2000 Census of Population and Housing

Eastern Province Analytical Report

Volume Three

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P. O. Box 31908, Lusaka, Zambia.

Tel: 260-01-251377/253468
Fax: 260-01-253468

E-mail: info@zamstats.gov.zm
Website: www.zamstats.gov.zm

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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 Zambia 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.

Dr. Buleti G. Nsemukila
Director of Census and Statistics

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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

Eastern province's population recorded as at 16th October 2000 (Census Night), is 1,306,173 comprising 648,676 males and 657,497 females. The majority of the population, 50.3 percent or 657,497 lives in rural areas, while the urban areas have the remaining 49.7 percent or 648,676.

Of the total population, 47.8 percent are below the age of 15, resulting in a median age of 17.2 years. Hence Eastern Province has continued to have a young population with an in-built potential to grow for many years to come.

Eastern Province's population grew at an average annual growth rate of 2.3 percent between 1969-1980, 4.0 percent between 1980-1990, and finally 2.3 percent during the period, 1990-2000. Thus the province's population has continued to grow, though at a declining rate as of 2000.

The province's average population density stands at 17.8 persons per square kilometer, with the highest population density occurring in Chipata and Katete districts, with 51.2 and 45.1 persons per square kilometer for Chipata and Katete respectively.

Though Household-Headship is still dominated by males, the results from the census show that one in every six households or 19.9 percent is female headed. There is very big variation between rural (91.6) and urban (8.4) residence. Petauke district has the highest percentage of female-headed households at 23.2 percent.

The census results estimates an Overall dependency ratio of 104.5, with a Child and Aged dependency ratio of 97.2 and 7.3 respectively.

A total of 1,226,767 persons reported their predominant language of communication in the 2000 census, with Chewa being the most spoken language, spoken by 33.8 percent of the population as their predominant language of communication, followed by Nsenga spoken by 20.6 percent, Tumbuka by 14.8 percent and Nyanja by 9.6 percent of the population.

English is spoken only by 0.2 percent of the population, as their predominant language of communication, despite it being the country's official language.

Thirty seven percent of the population reported belonging to the Chewa ethnic group,20.0 percent belonging to the Nsenga ethnic group, 14.9 to the Tumbuka ethnic group, 14.5 to the Ngoni and 4.8 to the Senga language group.

Census results show that 70.5 percent of the provincial population is literate i.e. is able to read and write in any language, with 60.2 percent of males and 36.3 percent of females able to read and write in any language.

Literacy rates have increased marginally from the 1990 rate of 46.4 to 47.6 percent in 2000. Forty-four percent of the population in rural areas can read and write in any language compared to 78.3 percent of the population in urban areas.

The proportion of youths who could read and write in any language declined from about 54.2 percent in 1990 to 49.9 percent by 2000.

Adult literacy rate increased from 46.4 in 1990 to 47.9 percent in 2000. The problem of adult literacy remained almost the same is much more marked among males than females.

Teacher training, Industrial Engineering, Agriculture, nursing, Accountancy, Mechanical Engineering and Business Administration have remained among the most popular fields of study in Eastern Province.

The province's labour force population stands at 533,174. However, economic participation rates stand at 74.7 percent for males, and 72.3 percent for females.

The labour force has increased by 50.9 percent between 1990 and 2000. About 93.5 percent of the labour force is in rural areas, while 6.5 percent is in urban areas. Close to one-quarter (19.6 percent) of the labour force is in the young age group of 12-29 years.

The employed population increased by 40.1 percent between 1990 and 2000. The female employed population increased by 61.4 percent, while the male employed population increased by 25.6 percent.

The increase in the female employed population could have been due to both 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 decreased by 31.4 percent between 1990 and 2000. The size of the male unemployed population decreased by 29.1 percent, while that of females decreased by 35.8 percent.

There are more unemployed persons in the rural areas than in the urban areas for both males and females. In 2000, unemployment was a more serious problem among the young people aged 12-29 years than among the older population aged 30 years and over.

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. This is evidenced by the decrease in the percentage of the Employed from 57.9 percent in 1990 to 44 percent in 2000, and the resultant increase in the percentage of the Self-Employed from 22.6 percent in 1990 to 36.5 percent in 2000.

There is a large concentration of workers (99.7 percent) in the Agricultural and related occupations.

Eastern 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 province. The Total Fertility Rate (TFR) for rural areas estimated at 6.8 is higher than the 5.9 estimated for urban areas. The province's TFR at 6.7 is relatively high.

Infant mortality rate has declined by about 13 percent in the period 1990-2000. However, the IMR is still high, with about one in every 8 infants dying before reaching their first birthday.

Similarly, Childhood mortality rate between has also declined by 17 percent in the period 1990 and 2000, from 120 to 100 deaths per 1000 children.

Under-five mortality has also recorded an increase of 11 percent in the period 1990 to 2000, with about one in 5 under-five children dying before their fifth birthday

The decline in the IMR has led to a slight increase in the Life Expectancy at birth from 42.0 years in 1990 to 45.7 years in the year 2000.

Adult survivorship levels have significantly deteriorated between 1990-2000, resulting in an adult living 2 years more in 2000 compared to 1990. Males have higher chances of surviving than females.

The disabled population forms 3.1 percent of the total population of Eastern province. The proportion of the disabled is higher in rural than urban areas.

Physical disability is the most common type of disability affecting about 40.3 percent of the disabled population, while blindness is the least common type of disability accounting for 3.6 percent of the disabled population.

Disease is the most common cause of disability reported by about 40.6 percent of the disabled population. Prenatal causes were reported by 13.9 percent, injury by 17.7 percent, and other by 8.5 percent while 19.4

percent reported that they did not know the cause of their disability. Injury as a cause of disability is more commonly reported by males than females while disease is more common among females than males.

More than half (54.8 percent) of the disabled have never been to school and another one third (35.4) 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 (0.2). The most common occupation among the disabled is agriculture, which takes up about 93.3 percent.

Chapter 1

BACKGROUND

1.1. Geography

Eastern Province as the name suggests is situated in the eastern part of Zambia. It covers an area of 69,106 square kilometers. It is bordered on the east by Malawi, on the south-east by Mozambique, on the north-west by Northern Province and the western side by Central and Lusaka Provinces. The province has eight administrative districts namely, Chadiza, Chama, Chipata, Katete, Lundazi, Mambwe, Nyimba, and Petauke. Chipata is the Provincial Capital.

The province has two main productive, habitable and geographical areas namely, the Plateau and the Luangwa Valley. The plateau has good soils and receives sufficient rainfall, making it a high potential area for agriculture production. The valley with quite a good number of isolated portions of fertile soils is generally suitable for drought resistant crops.

1.2 Population

The population of Eastern Province increased from 509,515 in 1969 to 650,902 in 1,004,693 in 1990 and 1,306,173 in 2000. This presents a growth rate of 2.3 percent between 1969 and 1980, 4.0 percent between 1980 and 1990 and 2.7 percent between 1990 and 2000.

The population density increased from 7.4 persons per square kilometer in 1969, 9.4 persons per square kilometer in 1980, 13.9 persons per kilometer in 1990 and 17.8 persons per square kilometer in 2000. This is higher than the national one, which stands at 13.1 persons per square kilometer in 2000. Its share of the country's population increased over the year from 12.6 percent in 1969 to 11.5 percent in 1980. This further increased to 13 percent in 1990 and 2000.

In 2000, Chipata accounted for the largest share of the provincial population at 28 percent while Mambwe, which is a new district, recorded smallest share at 4 percent. The Population density ranges from 45.1 persons per square kilometer for Katete District to 4 persons per square kilometer for Chama District.

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

District	Population				Area (Sq.Km)	Density				Percentage Distribution				Growth Rate (%)		
	1969	1980	1990	2000		1969	1980	1990	2000	1969	1980	1990	2000	1969-80	1980-90	1990-00
Chadiza.	32,169	44,879	66,681	79,230	2,574	12.5	17.4	25.9	30.8	6.3	6.9	6.6	6.5	3.1	3.5	2.3
Chama.	30,887	35,359	55,172	69,294	17,630	1.8	2.0	3.1	3.9	6.1	5.4	5.4	6.0	1.2	3.9	3.1
Chipata.	148,416	204,738	261,100	342,924	6,692	12.4	17.1	39.0	28.6	29.1	31.5	26.0	28.0	3	3.6	3.5
Katete	80,485	94,208	143,952	179,739	3,989	20.2	23.6	36.1	45.1	15.8	14.5	14.3	15.0	1.5	3.9	2.8
Lundazi.	92,247	114,653	179,414	221,947	14,058	6.6	8.2	12.8	15.8	18.1	17.6	17.9	18.0	2	4.1	2.8
Mambwe	-	-	60,016	44,828	5,295	-	-	11.8	8.5	-	-	6.0	4.0	-	-	2.2

Nyimba	-	-	38,300	65,511	10,509	-	-	3.6	6.2	-	-	3.8	5.0	-	-	1.6
Petauke	125,311	157,065	200,058	223,294	8,359	6.6	9.3	23.9	11.9	24.6	24.1	19.9	18.0	2.1	4.7	1.7
Eastern Province	509,515	650,902	1,004693	1,306,173	69,106	7.4	9.4	14.5	17.8	100.0	100.0	100.0	100.0	2.3	4.0	2.7
Zambia	4,056,995	5,661,801	7,759,117	9,885,591	752,612	5.4	7.5	10.3	13.1	100.0	100.0	100.0	100.0	3.1	2.7	2.5

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

1.3 Economy

The province has an agro-based economy. Good soils of the plateau and sufficient rainfall in the province makes it a relatively high potential area for agriculture production of crops like maize, groundnuts, cotton, sunflower, tobacco and Soya beans. The valley is generally suitable for drought resistant crops like sorghum, finger millet, sesame, tobacco and cotton in some areas. Farming in Eastern Province is done both at commercial and subsistence levels.

Table 1.2 Production Trends Of Major Crops

Crop/Year	Unit Kg	1997	1998	1999	2000	2001
Maize	90	2,756,589	2,158,788	3,159,515	4,399,388	2,181,303
Paddy Rice	80	13,024	14,842	-	-	20,573
Groundnuts	80	210,941	132,941	244,530	75,824	257,242
Sunflower	50	55,600	20,450	32,258	44,947	202,749
Mixed Beans		5,486	5,486	7,400	-	17,665
Cotton		-		20,558,975	30,367,475	34,029,138
Tobacco		-		6,963,516	-	253,339
Paprika		-		-	-	168,594
Soya Beans	90	67,926	38,240	14,563	-	29,544

Source: PACO Eastern Province

Livestock farming is also practiced in the province, but this is mainly done by the traditional sector. This mainly involves cattle, pigs, goats, sheep and poultry rearing. Among them, cattle rearing is the most important activity because it supports crop production in the provision of animal draught power and also as a source of beef and milk.

Other economic activities in the province include mining of gemstones, mostly done by small-scale miners and timber production. In terms of trade and industry, the past ten years has seen the closure of a number of industries. The major industries in the province are Clark Cotton Ginnery employing over 150 people and the Chipata Bicycle Manufacturing Plant.

1.4 Tourism

The Luangwa National Park provides a huge potential for tourism development. It has a large concentration of mammals, birdlife and the finest wildlife sanctuary in Africa. Other National Parks are the Nyika National Park, Lukuzye National Park and Masalangu Game Management Area (GMA). Other tourist attractions are the Traditional Ceremonies cerebrated annually in the Province, which include the N'cwala by the Ngoni, Kulamba by the Chewa and Twimba by the Nsenga.

1.5 Education

Eastern Province has a lot of Basic Schools, High Schools and one Teacher Training College (see Table 1.3). The school enrolment levels in the province are far less than the school going age. This has partly disadvantaged girls. The number of learning institutions in the province, by District is illustrated below.

Table 1.3: Number of Learning Institutions

District	Lower Basic 1-4	Middle Basic	Upper Basic 1-9	Junior Sec. 8-9	Senior Secondary 8-12	School for Contd. Education	Primary T.T.C	Total

		1-7						
Chadiza	7	24	7	0	0	3	0	41
Chama	8	51	5	0	1	1	0	66
Chipata	13	92	22	0	1	1	1	130
Katete	12	63	8	0	0	3	0	86
Lundazi	9	107	17	0	0	8	0	141
Mambwe	4	18	6	0	1	3	0	32
Nyimba	2	30	5	0	0	3	0	40
Petauke	1	90	8	1	1	8	0	109
Total	56	475	78	1	4	36	1	651

SOURCE: PEO EASTERN PROVINCE 2000.

