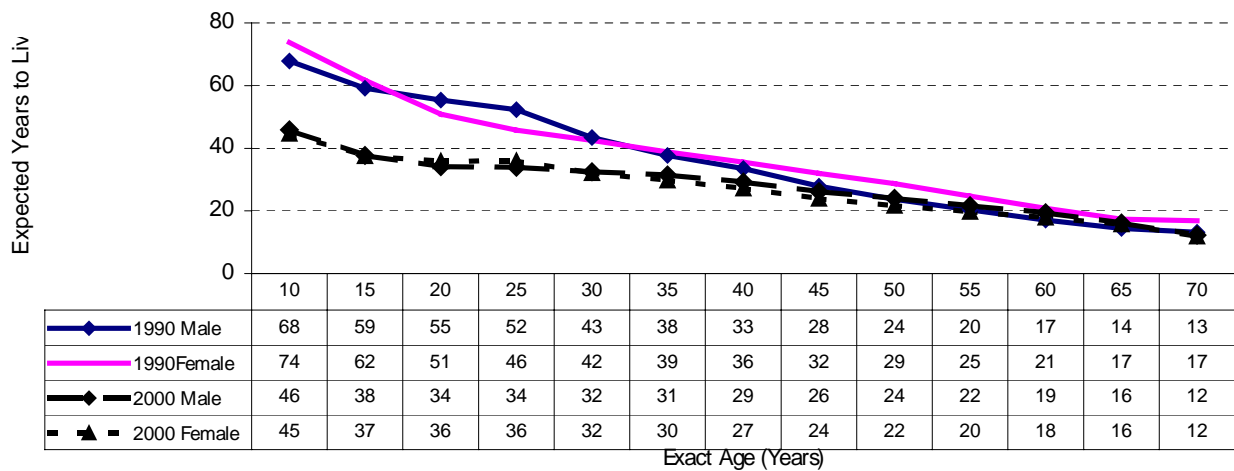
In rural areas in both 1990 and 2000, males live longer than females at all ages (10-70). The gap is even wider between age 20 and 45 years in 1990 and between 20 and 40 in 2000. In urban areas, on the contrary, males have lower life expectancies than females except at ages 20 to 30 in 1990 and 10 to 15 and 35 to 60 in 2000.

Figure 8.25: Trends in Adult Survivorship Levels by Sex of Adult, Rural Luapula, 1990-2000

	10	15	20	25	30	35	40	45	50	55	60	65	70
1990 Male	43	45	50	53	46	39	35	29	24	19	15	11	9
1990 Female	40	38	35	34	32	29	26	22	19	16	13	10	9
2000 Male	48	45	46	46	39	35	31	26	22	18	16	13	10
2000 Female	46	41	36	33	32	29	25	21	18	16	14	11	9

Exact Age (Years)

Source: 2000 Census of Population and Housing

Figure 8.26: Trends in Adult Survivorship Level by Sex of Adult, Urban Luapula, 1990-2000

Exact Age (Years)	10	15	20	25	30	35	40	45	50	55	60	65	70
1990 Male	68	59	55	52	43	38	33	28	24	20	17	14	13
1990Female	74	62	51	46	42	39	36	32	29	25	21	17	17
2000 Male	46	38	34	34	32	31	29	26	24	22	19	16	12
2000 Female	45	37	36	36	32	30	27	24	22	20	18	16	12

Source: Source: 2000 Census of Population and Housing

The figures also show that there has been a larger decline in life expectancy in urban areas compared to rural areas for both males and females. In rural areas, life expectancy declined by less than 10 years for both males and females while that of urban areas decreased by about 20 years for males aged 10-25 and about 30 years for females in the same age group.

8.8   Summary

Overall, infant mortality rate has declined in Luapula by about 17 percent, between1990 and 2000. The decline in infant mortality has had impact on reduction of under-five mortality. At district level, Chiengi registered the highest infant deaths and Kawambwa the least. In Chiengi district 1 in 6 infants do not survive to their first birthday compared to 1 in 9 in Kawambwa district. Higher Infant mortality risks are associated with mothers who live in a rural area, currently not married, less educated and not working.

There was a 20 percent decline in Child Mortality Rate (CMR) between 1990 and 2000, from 137 to 110. However, the 2000 level is still above the 1980 one (99 deaths per 1000). At the district level CMR was highest in Chiengi (132) and lowest in Kawambwa (84). Higher incidents of dying among children aged between exact age 1 and 5 were observed in those born to rural mothers, and never married mothers, mothers with a tertiary level of education and non-working

Under five Mortality Rate for Luapula province has declined between 1990 and 2000. In 2000, 1 in 4 under-five children die before their fifth birthday compared to 1 in 3 in 1980. At district level, Kawambwa recorded the least under-five deaths and Chiengi district recorded the highest. Higher chances of dying before their fifth birthday were associated with mothers from rural areas and tertiary level education.

Life expectancy at birth in Luapula increased from 39 to 44 years between 1990 and 2000. At district level, Chiengi registered the lowest life expectancy at birth of 40.3 years, while Kawambwa (48.9 years) had the highest. Low Life Expectancy at Birth is also associated with babies born to rural mothers, non-working, living together, never married mothers as well as those with tertiary level of education mothers.

Adult life expectancy levels in Luapula Province increased between 1980 and 1990, and the decreased between 1990 and 2000. Adults in rural areas have higher chances of surviving to older ages than their urban counterparts.

Chapter 9

DISABILITY

9.1 INTRODUCTION

Zambia has been collecting disability data in all the four censuses of 1969, 1980, 1990 and 2000. In collecting information for the past four censuses 1969, 1980, 1990, and 2000, categories used are shown in Table 9.1. During the 2000 Census of population and housing, data collected on disability included eight categories, unlike the 1990 Census where only five categories were captured. This was in recognition of the varying degrees of disability. The increase in the number of disability categories in the 2000 Census was also aimed at capturing more persons with disability who were left out in the previous censuses such as those who are partially sighted and hard of hearing.

Persons with disabilities have the same rights as other citizens to opportunities for self-actualization and participation in the economic and social development of this country. Information on persons with disabilities is important for addressing barriers that limit their enjoyment of these human rights and their integration into the mainstream of society.

Table 9.1: Disability Categories used in Censuses 1969 - 2000

1969	1980	1990	2000
1. Blind 2. Deaf and/or mute 3. Loss of limb 4. Sick	1. Blind 2. Deaf and/or mute 3. Crippled, or loss of limb 4. Mentally Retarded 5. Sick 6. Combination of two or more categories	1. Blind 2. Deaf-Dumb 3. Crippled 4. Mentally Retarded 5. Multiple Disabilities	1. Blind 2. Partially sighted 3. Deaf/Dumb 4. Hard of Hearing 5. Mentally ill 6. Ex- Mental 7. Mentally Retarded 8. Physically Handicapped

Sources: CSO, 1969, 1980, 1990 and 2000 Censuses of Population and Housing

The International Classification of Functioning (ICF), Disability and Health provide a theoretical framework for classifying health related human functioning. The ICF provides standardized concepts that provide a standardized classification framework for data compilation. The use of a common framework also contributes to greater comparability of data at the national and international levels and makes it relevant to various users (UN, 2001).

Among the principles of the ICF is neutrality; i.e. classifying disabilities in a neutral language with no use of negative terms. In this chapter, however, some terms used may not be neutral but have been used as was done during data collection. However, effort has been made to provide in brackets the neutral terms that are internationally accepted as will be observed in this and provincial chapters on disability.

9.2. CONCEPTS AND DEFINITIONS

According to the 2000 Census definition, disability refers to a person who is limited in the kind or amount of activities that he or she can do because of on-going difficulties due to a long term physical, mental or health problem. This is in line with the National Policy on Disability which defines disability as any restriction or lack of ability to perform any action in the manner or within the range considered 'normal' for a human being and would or would not entail the use of supportive and auxiliary aids (World Health Organization).

Types of Disability

- Blind (Visually Impaired)- complete loss of sight
- Partially sighted- loss of one eye or poor sight but not complete blindness
- Deaf/Dumb (speech impaired)- complete loss of sense of hearing/speech
- Hard of Hearing- Partial loss of sense of hearing but not complete loss
- Mentally ill- A disorder related to the individuals mental state or state of mind

- Ex-mental- a person that suffered from mental disorder before but is now rehabilitated or undergoing rehabilitation
- Mentally retarded- a person that is very slow to learn or has deficiency of mental intellect
- Physically handicapped (Physically disabled)- A person with a physical impairment relating to the loss of bodily stature

CAUSES OF DISABILITY

- Congenital/Prenatal- disabilities which one is born with
- Disease/illness- e.g. Leprosy, Polio, cataract, etc
- Injury/Accident/Trauma- road accidents, injuries from accidental falls, fire, etc
- Other - e.g. unsuccessful medical operation, wrongful application/misuse of traditional and conventional medicine

## 9.3. Limitations of Data on Disability

Policy makers and planners require data on disabled persons. Information needs are more than just basic counts of the number of people with disabilities but also on the quality of life of people living with disabilities.

The categories employed in the current census, however, do not take into account the international definitions of disabilities, which include variations in the intensity of disability, such as the loss of feelings in fingers (UN, 1996).

Detailed data on disability can only be included in a specialized survey. Census data on disability are collected mainly to study the socio-economic situations of these individuals. Since the census is a large exercise, which includes a lot of topics, it becomes difficult to include a lot of questions on one topic.

9.4 Proportion of the disabled to the total population

Out of a total population of 729,828 thousand, 24,669 recorded to be disabled in Luapula province, a proportion of 3.4 percent of the total population. (See figure 9.1 and table 9.2). Compared to the national average, the proportion of the disabled for the province was slightly lower in 1990 and higher in 2000. For both the province and the national average the highest proportions of the disabled are in rural areas as opposed to urban areas An examination of the proportions of the disabled between the two censuses may indicate that there has been an increase in the prevalence of disability between 1990 and 2000. While this may be true, the observed increase was largely caused by the increase in the categories of the disabled.