1.6 Health

The province has two general hospitals; one belongs to the government while the other belongs to the mission. There are also three other mission hospitals and four district hospitals that are all government-owned. There are also 144 health centers mostly run by government. Table 1.4 gives more details about the distribution of health institutions in Eastern Province.

Table 1.4: Number of Health Facilities by District and Province, Eastern Province, 2004

District	Government	Mission	Private	Total	Beds	Cots
Chadiza	13	-	-	13	100	15
Chama	16	-	-	16	90	5
Chipata	33	2	-	35	931	131
Katete	16	1	-	17	483	107
Lundazi	21	2	-	23	423	59
Mambwe	5	2	1	8	131	0
Nyimba	11	1	-	12	156	5
Petauke	27	2	-	29	577	83
Total	142	10	1	153	2,891	405

1.7 HIV/AIDS

According to the 2000/2001 ZDHS results, HIV infection level in Eastern Province among adults 15 to 49 years of age, is estimated at 16 percent, that is almost one in every seven adults is HIV positive (refer to Table 1.5 for more details).

Table 1.5: 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	8.60	13.3	11.2	299
Lusaka	18.7	25.0	22.0	559
Northern	6.20	10.0	8.30	517
North-Western	9.50	8.80	9.20	166
Southern	14.6	20.2	17.6	408
Western	8.30	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.

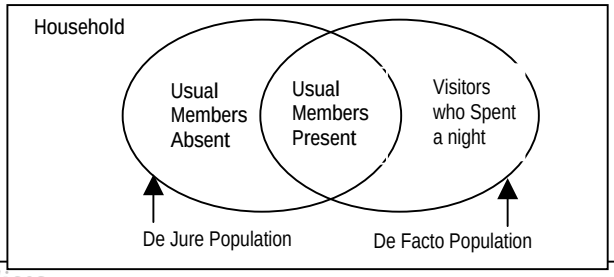
De facto Population: **This refers to the usual household members present and visitors who spent the census night at any given household. This however excludes:**

(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, 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 those 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, poor co-operation with respondents, difficulties in communication, and lack of proper boundary descriptions. Coverage errors are usually highlighted by examining certain statistics such as growth rate, age composition, child-woman ratio and dependency ratio.

2.4.1.1 Age Composition

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

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

Age Group	Population					
	1980	Percent	1990	Percent	2000	Percent
0-14	316,199	47.8	316,222	48.6	583,050	47.5
15-64	316,383	47.9	306,358	47.1	599,807	48.9
65+	28,320	4.3	28,322	4.4	43,910	3.6
Total	660,902	100.0	650,902	100.0	1,226,767	100.0

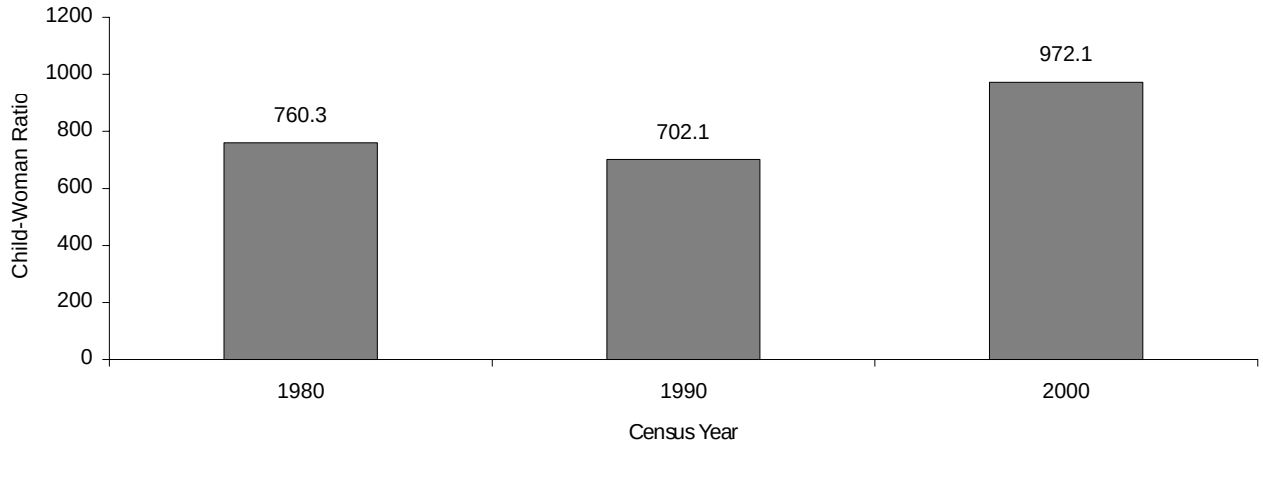
Sources: CSO 1980, 1990, and 2000 Censuses of Population and Housing

The proportion of children 0-14 years was 47.8 percent in 1980. It rose to 48.6 percent in 1990 and later dropped to 47.5 percent in 2000. Generally, there is a shift in the population from broad age group 0-14 to the 15-64 broad age group. The population distribution shows that the quality of age data by broad age groups is acceptable (see Table 2.1).

2.4.1.2 Child-Woman Ratio

The child-woman ratio dropped from 760.3 in 1980 to 702.1 in 1990 and later increased to 972.1 per 1000 women aged 15-49 years in 2000. The decline in the proportion of the population 0-14 years and the decline in child-woman ratio (see Figure 2.1), appears to have been caused by the general increase in child mortality.

Figure 2.1: Child-Woman Ratio, Eastern Province, 1980, 1990, and 2000

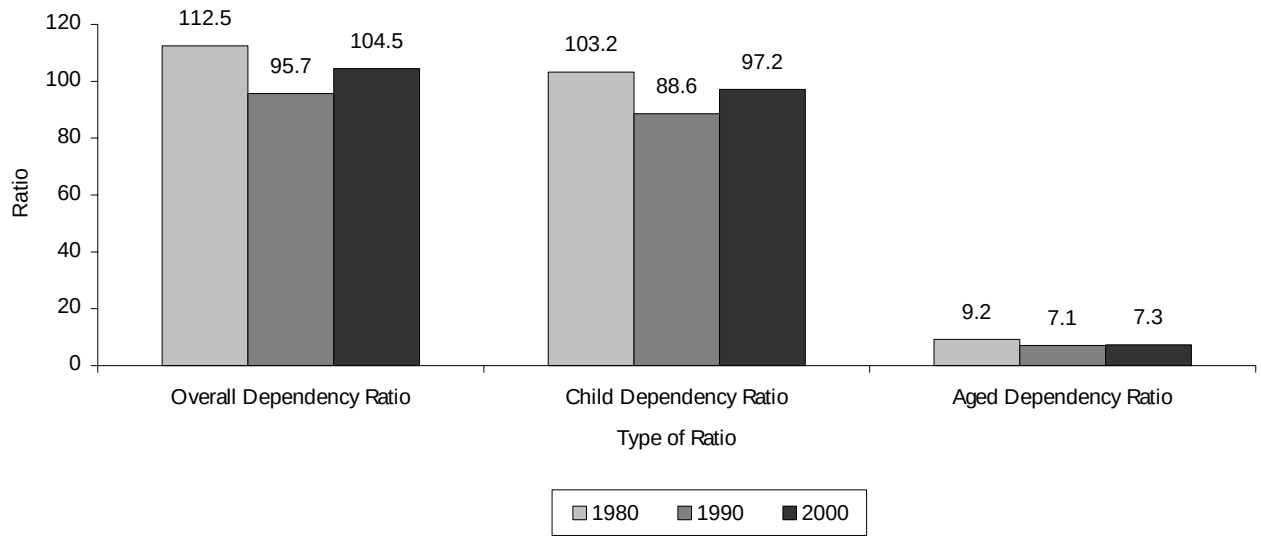


Sources: CSO 1980, 1990, and 2000 Censuses of Population and Housing

2.4.1.3 Dependency Ratio

The overall dependency ratio for the population of Eastern Province for 1990 and 2000 Censuses were 95.7 and 104.5 persons respectively per 100 persons in age group 15-64 years. This means that for every 100 persons in the age range 15-64 years, there are 104.5 persons in the age groups 0-14 and 65 years or over. The aged dependency ratio for the population aged 65 years and over to that of 15-64 years (Old Age Dependency Ratio) declined from 9.2 in 1980 to 7.1 in 1990 but later rose to 7.3 in 2000. The Child Dependency Ratio dropped from 103.2 in 1980 to 88.6 in 1990 but later rose to 97.2 in 2000 (see Figure 2.2).

Figure 2.2: Dependency Ratio, Eastern Province, 1980, 1990, and 2000



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

2.5 Content Error

A content error usually refers to instances where characteristics such as age, sex, marital status, economic activity, etc. 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.

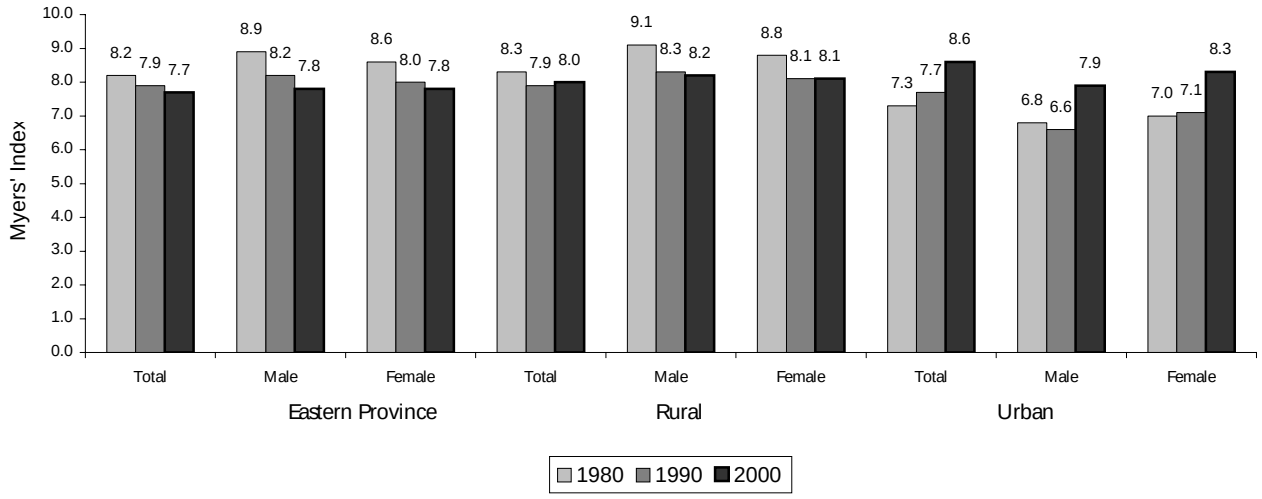
2.5.1 Digit Preference

The tendency of respondents to report ages ending with certain digits in preference to other digits is called "digit preference". 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 contribute to heaping (Shryock, et.al. 1976).

Investigation of age heaping in Eastern 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 2.4. 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 and Table 2.2 show the results of digit preference in age data for Eastern Province using Myers' Index. Results from Figure 2.4 show that the Myer's Index dropped from 8.2 in 1980 to 7.9 in 1990 and later to 7.7 in 2000. The results further show that the Myer's Index for males was higher than that of females in 1980 and 1990 but was the same for both sexes in 2000. Myers' Index for males dropped from 8.9 in 1980 to 8.2 in 1990 and dropped further to 7.8 in 2000 while that of females dropped from 8.6 in 1980 to 8.0 in 1990 and later to 7.8 in 2000. In urban areas, the Myers' Index rose from 7.3 in 1980 to 7.7 in 1990 and later to 8.6 in 2000. In urban areas, the Myers' Index for both males and females for 2000 was higher than that of 1980 and 1990. In rural areas, there was a marginal increase from 7.9 in 1990 to 8.0 in 2000. The increase in Myers' Index between 1990 and 2000 indicates the deterioration of the quality of the age data. Generally, in Eastern Province, the Index shows that age was more accurately reported for females than for males in 1980 and 1990 but was the same for males and females in 2000. Overall, in all the three censuses, the index is less than 10 implying that age reporting has been good.