Figure 9.1: Proportion of Disabled Persons by Sex, Luapula Province, 1990 and 2000
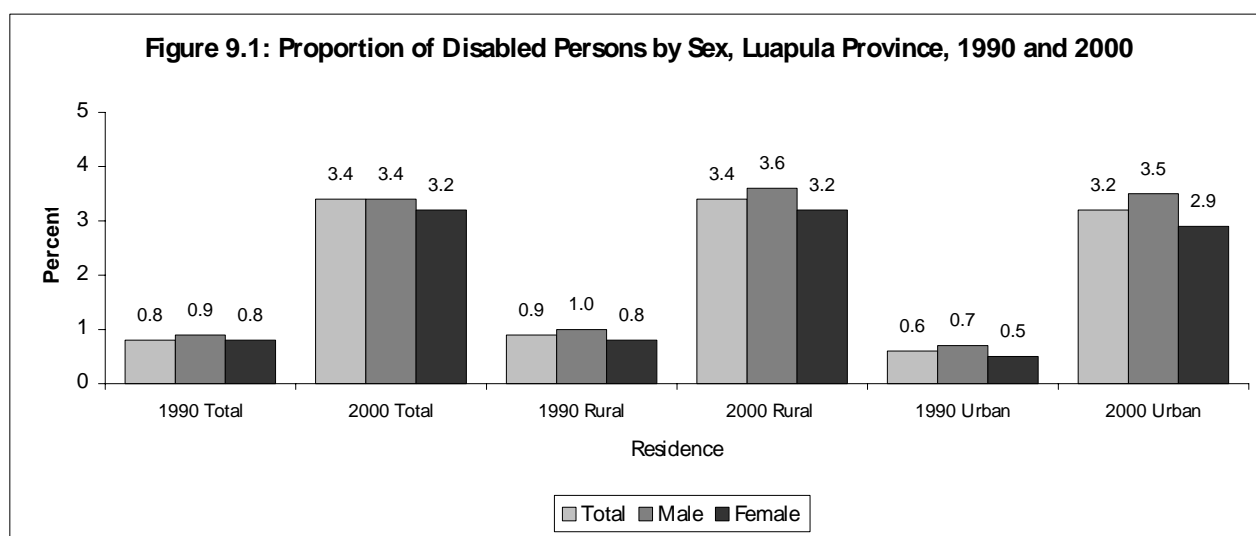
Sources: CSO, 1990 and 2000 Censuses of Population and Housing

Table 9.2:   Proportion of the Disabled by Sex and Residence, Luapula Province, 1990 and 2000

| Sex and year	Total Population			Proportions Of The Disabled		
	Total	Rural	Urban	Total	Rural	Urban
1990						
Zambia Total	7,383,097	4,477,814	2,905,283	0.9	1.1	0.7
Total	525,160	443,299	81,861	0.8	0.9	0.6
Male	252,852	213,181	39,671	0.9	1	0.7
Female	272,308	230,118	42,190	0.8	0.8	0.5
2000						
Zambia Total	9,337,425	5,990,356	3,347,069	2.7	3.2	0.2
Total	729,828	616,486	112,982	3.4	3.4	3.2
Male	355,827	300,831	54,996	3.4	3.6	3.5
Female	374,001	316,015	57,986	3.2	3.2	2.9

Sources: CSO, 1990 and 2000 Censuses of Population and Housing

Rural-urban differentials exist in terms of proportions of persons with disabilities. Of the total rural population 3.4 percent is disabled compared to 3.2 percent in urban areas. Differences also exist between males and females. In both rural and urban areas, the proportion of the disabled is higher for males than females.

9.5   Types of Disability

The distribution of disabled persons by type of disability shows that out of a total of 24,669 persons reported to be disabled in Luapula Province, 12,797 are male and 11,872 are female. The largest number of disabled persons is found in Mansa, closely followed by Samfya while the least is in Milenge.

As mentioned earlier, the types of disability include the blind, partially sighted, deaf/dumb, hard of hearing, mentally ill, ex-mental, mentally retarded and the physically handicapped. Figure 9.2 and Table 9.3 show that the physically handicapped form the largest proportion of the disabled persons. These form 37.8 percent of the disabled persons. The second most common disability is partial sightedness, which was reported by 30.6 percent of the disabled population. This scenario is the same as that of the national average, though for the physically handicapped, the provincial proportions are slightly lower than the national ones and for partially sighted, the proportions are slightly higher than the national ones. Some disability categories such as blindness (7.3 percent), ex-mental (4.9 percent) and mental retardation (6.5 percent) are less common. The pattern of the distribution of disabled persons is similar for both males and females as well as across districts.

Figure 9.2: Distribution of the Disabled Persons by Type of Disability, Luapula Province, 2000
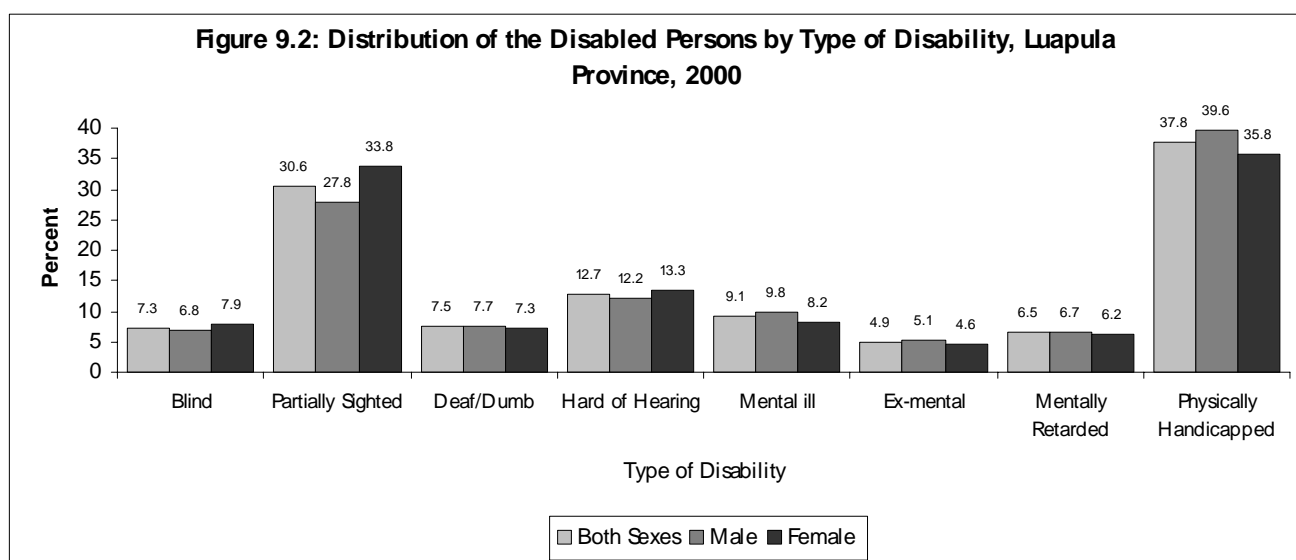
Source: CSO, 2000 Census of Population and Housing

Partial sightedness is most common in Milengi (42 percent), and least in Chiengi and Mwense (28.8 percent). The proportion of the deaf and dumb ranges from 4.5 percent in Kawambwa to 21.5 percent in Milengi. A comparison of the districts as regards the physically disabled shows that it is most common in Milengi (44.8 percent) and least in Kawambwa with 31.7 percent.

Table 9.3:   Percent Distribution of the Disabled by Type of Disability and District, Luapula Province, 2000

Type of Disability	Zambia Total	Total	Chiengi	Kawambwa	Mansa	Milengi	Mwense	Nchelenge	Samfya
Total disabled	256,690	24,669	2,122	2,590	6,339	1,173	3,789	2,536	6,120
Blind	5.3	7.3	6	6.3	8.3	19.2	7.4	6.7	5
Partially sighted	30.2	30.6	28.8	35.8	29.2	42	28.8	30.6	29.6
Deaf/dumb	6.2	7.5	8.1	4.5	8.2	21.5	7.4	5.7	5.8
Hard of hearing	12.4	12.7	11.9	11.7	14.7	27.9	12.4	10.1	9.8
Mentally ill	8.1	9.1	4.7	8.7	11.1	23.1	10.4	5.4	6.6
Ex-mental	3.6	4.9	3.1	2.7	7	17.6	5.7	1.9	2.4
Mentally retarded	5.4	6.5	4.6	4.2	7.9	17.1	8.2	3.6	4.7
Physically handicapped	38.8	37.8	36.2	31.7	35.1	44.8	40.3	37.9	40.8
Male	135,613	12,797	1,091	1,366	3,289	608	1,973	1,373	3,097
Blind	5	6.8	5.5	5.8	8.4	16.9	6.7	6	4.2
Partially sighted	27.7	27.8	26.8	32	26.9	39.3	27.4	28.3	24.8
Deaf/dumb	6.2	7.7	8.6	4.8	8.8	20.2	7.5	5.5	6
Hard of hearing	11.5	12.2	10.7	10.8	14.8	26.5	11.3	9.8	9.5
Mentally ill	8.8	9.8	4.8	9.6	11.9	22.7	11.4	6.1	7.7
Ex-mental	3.7	5.1	3.1	2.5	7.3	16.3	5.8	2.4	3
Mentally retarded	5.6	6.7	3.8	5.3	7.9	16.1	9.2	2.9	5.5
Physically handicapped	40.7	39.6	39.1	33.9	36.1	43.8	42	39.3	43.9
Female	121,077	11,872	1,031	1,224	3,050	565	1,816	1,163	3,023
Blind	5.6	7.9	6.6	6.9	8.1	21.6	8.1	7.5	5.9
Partially sighted	33	33.8	30.9	40	31.7	45	30.2	33.4	34.4
Deaf/dumb	6.2	7.3	7.5	4.2	7.6	22.8	7.3	5.9	5.7
Hard of hearing	13.3	13.3	13.2	12.7	14.7	29.4	13.6	10.4	10.2
Mentally ill	7.3	8.2	4.7	7.8	10.3	23.5	9.4	4.6	5.5
Ex-mental.	3.6	4.6	3.1	3	6.6	18.9	5.7	1.4	1.8
Mentally retarded	5.3	6.2	5.4	3	7.8	18.2	7.1	4.5	4
Physically handicapped	36.7	35.8	33.2	29.2	33.9	45.8	38.4	36.3	37.5

Source: CSO, 2000 Census of Population and Housing

Note: It is worth noting that the percentages will not necessarily add up to 100 because some persons reported more than one disability.

9.6   AGE STRUCTURE OF THE DISABLED

The age structure of the disabled is shown in Table 9.4. Data show that the number of the disabled increases with increasing age up to age group 10-14, then it slightly drops in the age group 15-19. After this age group, the numbers fluctuate. Across age groups 0-4 to 55-59, the largest proportion of the disabled are physically handicapped closely followed by the partially sighted. For the older age groups, the largest proportion is partially sighted closely followed by the physically handicapped.