Figure 2.3: Myers' Index by Residence, Eastern Province, 1980, 1990, and 2000



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

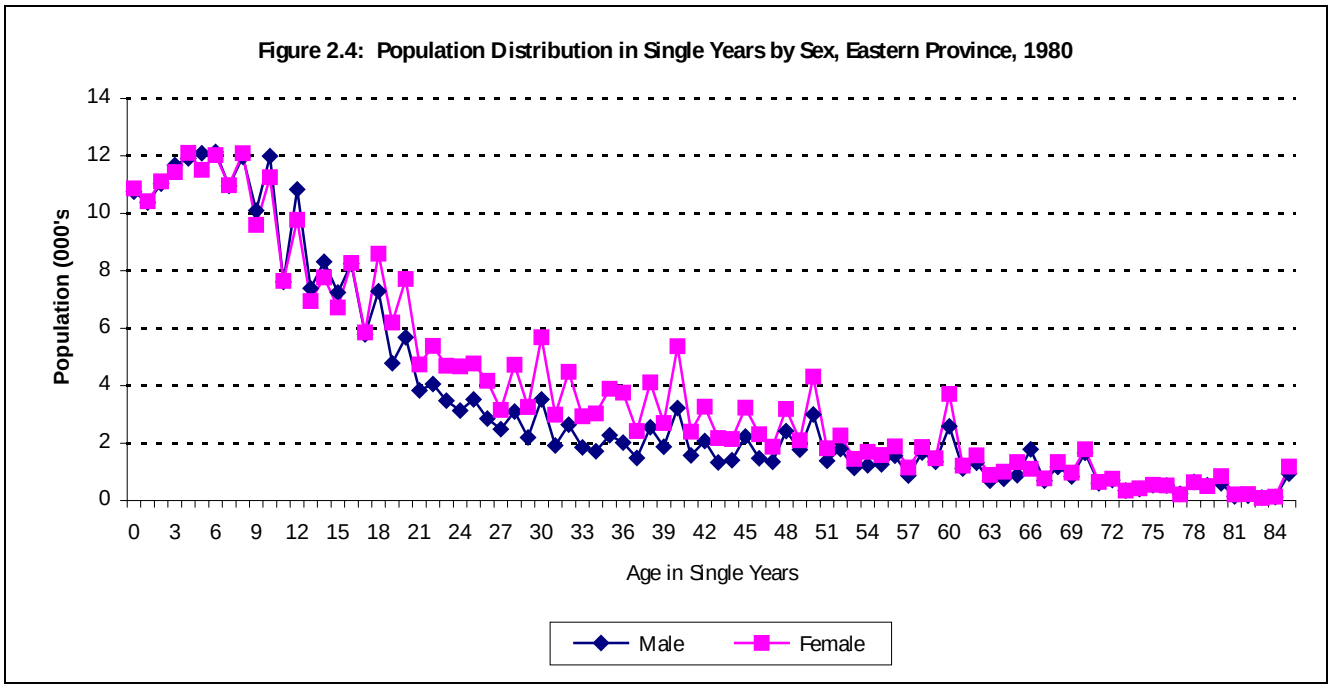
Table 2.2 shows the most preferred digits in decreasing order of preference for the three censuses. The table shows that there was age heaping in Eastern Province. Preference for digits 0, 5, and 8 among males and 0 and 8 among females was observed in 2000. The preference for these digits among males could be due to a greater tendency to over estimate the age whilst for females the age itself could have been as a result of the tendency by women to under estimate their ages.

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

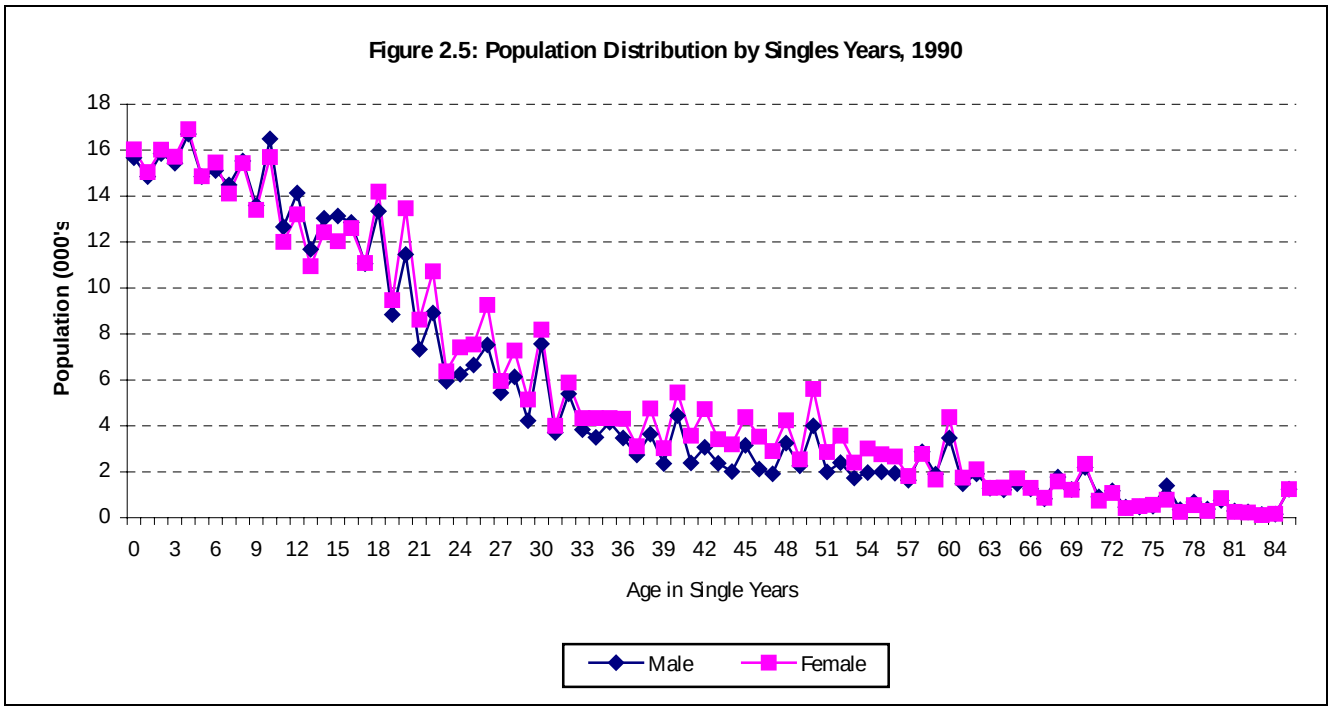
Residence	Most Preferred Digits and Census Year			
	Sex	1980	1990	2000
Eastern	Both Sexes	0,8	0,2,8	0,5,8
	Male	0,8	0,2,8	0,5,8
	Female	0,8	0,2,8	0,8
Rural	Both Sexes	0,8	0,2,8	0,5,8
	Male	0,8	0,2,8	0,5,8
	Female	0,8	0,8	0,5,8
Urban	Both Sexes	0,2,5,8	0,2,8	0,5,8
	Male	0,2,8	0,2,5,8	0,5,8
	Female	0,2,5,8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

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

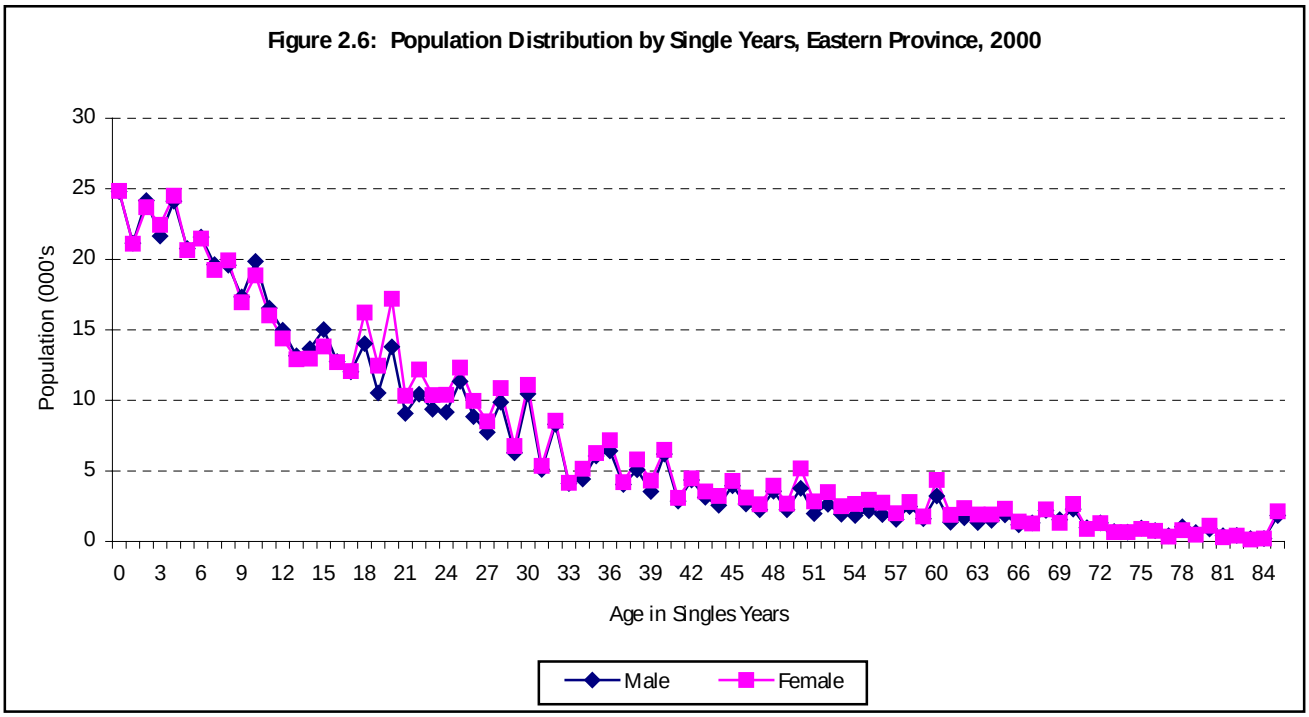
Age heaping or age misreporting errors are also presented in Figures 2.4 to 2.9. The peaks on the curves indicate the most preferred ages in reporting while the troughs indicate the under reported ages. A comparison of Figures 2.4, 2.5 and 2.6 shows that the peaks and troughs are lower for ages reported after age 60 in 1980, 1990, and 2000. There is no noticeable difference in the height of the peaks and troughs for ages reported after age 60 (see Figures 2.4, 2.5, and 2.6).