Table 9.4:   Percent Distribution of the Disabled by Type of Disability and Age, Luapula province, 2000

								Type Of Disability
Age group	Total Number	Blind	Partially Sighted	Deaf/Dumb	Hard of Hearing	Mentally ill	Ex Mental	Mentally Retarded	Physically Handicapped
0 - 4	1,685	10.7	24.3	16.0	18.7	15.4	12.0	10.8	37.0
5-9	1,810	7.8	21.9	14.9	16.5	11.8	8.0	9.1	35.8
10-14	1,821	7.7	24.7	14.8	18.7	15.3	9.1	11.5	36.4
15 - 19	1,816	6.6	22.0	10.5	12.1	13.6	6.4	10.7	37.9
20 - 24	1,837	4.5	23.1	7.1	11.0	11.4	5.1	9.0	37.9
25 - 29	1,656	5.0	23.1	6.7	11.8	12.1	5.2	8.3	38.2
30 - 34	1,855	5.4	25.3	6.4	10.2	10.0	4.6	7.0	39.4
35 - 39	1,585	5.1	29.2	5.5	10.0	9.2	4.0	5.4	39.7
40 - 44	1,502	5.6	32.5	4.2	8.5	7.5	3.2	5.5	39.0
45 - 49	1,365	5.9	34.3	4.2	8.1	7.5	3.3	4.0	39.4
50 - 54	1,547	7.4	35.6	3.9	9.5	5.6	3.3	3.2	38.2
55 - 59	1,276	8.2	36.5	3.4	10.3	4.2	2.1	3.3	40.8
60 - 64	1,346	8.4	39.9	3.5	11.0	4.5	1.4	1.8	39.5
65 - 69	1,291	9.9	44.3	3.6	13.2	2.3	2.0	2.1	34.9
70 - 74	936	10.4	44.8	3.5	13.0	2.6	1.3	2.2	38.5
75+	1,341	11.3	49.4	3.4	19.8	2.1	1.0	2.0	32.1
Total	24,669	7.3	30.6	7.5	12.7	9.1	4.9	6.5	37.8

Source: CSO, 2000 Census of Population and Housing

9.7   Causes Of Disability

The various causes of disability were categorized as prenatal, disease, injury and other. Of these, the most common cause is disease, which was reported by 40.8 percent of the disabled population. This is in line with what is depicted on the national level where more than three-thirds (38.9 percent) were disabled due to disease/illness. The pattern is also the same for both males and females in both cases. Injury was reported by 17.1 percent, Prenatal causes by 15.6 percent, and other causes by 9.6 percent while 21.2 percent reported that they did not know the cause of their disability.

Some causes of disability affect females more than they do males. These include disease, congenital and other causes. Injuries are more common among males than females.

As earlier indicated, 40.8 percent of the disabled population cited disease as a cause of their disability in Zambia. Among the districts, Nchelenge (47.5 percent) and Chienge (47 percent) have the largest proportion reporting disease as a cause of disability. In all districts a larger proportion of the disabled females cited disease as a cause of their disability than their male counterparts.

Table 9.5:   Percent Distribution of the Disabled by District and Cause, Luapula Province, 2000

Causes	Zambia Total	Total	Chiengi	Kawambwa	Mansa	Milengi	Mwense	Nchelenge	Samfya
Total Disabled	**256,690**	**24,669**	**2,122**	**2,590**	**6,339**	**1,173**	**3,789**	**2,536**	**6,120**
Congenital/pre-natal	13.7	15.6	13.5	11.4	20.4	14.5	18.0	15.5	12.0
Disease/illness	38.9	40.8	47.0	41.2	37.3	34.8	39.4	47.5	41.4
Injury/accident/trauma	17.2	17.1	13.0	13.6	22.0	15.1	17.0	15.4	16.1
Other	9.3	9.6	7.6	9.3	13.1	9.8	9.0	6.5	8.4
Unknown	20.2	21.2	21.3	23.3	22.9	18.2	20.6	16.1	21.6
Male	**135,613**	**12,797**	**1,091**	**1,366**	**3,289**	**608**	**1,973**	**1,373**	**3,097**
Congenital/pre-natal	13.7	15.3	14.4	11.7	19.7	14.6	17.5	14.8	11.6
Disease/illness	36.3	39.2	46.6	39.4	36.2	35.0	38.1	46.6	38.0
Injury/accident/trauma	20.7	19.8	14.1	16.8	24.7	15.6	19.4	18.4	19.5
Other	8.9	9.4	7.7	9.3	13.0	9.0	8.6	6.4	8.2
Unknown	19.4	20.5	19.0	21.5	22	18.3	19.1	15.7	22.3
Female	**121,077**	**11,872**	**1,031**	**1,224**	**3,050**	**565**	**1,816**	**1,163**	**3,023**
Congenital/pre-natal	13.7	16.0	12.6	10.9	21.3	14.3	18.6	16.4	12.5
Disease/illness	41.9	42.5	47.4	43.1	38.5	34.5	40.8	48.6	45.0
Injury/accident/trauma	13.2	14.2	11.7	10.0	19.2	14.5	14.3	11.8	12.7
Other	9.7	9.8	7.6	9.4	13.2	10.6	9.4	6.6	8.6
Unknown	21.0	22.0	23.7	25.3	23.9	18.1	22.3	16.7	20.9

Source: CSO, 2000 Census of Population and Housing

Note: It is worth noting that the percentages will not necessarily add up to 100 because some persons reported more than one cause of disability.