Source: CSO 1980 Census of Population and Housing

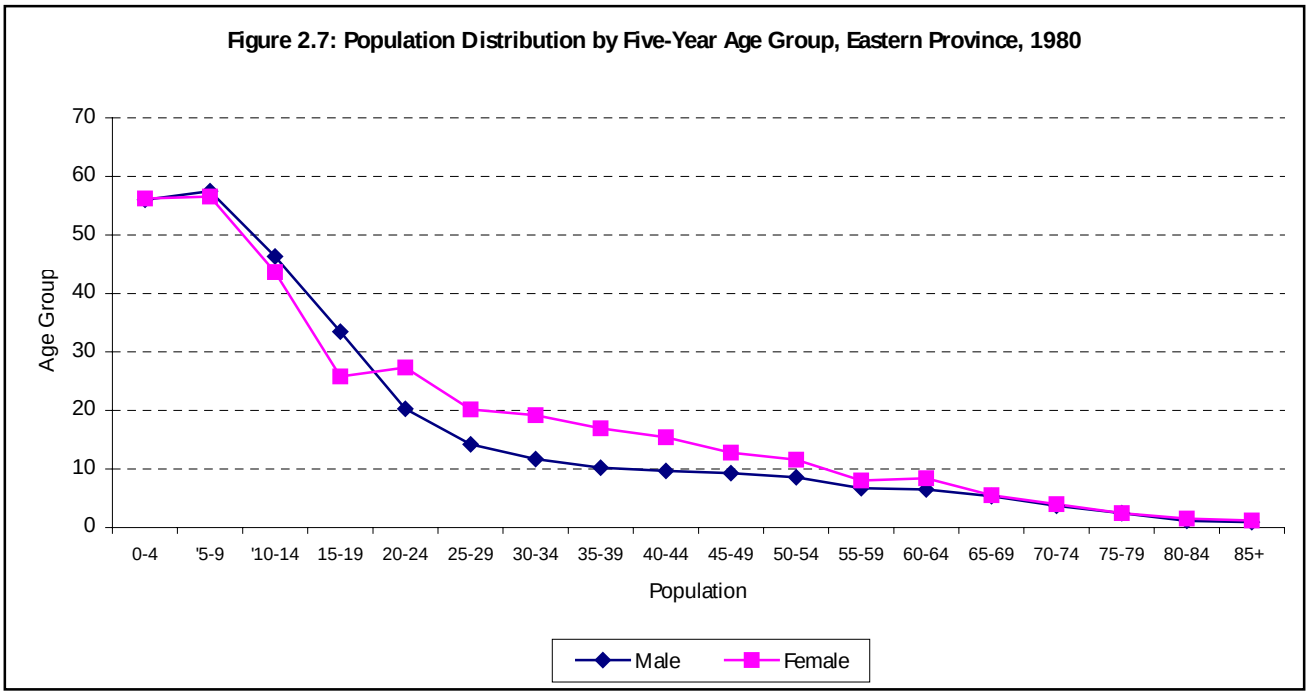


Source: CSO 1990 Census of Population and Housing

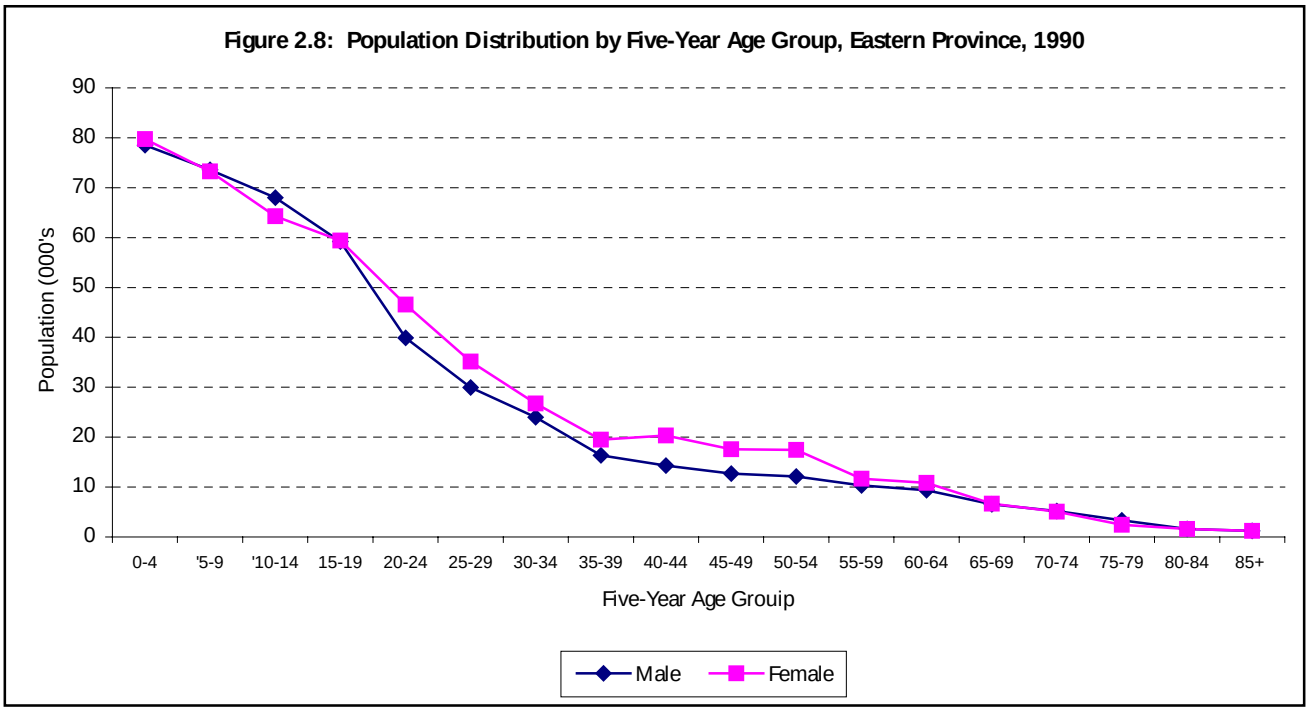


Source: CSO 2000 Census of Population and Housing

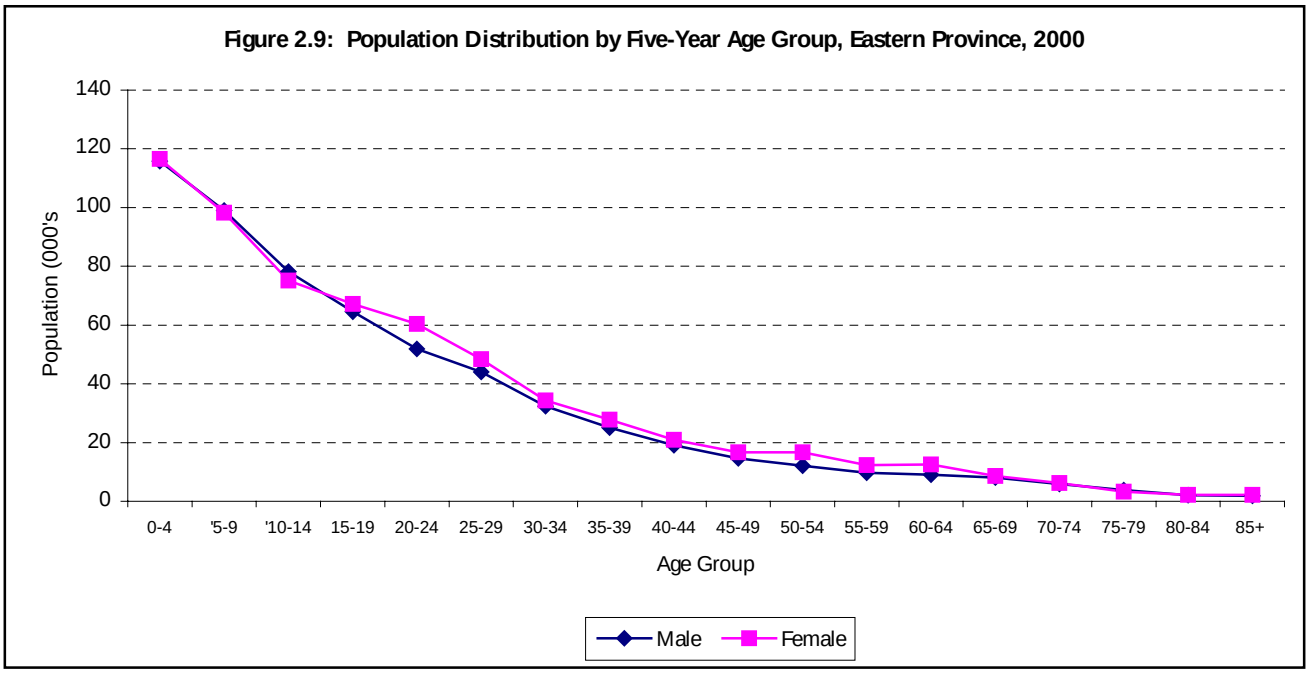
The smoothness of the curves in Figures 2.7, 2.8 and 2.9 show that grouping of single-year age data into five-year age groups improves irregularities in age data arising from age misreporting.



Source: CSO 1980 Census of Population and Housing



Source: CSO 1990 Census of Population and Housing



Source: CSO 2000 Census of Population and Housing

2.5.2 Sex-Ratio

A sex-ratio is the number of males per 100 females. Manifestation of errors of omission and age misreporting and migration are assessed by looking at the pattern of sex-ratios. A sex-ratio of more than 100 shows an excess of males, while a sex-ratio of less 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.

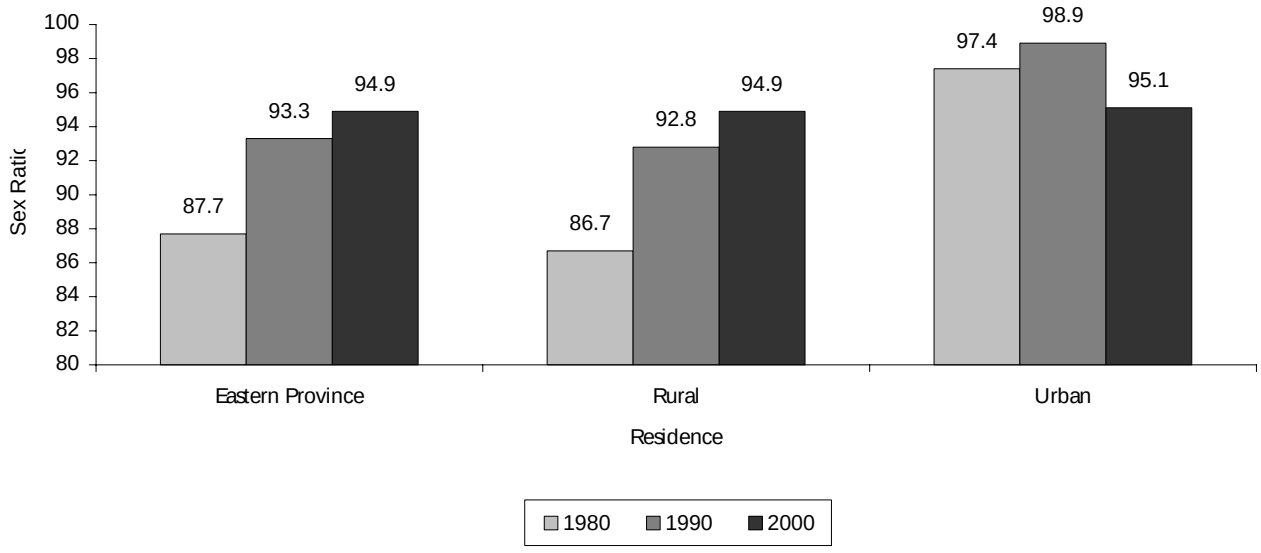
In a natural process where data on population is accurately recorded, the sex-ratios by age group are expected to start from about 102 to 106 at birth depending on the cultural set up being examined and

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 norms suggest errors in the data.

The overall sex-ratio for Eastern Province shows an increase from 87.7 in 1980 to 93.3 in 1990 and later to 94.9 males per 100 females in 2000. Eastern Province still remains an area of excess females over males in 1990 as in 2000. The 2000 Census sex-ratios for rural and urban areas are 94.9 and 95.1, respectively. The urban-rural drift now being experienced in the province could explain the increase in the sex-ratio in rural areas. (A detailed analysis of migration is in the Migration and Urbanization 2000 Census Report, November 2003, available at the Central Statistical Office.)

Tables 2.3, 2.4, 2.5 and Figures 2.10 and 2.11 show information on sex-ratios. The pattern of sex-ratios cannot only be attributed to errors in the data but are also influenced by sex selective migration too. The 1990 Census data shows that Eastern Province lost some of its population due to out-migration during the inter-censal period. Most of the out-migrants were males. This could have reduced the overall sex-ratios.

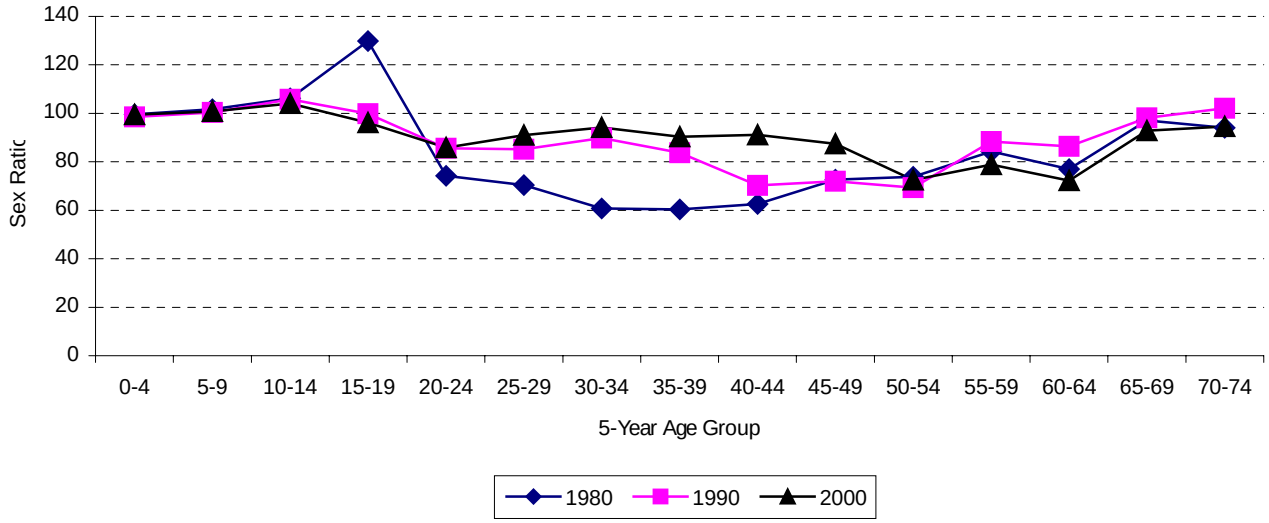
Figure 2.10: Sex Ratios, Eastern Province, 1980, 1990, and 2000



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

An analysis of age-specific sex-ratios for 1990 reveals a surplus of males in age groups 5-14 years and 70-74 whereas that for 2000 reveals a surplus of males in age groups 0-14 years only. There are many possible factors to explain this, including high female 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 ages could have shifted them into younger ages, hence, causing errors in age and sex data.

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



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

Table 2.3: Sex-ratio by Residence, Eastern Province, 1980, 1990, and 2000

Age Group	1980			1990			2000		
	Eastern	Rural	Urban	Eastern	Rural	Urban	Eastern	Rural	Urban
0-4	99.6	99.3	102.4	98.5	98.4	98.9	99.4	99.6	97.3
5-9	101.7	102.1	98.7	100.4	100.6	98.5	100.8	101.3	94.2
10-14	106.2	107.8	93.0	105.8	107.3	92.9	104.1	105.9	88.0
15-19	129.8	92.7	100.2	99.8	100.8	91.0	96.1	96.1	92.2
20-24	74.2	74.4	72.2	85.6	85.6	86.1	85.9	85.6	87.0
25-29	70.4	69.0	81.3	85.2	85.0	87.0	91.0	90.6	95.5
30-34	60.8	57.3	93.4	89.8	88.2	102.4	94.2	93.6	101.7
35-39	60.4	57.1	93.0	83.8	80.7	111.7	90.3	89.6	100.3
40-44	62.6	58.9	108.7	70.2	65.7	127.6	91.1	90.9	100.0
45-49	72.7	68.0	144.9	72.0	68.3	129.7	87.5	86.7	102.7
50-54	73.8	70.3	145.7	69.3	65.9	147.4	72.5	69.7	125.1
55-59	84.3	81.6	147.0	88.4	85.5	167.3	78.8	76.8	136.1
60-64	77.0	75.6	116.0	86.4	85.1	129.8	72.3	71.8	107.6
65-69	97.1	95.8	142.9	98.1	97.1	132.3	92.9	94.1	105.0
70-74	94.0	93.5	117.8	102.1	101.6	126.3	94.6	96.1	99.1
75+	88.8	89.1	76.6	116.0	115.6	133.2	101.2	103.9	79.5

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

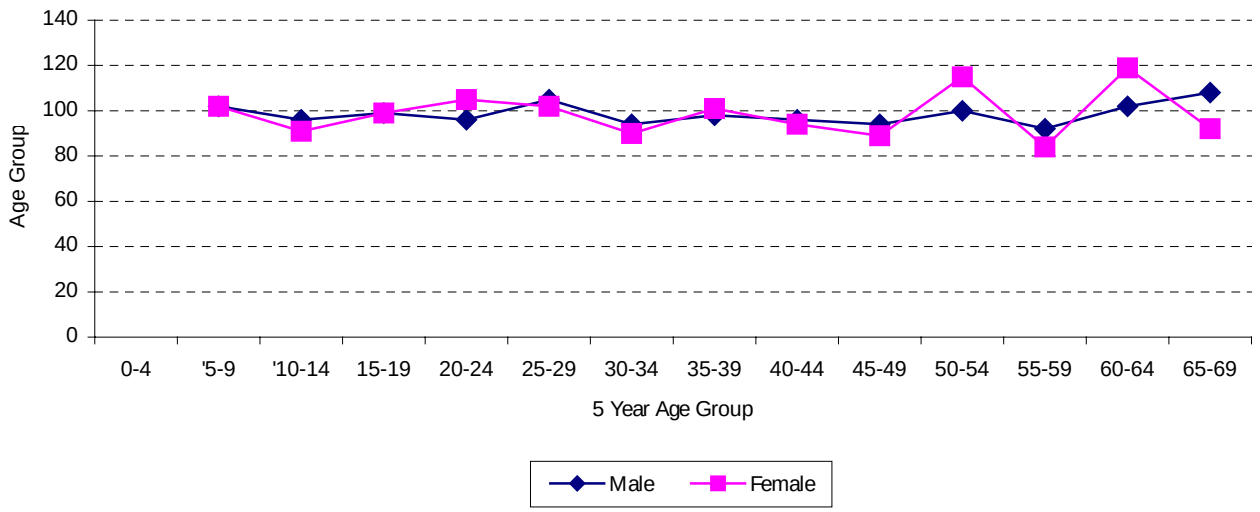
Sex-ratios are higher than 100 for age groups 5-9 and10-14 and 70-74 years in 1990 and age groups 5-9 and 10-14 years in 2000. For 1990, sex-ratios harmonises with the probabilities of dying for both sexes. Females experienced higher probabilities of dying as opposed to males in those age categories. The pattern of the 1990 Census sex-ratios is consistent with the 2000 pattern in that, from age 15 years, the sex-ratios fluctuate till age 74 years. Tables 2.3, 2.4, and 2.5 provide more details. It is noted that sex-ratios in the age groups 20-24,35-39,50-54 and 60-65 have all dropped from their preceding age group in both the 1990 and 2000 censuses. Out-migration could have taken place especially among males above age 29, hence, having more females than males. In older ages, males tend to have a higher probability of dying than females, thus, accounting for more females than males in older ages.

An analysis of age-specific sex-ratios for 1980 reveals a deficit of males in the age range of 20-75 years whereas that for 1990 reveals a deficit of males in age range of 15-69 years. Ratios for 2000 show a deficit of males in the age range 15-74. There are many possible factors that may 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 internal rural-urban migration within Eastern Province could also be a contributing factor for higher sex-ratios in urban areas for certain age groups (see Table 2.3).

2.5.3 Age-ratio

The quality of age data can also be evaluated by examining age-ratios. 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 1990 Census show that age groups with age-ratios less than 100 in 1990 for males are 20-24,25-29,35-39,40-44,55-59 and 65-69 and for females, the age groups are 10-14, 20-29,30-44,35-39,45-49,55-59 and 65-69. In 2000, age groups with ratios less than 100 are 10-14,15-19,20-24,30-34,35-39,40-44,45-49,50-54,and 55-59 for males and for females the age groups are 10-14,15-19,30-34,40-44,45-49,55-59 and 65-69. The substantial deviations of the age-ratios are suggestive distortions arising from age misreporting. Results from Figure 2.12 and Tables 2.4, 2.5, and 2.6 suggest that reporting of age is less satisfactory for females than males as can be seen from having a higher average age-ratio deviation for females than males.

Figure 2.12: Population Distribution of Eastern Province by Age Ratio, 2000



Source: CSO 2000 Census of Population and Housing

The Age Accuracy Index reduced from 51.6 in 1980 to 36.1 in 1990 and later to 31.3 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 1990 age data were " inaccurate" whereas the 2000 data are also "inaccurate". However, the 2000 age data show some improvement over the 1990 age data. Refer to Tables 2.4, 2.5, 2.6, and Figure 2.12 for details.

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

Age Group	Population		Age-ratio		Deviation from 10		Sex-ratio	Difference
	Male	Female	Male	Female	Male	Female		
0-4	56,004	56,240					99.6	
5-9	57,500	56,529	112.4	113.2	12.4	13.2	101.7	2.1
10-14	46,337	43,623	101.9	106.0	1.9	6.0	106.2	4.5
15-19	33,480	25,788	100.5	72.7	0.5	-27.3	129.8	23.6
20-24	20,278	27,334	85.0	118.9	-15.0	18.9	74.2	-55.6
25-29	14,211	20,184	88.9	86.7	-11.1	-13.3	70.4	-3.8
30-34	11,680	19,217	95.5	103.5	-4.5	3.5	60.8	-9.6
35-39	10,242	16,950	96.0	97.9	-4.0	-2.1	60.4	-0.4
40-44	9,653	15,425	98.9	103.8	-1.1	3.8	62.6	2.2
45-49	9,281	12,771	101.9	94.5	1.9	-5.5	72.7	10.1
50-54	8,559	11,602	106.8	111.6	6.8	11.6	73.8	1.1
55-59	6,752	8,013	89.7	80.0	-10.3	-20.0	84.3	10.5
60-64	6,491	8,434	107.0	124.5	7.0	24.5	77.0	-7.3
65-69	5,380	5,539	105.3	89.3	5.3	-10.7	97.1	20.2
70-74	3,733	3,970			0.0	0.0	94.0	-3.1
Total	304,143	336,759			81.5*	160.4*	90.3	154.1*
Mean					6.3	12.3		11.0

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 +6.3 + 12.3
= 51.6

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

Age Group	Population		Age-ratio		Deviation from 100		Sex-ratio	Difference
	Male	Female	Male	Female	Male	Female		
0-4	78,527	79,737					98.48	
5-9	73,594	73,290	100.42	101.77	0.42	1.77	100.41	1.93
10-14	68,039	64,293	102.43	96.91	2.43	-3.09	105.83	5.41
15-19	59,251	59,390	109.78	107.11	9.78	7.11	99.77	-6.06
20-24	39,904	46,604	89.44	98.57	-10.56	-1.43	85.62	-14.14
25-29	29,981	35,169	93.82	95.90	-6.18	-4.10	85.25	-0.38
30-34	24,008	26,743	103.59	97.79	3.59	-2.21	89.77	4.52
35-39	16,370	19,524	85.50	82.90	-14.50	-17.10	83.85	-5.92
40-44	14,283	20,357	98.34	109.66	-1.66	9.66	70.16	-13.68
45-49	12,679	17,603	96.12	93.12	-3.88	-6.88	72.02	1.86
50-54	12,098	17,451	105.23	119.21	5.23	19.21	69.33	-2.70
55-59	10,316	11,674	96.18	82.55	-3.82	-17.45	88.37	19.04
60-64	9,353	10,832	110.94	118.09	10.94	18.09	86.35	-2.01
65-69	6,546	6,672	90.01	83.84	-9.99	-16.16	98.12	11.77
70-74	5,192	5,084			0	0	102.12	3.99
Total	466,264	499,703			83.0*	124.3*	93.31	93.4*
Mean					6.4	9.6		6.7

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 6.7 + 6.4 + 9.6
= 36.1

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

Age Group	Population		Age-ratio		Deviation from 10		Sex-ratio	Difference
	Male	Female	Male	Female	Male	Female		
0-4	115,846	116,584					99.4	
5-9	98,975	98,203	102.02	102.45	2.02	2.45	100.79	1.42
10-14	78,194	75,128	95.67	90.88	-4.33	-9.12	104.08	3.29
15-19	64,499	67,130	99.15	99.06	-0.85	-0.94	96.08	-8.00
20-24	51,910	60,409	95.61	104.54	-4.39	4.54	85.93	-10.15
25-29	44,088	48,438	104.61	102.22	4.61	2.22	91.02	5.09
30-34	32,378	34,361	93.58	90.14	-6.42	-9.86	94.23	3.21
35-39	25,108	27,802	97.66	100.62	-2.34	0.62	90.31	-3.92
40-44	19,043	20,898	95.88	93.90	-4.12	-6.10	91.12	0.81
45-49	14,614	16,709	93.83	88.88	-6.17	-11.12	87.46	-3.66
50-54	12,108	16,701	99.60	115.09	-0.40	15.09	72.50	-14.96
55-59	9,699	12,314	91.78	84.38	-8.22	-15.62	78.76	6.27
60-64	9,028	12,486	101.81	119.10	1.81	19.10	72.30	-6.46
65-69	8,036	8,654	107.74	92.50	7.74	-7.50	92.86	20.55
70-74	5,890	6,226	-	-	0.00	0.00	94.60	1.74
Total	597,115	629,648			53.42*	104.29*	94.83	89.54*
Mean					4.1	8.0		6.4

Source: CSO 2000 Census of Population and Housing
Note: * Shows total irrespective of sign.