Among the districts, Chiengi has the largest proportion of 47 percent reporting disease as a cause for disability while Milenge district has the least proportion with 34.8 percent. In all districts a larger proportion of the disabled females cited disease as a cause of their disability than their male counterparts.

9.8   Education Levels Of The Disabled

mpleted level of education for the disabled is shown in Table 9.6 and Figure 9.3. The largest proportion (44.9 percent) of the disabled persons age 5 years and above have completed primary education while 41.4 percent have had no schooling. Among the blind, deaf/dumb, mentally ill and mentally retarded, the largest proportion have had no schooling while in the rest of disability categories, the majority have completed primary education. The proportion of those who have never attended school is highest among the deaf/dumb 57.6 percent. The highest proportion of those who completed higher education was among the ex mental.

Table 9.6:   Percent Distribution of the Disabled Population, 5 years and Older, by Type of Disability and Level of Education, Luapula Province, 2000

Type of **Disability**	Total Number	Percent Total	Level of Education				
			No Education	Primary	Secondary	A-Levels	Higher Level
Blind	1,620	100.0	52.7	34.8	10.9	0.4	1.2
Partially Sighted	7,149	100.0	39.2	48.5	11.3	0.3	0.8
Deaf/Dumb	1,574	100.0	57.6	33.7	7.2	0.3	1.2
Hard Hearing	2,827	100.0	43.9	45.5	9.2	0.2	1.2
Mentally ill	1,978	100.0	43.9	39.8	15.0	0.3	1.1
Ex Mental	996	100.0	36.9	45.2	15.6	0.8	1.5
Mentally Retarded	1,414	100.0	50.8	38.0	9.7	0.3	1.1
Physically Handicapped	8,694	100.0	37.5	47.9	13.4	0.3	1.0
Total	**22,984**	**100.0**	**41.4**	**44.9**	**12.4**	**0.3**	**1.0**

Source: CSO, 2000 Census of Population and Housing

Figure 9.3: Distribution of the Disabled Population, 5 years and Older by Level of Education, Luapula Province, 2000
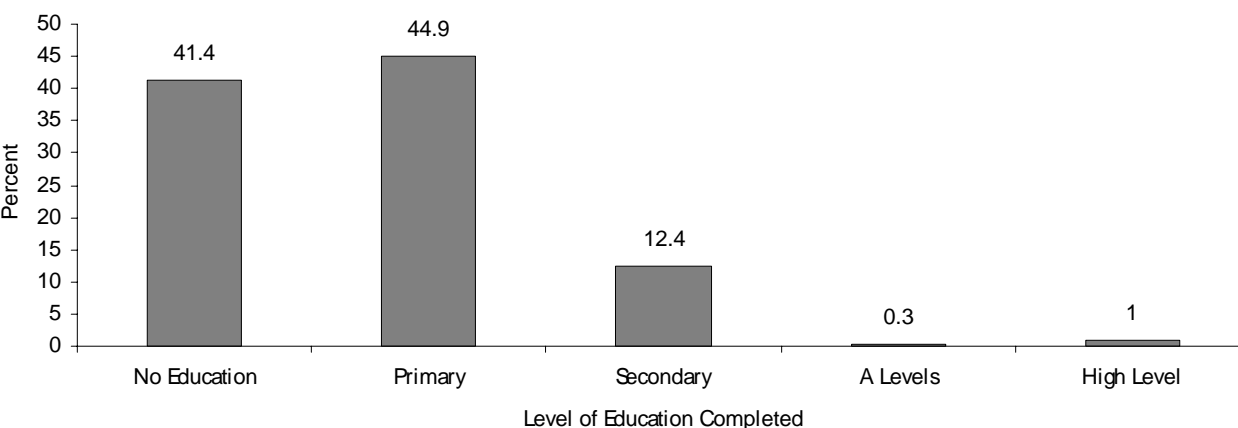
Source: CSO, 2000 Census of Population and Housing

Economic Activity Of The Disabled

le 9.7 and Figure 9.4 show the economic activities of the disabled persons 12 years and older, by type of disability and usual economic activity. Over half of the disabled persons are working and one third are students. The percentages of the disabled who are working higher than those of the national average (59.2 percent against 55.5 percent and those who are students are lower than those of the national average (31.6 percent against 33.1 percent for students). It is worth noting that none of the disabled persons falls in the categories "not available for work" and "available for work" but not seeking work. Details on the definitions of the various economic activities are given in Chapter 6.

ong the blind and mentally ill the majority are students while in the rest of the disability categories, the majority are working followed by students then home makers.

Table 9.7   Percent Distribution of the Disabled Persons, 12 Years and Older by Type of Disability and Usual Economic Activity, Luapula Province, 2000

Usual Economic Activity	Zambia Total	Type of Disability								
		Luapula Total	Blind	Partially Sighted	Deaf/Dumb	Hard of Hearing	Mentally ill	Ex Mental	Mentally Retarded	Physically Handicapped
Working	55.5	59.2	34.3	67.4	52.1	60.9	37.3	51.1	43.5	59.6
Seeking work	2.6	1.1	0.8	0.9	1.5	0.9	1.2	0.8	0.9	1.1
Homemaker	8.8	8.1	10.6	7	15.3	11.7	12.1	19.3	14.5	8
Student	33.1	31.6	54.2	24.6	31.1	26.4	49.3	28.7	41.2	31.3
Percent Total	100	100	100	100	100	100	100	100	100	100
Total Number	194,039	18,700	1,299	5,959	1,058	2,161	1,541	714	1,093	7,200

Source: CSO, 2000 Census of Population and Housing

Figure 9.4: Distribution of the Disabled Persons, 12 years and Older by Economic Activity, Luapula Province, 2000

Source: CSO, 2000 Census of Population and Housing

0   Occupation of the Disabled

a on occupation of the disabled persons was also collected during the 2000 census, and is shown in Table 9.8 and Figure 9.5. The data show that the most common occupation among the disabled is agriculture. Sales, production and transportation are also fairly common occupations.

Table 9.8:   Percent Distribution of the Usually Working Disabled Persons by Type of Disability and Occupation, Luapula Province, 2000

Type of Disability	Total Number	Percent Total	Occupation							
			Prof & Tech	Admin & manag. Workers	Clerical & Related Workers	Sales Workers	Service Workers	Agric.	Production and Transport	Unclass.
Blind	428	100.0	4.7	0.2	2.1	5.1	0.7	83.6	3.3	0.2
Partially Sighted	3,903	100.0	2.2	0.1	0.3	3.7	0.6	89.8	3.2	0.1
Deaf/Dumb	532	100.0	1.5	0.0	0.2	3.6	0.2	92.3	2.1	0.2
Hard Hearing	1,286	100.0	1.4	0.0	0.1	3.4	0.6	90.7	3.6	0.2
Mentally ill	551	100.0	1.6	0.0	0.4	3.4	0.9	88.9	4.5	0.2
Ex Mental	355	100.0	3.4	0.0	0.3	3.7	0.3	86.5	5.4	0.6
Mentally Retarded	456	100.0	1.5	0.0	0.2	3.3	0.7	90.6	3.5	0.2
Physically Handicapped	4,136	100.0	2.6	0.1	0.1	5.4	0.7	86.4	4.4	0.1
Total	11,647	100.0	2.3	0.1	0.3	4.3	0.7	88.5	3.8	0.2

Source: CSO, 2000 Census of Population and Housing

Figure 9.5: Distribution of the Usually Working Disabled Persons by Occupation, Luapula Province, 2000
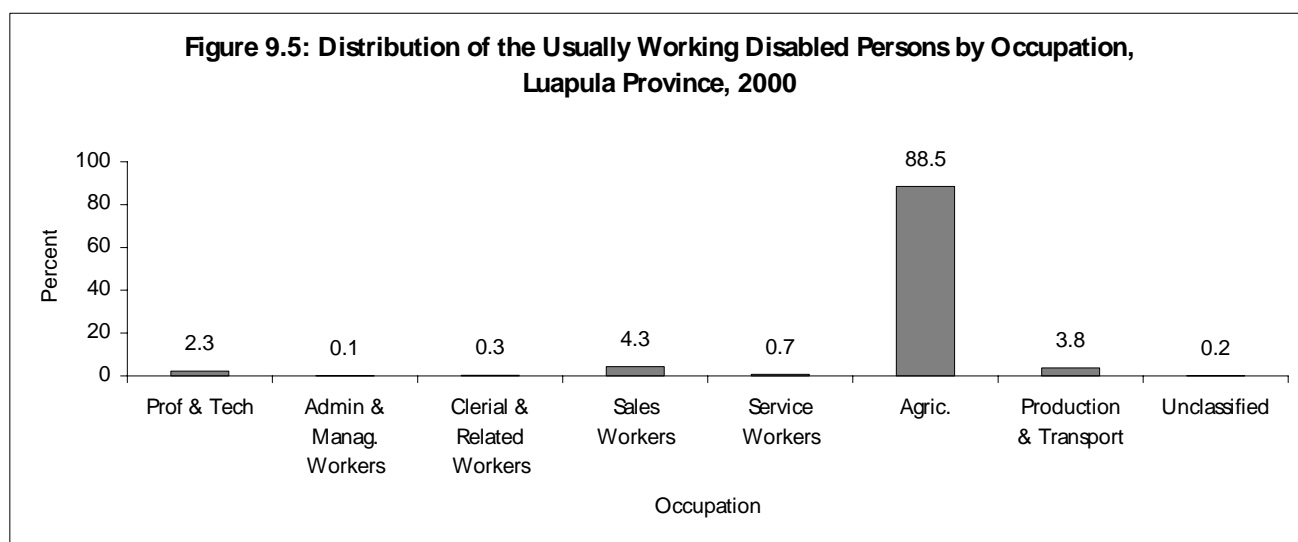
**1   Employment Status of the Disabled Household Heads**

Data on the percent distribution of the disabled household heads by type of disability and employment status is shown in Table 9.9 and Figure 9.6. Amongst all categories of disability, the largest proportions of the disabled are self-employed (75.8 percent) while the least proportion is among the employers (0.7 percent). The self employed make up the largest proportion across all disability types and the second largest is of family workers.