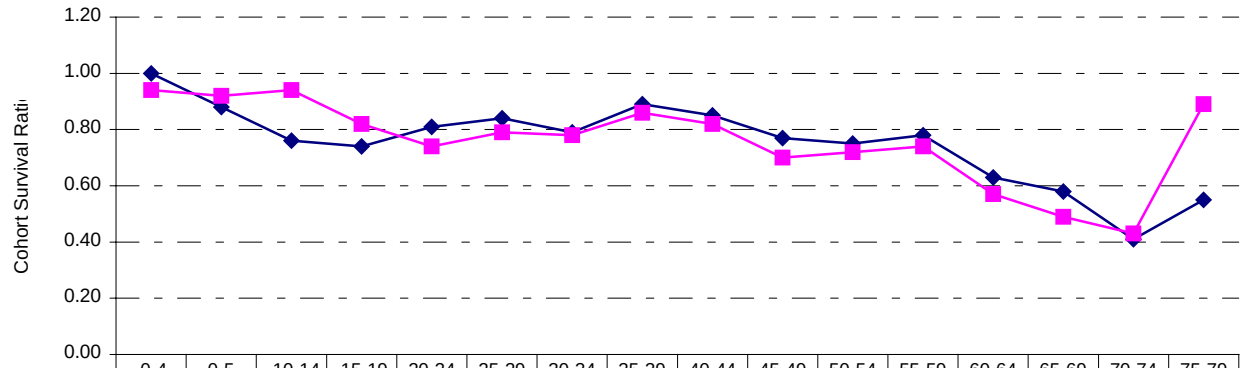
Age-Sex Accuracy Index = 3 times mean difference in sex-ratios plus mean deviations of male and female age-ratios.
= 3 x 6.4 + 4.1 + 8.0
= 31.3

2.5.4 Survival-ratio

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. For example, at age groups 20-24 and 25-29 the cohort survival-ratios are lower than in age groups 15-19 and 30-34 for males. The female cohort survival-ratio is lower at age group 25-29 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.

Figure 2.13: Cohort Survival Ratios, Eastern Province, 1990 and 2000



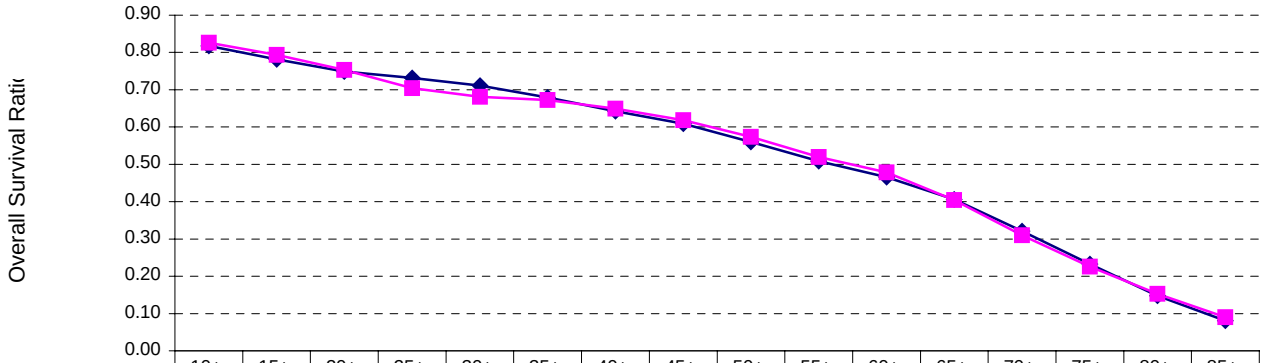
	0-4	0-5	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79
Male	1.00	0.88	0.76	0.74	0.81	0.84	0.79	0.89	0.85	0.77	0.75	0.78	0.63	0.58	0.41	0.55
Female	0.94	0.92	0.94	0.82	0.74	0.79	0.78	0.86	0.82	0.70	0.72	0.74	0.57	0.49	0.43	0.89

5 Year Age Group

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

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. However, the pattern of having higher ratios for females than males is only true at 10+, 15+, 20+, 75+80+and 85+ (see Figure 2.14). This could be an indication of high levels of maternal mortality in the reproductive ages 15-49 years among females.

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



	10+	15+	20+	25+	30+	35+	40+	45+	50+	55+	60+	65+	70+	75+	80+	85+
Male	0.82	0.78	0.75	0.73	0.71	0.68	0.64	0.61	0.56	0.51	0.47	0.41	0.32	0.23	0.15	0.08
Female	0.83	0.79	0.75	0.70	0.68	0.67	0.65	0.62	0.57	0.52	0.48	0.40	0.31	0.23	0.15	0.09

Age Group

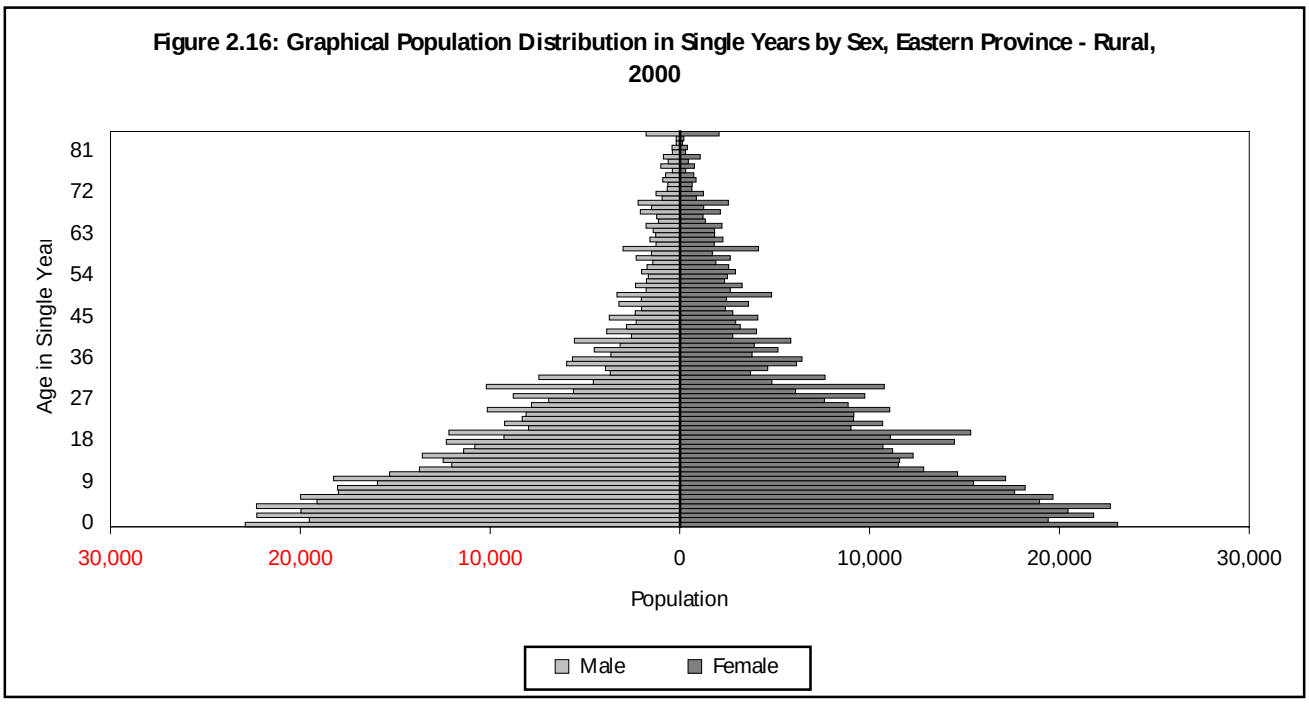
Sources: CSO 1990, and 2000 Censuses of Population and Housing

2.5.5 Population Pyramids

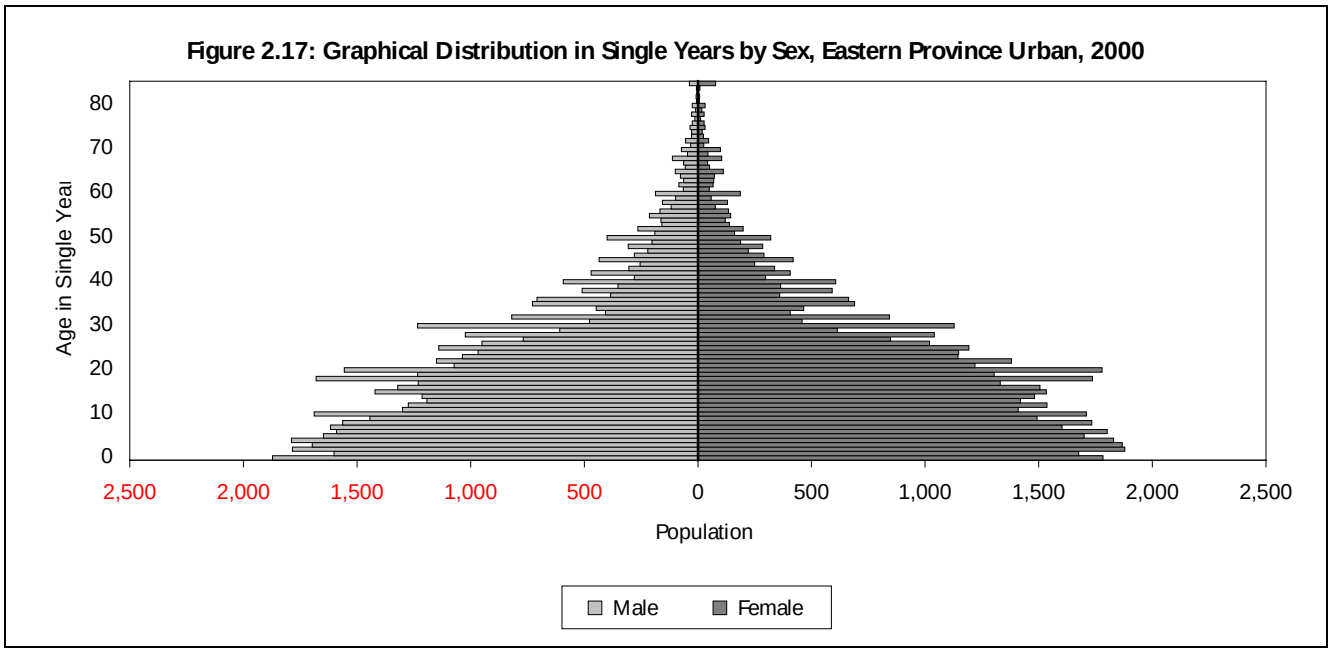
Another way of detecting irregularities in the reported age data of a survey or census is by looking at a Population Pyramid by single years of age. As already observed, when census age data are distributed in single years, one can easily spot out inaccuracies than when they are distributed in five-year age groups. 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, Eastern Province Total, 2000

Source: CSO 2000 Census of Population and Housing



Source: CSO 2000 Census of Population and Housing

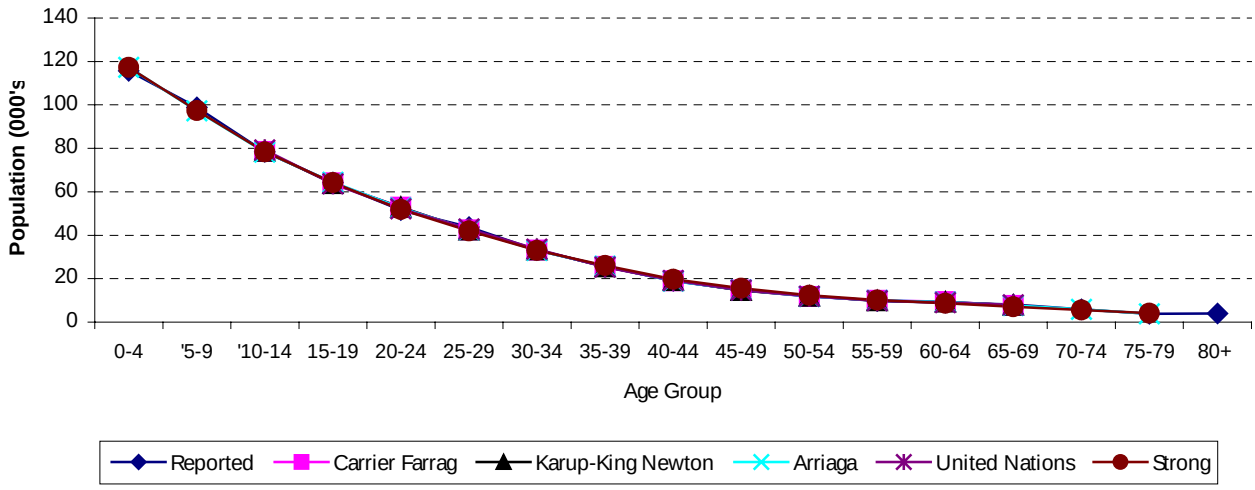


Source: CSO 2000 Census of Population and Housing

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.

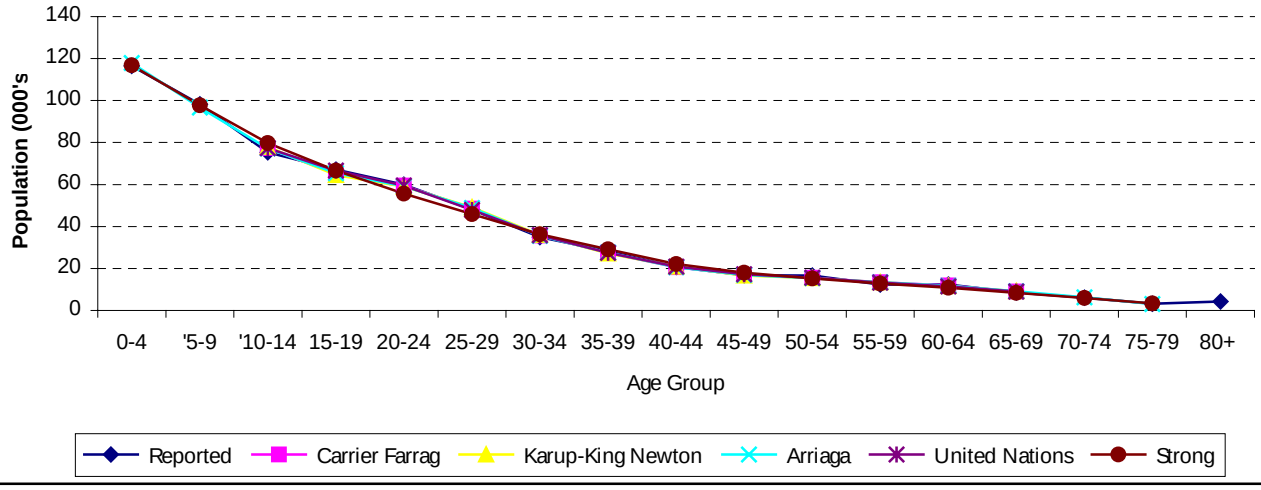
Given that the irregularities in the reported proportions are small, see Figures 2.18 and 2.19, it is not recommended to smooth the 2000 Census of Population and Housing data because genuine irregularities in the reported pattern might be smoothed out.

Figure 2.18: Reported and Smoothed Population by 5-Year Age Group and Smoothing Technique, Eastern Province Males, 2000



Source: CSO 2000 Census of Population and Housing

Figure 2.19: Reported and Smoothed Population by Five-Year Age Group and Smoothing Technique, Eastern Province Females, 2000



Source: CSO 2000 Census of Population and Housing

2.6 Summary

Eastern Province has a young population. Out of the total number of 1,226,763 in 2000, 47.5 percent were below age 15 and 48.9 percent were aged 15-64 while 3.6 percent were aged 65 years or older. The overall dependency ratio of the province increased from 95.7 in 1990 to 104.5 dependants per 100 persons aged 15-64 in 2000. Eastern Province had 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 99.4 in 2000 for those aged 0-4 suggests that there could have been an under-coverage of children. There was age heaping among males and females, with 0,5, and 8 being the most preferred digits. The 2000 age data have improved over the 1990 in as far as the Age-Sex Accuracy Index is concerned which dropped from 36.1 in 1990 to 31.3 in 2000.

Chapter 3

POPULATION SIZE, GROWTH AND COMPOSITION

3. 1 Introduction

In Zambia, the first comprehensive Census of Population and Housing was undertaken in 1969 and was followed by another in 1980. Since then, censuses are conducted 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 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 and economic activity. This therefore provides sound basis for carrying out detailed analysis of the characteristics 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, 1990 and 2000. Analysis of population composition is based on the de facto as opposed to the de jure population of Zambia. As such, analysis is only possible by use of the former population count, which provides individual social and economic characteristics.

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.

a. **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).

- **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 is therefore, 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.

3.3. Population Size and Growth

The 2000 de jure population for Eastern Province is 1,306173 of which 657,497 are females and 648,676 are males, indicating that females have outnumbered males (see Table 3.1a).

Table 3.1a: Population Size (de jure) and Percent Distribution by Sex and Residence, Eastern Province, 2000

Residence	Both Sexes		Male		Female	
	Number	Percent	Number	Percent	Number	Percent
Zambia	9,885,591	100	4,946,298	50.0	4,939,293	50.0
Eastern	1,306,173	100	648,676	49.7	657,497	50.3
Rural	657,497	100	591,127	89.9	599,858	91.2
Urban	648,676	100	57,549	8.9	57,912	8.9

Source: Census of Population n and Housing, 2000

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, political) and of individuals. The de jure population becomes important as far as the age sex distribution is concerned.

The Eastern Province de facto, presented in Table 3.1b is 122,6767 of which 51.3 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, Eastern Province, 2000

Residence	Both Sexes		Male		Female	
	Number	Percent	Number	Percent	Number	Percent
Zambia	9,337,425	100	4,594,290	49.2	4,743,135	50.8
Eastern	1,226,767	100	597,526	48.7	629,241	51.3
Rural	1,118,004	100	544,503	48.7	573,501	51.3
Urban	108,763	100	53,023	48.8	55,740	51.2

Source: Census of Population and Housing , 2000

The district population sizes for Eastern Province are displayed in Table 3.2. Chipata has the highest population of 367,443. The lowest population is found in Mambwe, with just 47476 persons. Among the districts, Chipata is the most urbanised, given that in comparison to others, it bears the highest number of urban population (73,512) in relation to the total provincial urban population of 116,194.

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

District	Total			Rural			Urban		
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
Eastern Total	1,306,173	648,042	658,131	1,189,979	590,500	599,479	116,194	57,542	58,652
Chadiza	83,787	42,100	41687	80,513	40,476	40,037	3,274	1,624	1,650
Chama	75,320	37,365	37,955	71,593	35,527	36,066	3,727	1,838	1,889
Chipata	367,443	183,111	184,332	293,931	146,605	147,326	73,512	36,506	37,006
Katete	189,056	94,041	95,015	178,625	88,904	89,721	10,431	5,137	5,294
Lundazi	237,344	117,147	120,197	227,901	112,506	115,395	9,443	4,641	4,802
Mambwe	47,476	23,618	23,858	47,476	23,618	23,858	-	-	-
Nyimba	70,299	34,754	35,545	69,108	34,175	34,933	1,191	579	612
Petauke	235,448	115,906	119,542	220,832	108,689	112,143	14,616	7,217	7,399

Source: Census of Population and Housing, 2000

Note: "*" denotes new district
"-" denotes not applicable as they refer to new districts

The rate at which Eastern 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 more than doubled from (650,902) in 1980 to (1,306,178) in 2000. The province has in general experienced a drop in annual growth rate from 4.0 in 1980-90 to 2.6 percent in the last inter-censal period. On average, the population of Eastern Province grew the most, at 4.0 percent, during the 1980-1990 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 0.2 percent. The annual growth rate for rural areas increased markedly by 3.2 percentage points while that of urban areas increased by only 2.8 percentage points (i.e. from 3.5 in 1990 to 6.3 percent in 2000).

Table 3.3: Population Size and Annual Average Population Growth Rate by Residence and District, Eastern Province, 1969-2000

Residence	Population Size 1980	Annual Growth Rate 1969-1980	Population Size 1990	Annual Growth Rate 1980-1990	Population Size 2000	Annual Growth Rate
Zambia	**5,661,801**	**3.1**	**7,759,117**	**2.7**	**9,885,591**	**2.5**
Eastern	509,515	2.3	1,004,693	4.0	1,306,173	2.7
Rural	496,102	1.6	915,235	4.1	1,190,712	7.3
Urban	13,413	15.1	89,458	3.5	115,461	6.3
District						
Chadiza	32,169	3.1	66,681	3.5	83,787	2.3
Chama	30,169	1.2	55,172	3.9	75,320	3.1
Chipata	148,416	3	261,100	3.6	367,443	3.5
Katete	80,485	1.4	143,952	3.9	189,056	2.8

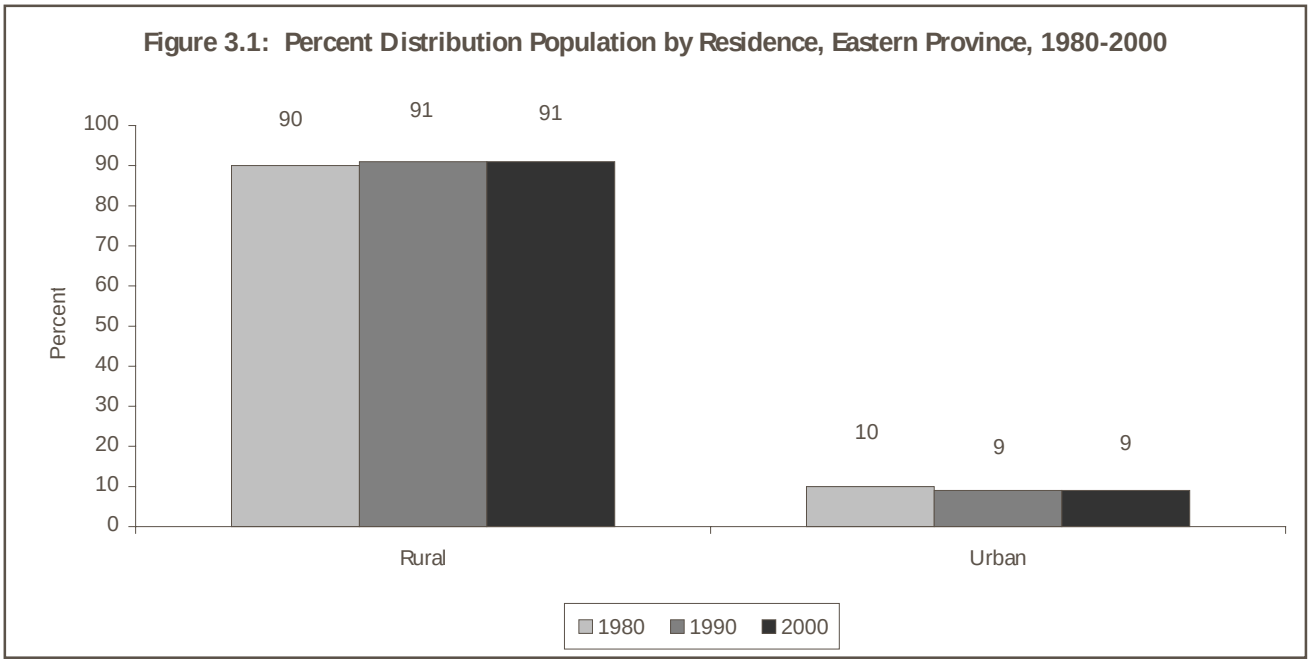
Lundazi	92,247	2	179,414	4.1	237,344	2.8
Mambwe	-	-	60,016	-	47,376	2.2
Nyimba	-	-	38,300	-	70,299	1.6
Petauke	125,311	2.1	200,058	4.7	235,448	1.7

Source: Census of Population and Housing, 1969, 1980, 1990 and 2000

At district level, Chama and Chipata exhibit high annual growth rates of 3.1 and 3.5 percent respectively between 1990 and 2000. This implies a mere carry over of the rural population, which had a high growth rate (4.1 percent) in the previous decade. Notably, Nyimba grew the least during the same period, at a rate of 1.6 percent.

3.4 Population Distribution and Density

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



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

Figure 3.1 illustrates that nine in ten persons in Eastern Province reside in rural areas. The proportion of rural population initially increased slightly from 90 percent in 1980 to 91 percent in 1990 and then stabilized at 91 percent in 2000.

The percent distribution of district population from 1980-2000 is shown in Table 3.4 and further illustrated for 2000 in figure 3.2. Chipata had the largest share of the population in Eastern Province, followed by Lundazi with 28.1 percent and 18.1 percent, respectively. Population share for Petauke district reduced significantly over the ten-year period from 25.8 to 8.1 percent while Nyimba had the lowest population share of 4 percent in 2000.