Table 9.9: Percent Distribution of the Disabled Household Heads by Type of Disability and Employment Status, Luapula Province, 2000

Type of Disability	Total Number	Percent Total	Employment status			
			Employer	Employee	Self Employed	Family Worker
Blind	258	100.0	1.2	14.7	61.6	22.5
Partially Sighted	2,535	100.0	0.6	7.1	75.9	16.5
Deaf/Dumb	248	100.0	0.8	6.0	81.5	11.7
Hard of Hearing	599	100.0	0.5	6.3	74.8	18.4
Mentally Ill	195	100.0	0.0	4.6	77.9	17.4
Ex-Mental	209	100.0	1.0	6.7	78.9	13.4
Mentally Retarded	221	100.0	0.5	6.8	78.7	14.0
Physically Handicapped	2,561	100.0	0.9	7.7	76.1	15.3
Total	6,843	100.0	0.7	7.4	75.8	16.1

Figure 9.6: Distribution of the Disabled Household Heads by Employment Status, Luapula Province, 2000
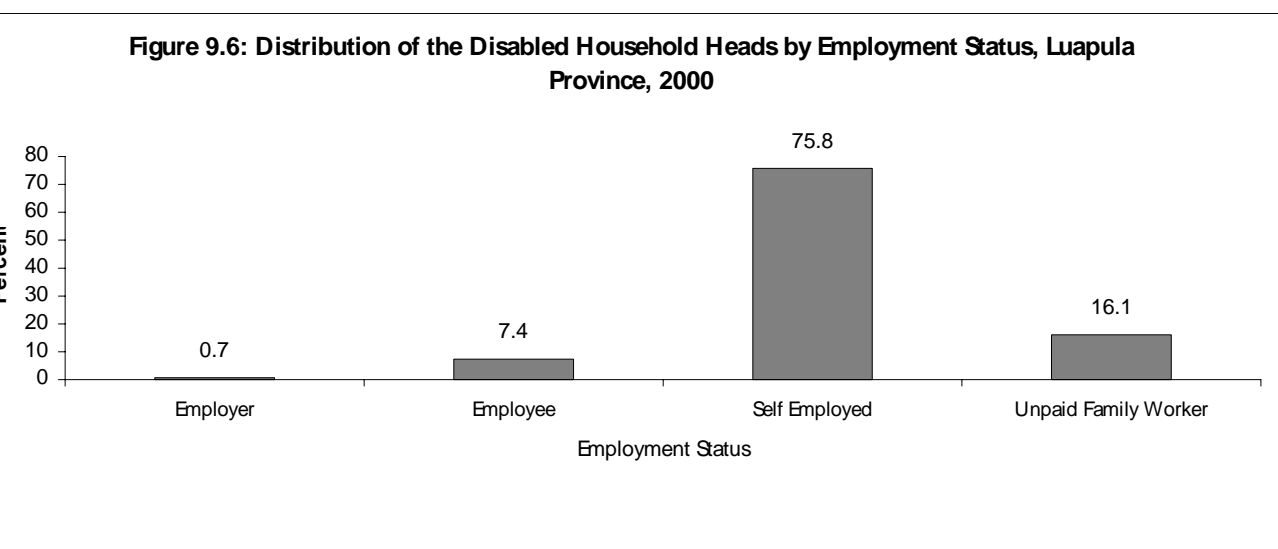
9.12   Summary

Out of a total population of 729,828 in Luapula Province, 3.4 Percent is disabled. The proportion of the disabled is higher in rural than urban areas. There are more disabled males (12, 797) than females (11,872 percent).

Physical disability is the most common type of disability affecting about 37.8 percent of the disabled population while the ex- mental form the smallest proportion of 4.9 percent. Disease is the most common cause of disability reported by about 40.8 percent of the disabled population while other causes were reported by 9.6 percent.

About 41.4 percent of the disabled persons age 5 years and above have never been to school and almost 45 percent have completed primary education. Amongst all categories of disability, the largest proportions of the disabled persons age 12 years and above are self- employed (75.8 percent) while the least proportion of the disabled is among the employers (0.7 percent). The most common occupation among the disabled in this province is agriculture, which takes up 88.5 percent.

District	Total Both Sexes	Males	Females	Rural Both Sexes	Rural Males	Rural Females	Urban Both Sexes	Urban Males	Urban Females
Total	775,353	387,825	387,528	674,187	337,330	336,857	101,166	50,495	50,671
Chiengi*	83,824	41,979	41,845	83,824	41,979	41,845	-	-	-
Kawambwa	102,503	50,708	51,795	84,549	41,932	42,617	17,954	8,776	9,178
Mansa	179,749	89,629	90,120	138,690	68,964	69,726	41,059	20,665	20,394
Milenge*	28,790	14,449	14,341	28,790	14,449	14,341	-	-	-
Mwense	105,759	52,479	53,280	101,941	50,629	51,312	3,818	1,850	1,968
Nchelenge	111,119	56,343	54,776	90,410	45,948	44,462	20,709	10,395	10,314
Samfya	163,609	82,238	81,371	145,987	73,432	72,555	17,622	8,806	8,816

Source: 2000 Census of Population and Housing

Note: " * " denotes new districts which were formally part of Nchelenge and Mansa districts, respectively

District	Total Both Sexes	Males	Females	Rural Both Sexes	Males	Females	Urban Both Sexes	Males	Females
Total	775,353	387,825	387,528	674,187	337,330	336,857	101,166	50,495	50,671
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Note: " * " denotes new districts which were formally part of Nchelenge and Mansa districts, respectively

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Appendix A

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