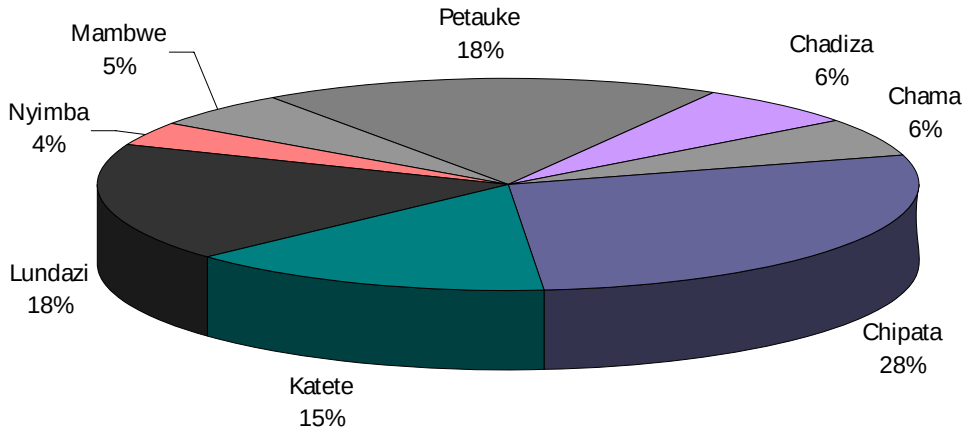
Table 3.4: Population Distribution (Dejure) by District, Eastern Province, 1980- 2000

	1980		1990		2000	
Residence	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Eastern Province	650,902	100	1,004,693	100	1,306,173	100
District						
Chadiza	44,879	6.9	66,681	6.6	83,981	6.4
Chama	35,359	5.4	55,172	5.5	74,890	5.7
Chipata	204,738	31.5	261,100	26.0	367,539	28.1

Katete	94,208	14.5	143,952	14.3	189,250	14.5
Lundazi	114,653	17.6	179,414	17.9	236,833	18.1
Nyimba	-	-	60,016	6.0	47,376	3.6
Mambwe	-	-	38,300	3.8	70,425	5.4
Petauke	157,065	24.1	200,058	19.0	235,879	18.1

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

Figure 3.2: Population composition by district, Eastern Province, 2000.



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

3.4.1 Population Density

Table 3.5 shows the land area and population density for Eastern Province from 1969 to 2000. Generally, with an increasing population in the past decades, the provincial population density has also been increasing, from 7.4 in 1969 to 9.4 and 14.0 in 1980 and 1990, respectively. In 2000, 17.8 persons per square kilometer were recorded. The provincial population density in 2000 is higher than the national population density of 13.1 persons per square kilometer.

Table 3.5: Area and (de jure) Population Density by District and Population Census Year, Eastern Province, 1969-2000

Residence	Area (Sq Km)		Population Density/ Census Year (Population per sq. Km)			
	1990	2000	1969	1980	1990	2000
Zambia	752,612	5.4	7.5	10.3	13.1	752,612
Eastern Province	69,106	69,106	7.4	9.4	14.5	17.8
Chadiza	2,574	2,574	12.5	17.4	25.9	30.8
Chama	17,630	17,630	1.8	2	3.1	3.9
Chipata	11,986	6,692	12.4	17.1	39.0	51.2
Katete	3,989	3,989	20.2	23.6	36.1	45.1
Lundazi	14,058	14,058	6.6	8.2	12.8	15.8
Mambwe*	-	5,295	-	-	11.8	12.4
Nyimba*	-	10,509	-	-	3.6	4.3
Petauke	18,686	18,686	6.6	9.3	23.9	11.9

Source: Census of Population and Housing, 2000

With the smallest land area of 2,574 square km, Chadiza has maintained relatively high population density of 12.5 (1969), increased to 17.4 in1980. It further increased to 24.6 in 1990 and 30.8 persons per sq. km in 2000. While Chipata's density has increased tremendously, those of other districts display slight increases in population density from 1969 to 2000.

3.5 Population Composition

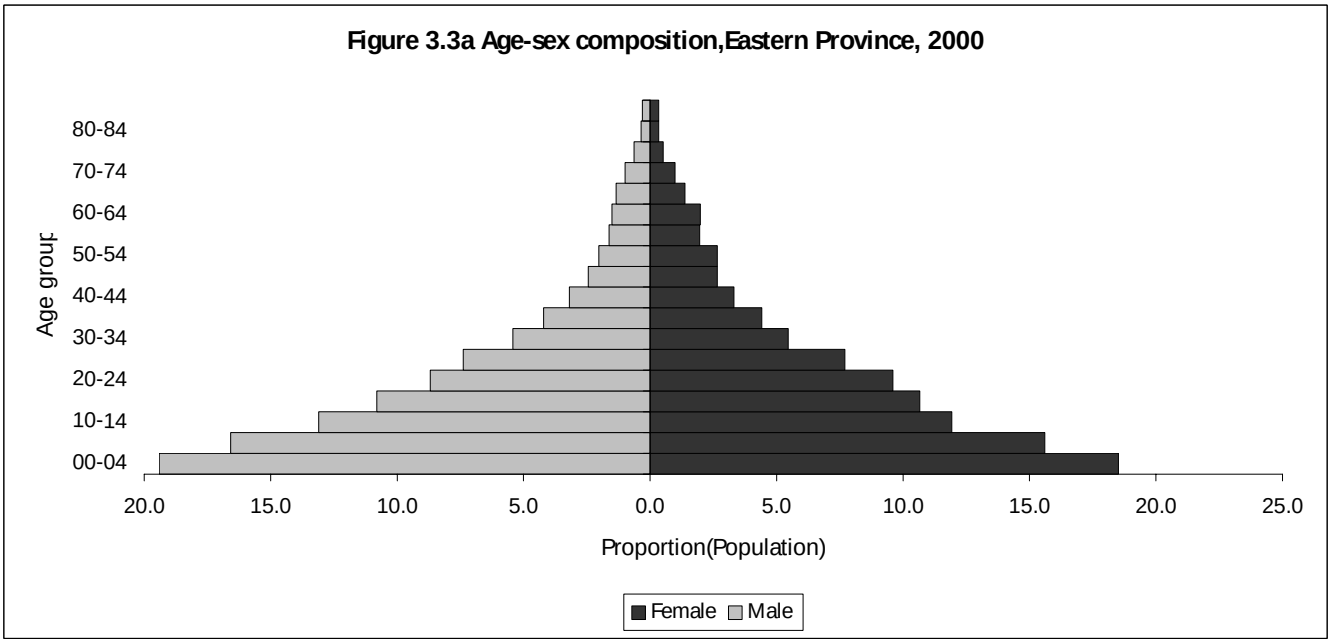
This section provides some information on the composition of Eastern Province population in terms of age, sex, age dependency, household headship, marital status, ethnicity, citizenship and economic characteristics.

3.5.1 Age and Sex Composition

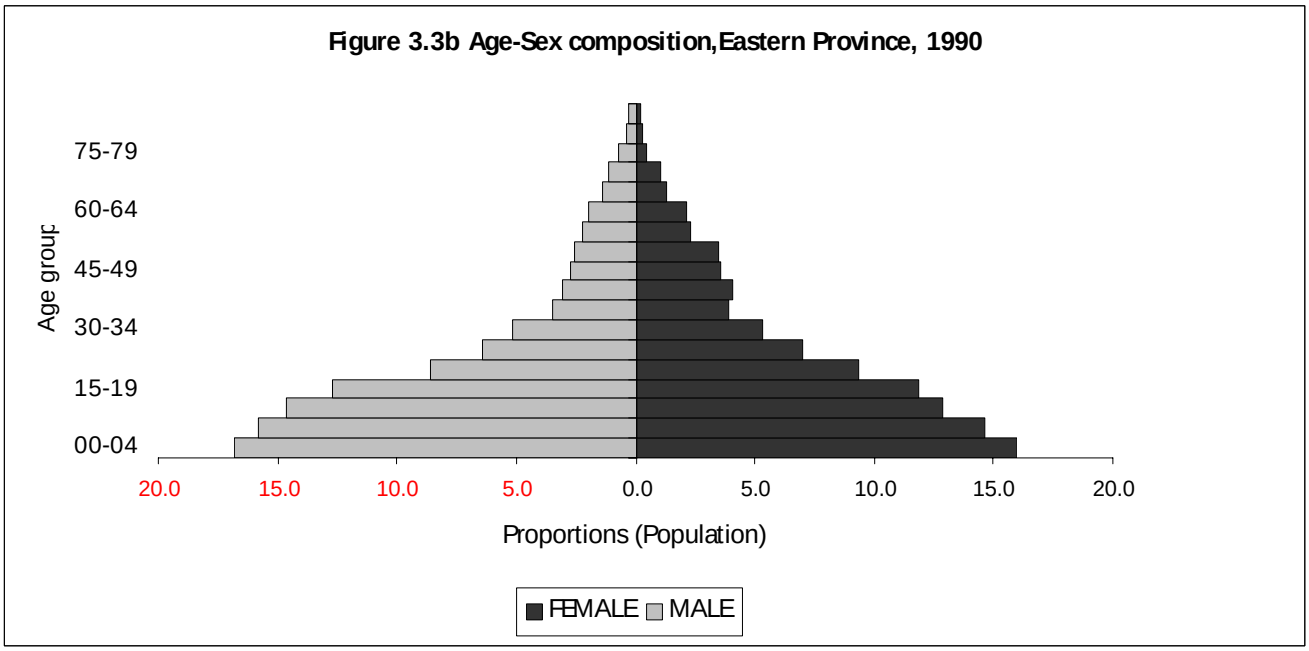
The analysis of most population phenomena is difficult to understand without taking into consideration the age and sex structure of any given population. Generally, 'tabulations on age and sex are essential in the computation of basic measures related to the factors of population change and in the study 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 Eastern 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, Eastern 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.

In comparative terms, 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 gaps or absences in the young ages of 10 to 24 years and later ages of 40 years to 69 years (see Figure 3.4). These population gaps could very well be attributed to increased mortality, 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*).



Source: Census of Population and Housing , 2000



Source: 1990 Census of Population and Housing

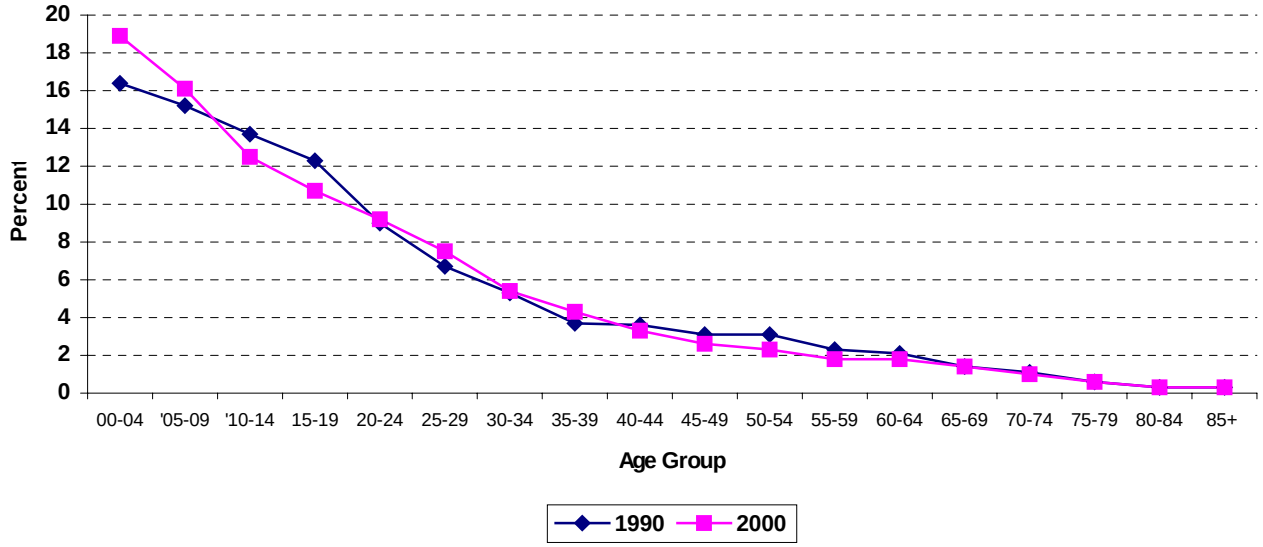
The percentage age-sex population distribution for Eastern Province, including the rural and urban areas is shown in Table 3.6. As of 2000, children (0-14 years) constituted 46.2 percent of the total population in Eastern Province, which is a 1.0 percentage point increase from 45.2 recorded in 1990. Similarly, rural and urban populations mostly comprise the child population, with the rural proportion being higher by 3.8 percent (46.6 vs. 43.1 percent). The proportion for the rest of the population declines pointing towards a thin aged population (of about one and less percent) around the 70s and above.

Table 3.6: Age-Sex Distribution of Population by Residence (Percent), Eastern Province, 2000

Age Group	Total			Rural			Urban		
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
00 – 04	18.2	18.3	18.1	18.5	18.6	18.4	15.6	15.5	15.8
05-09	15.7	15.8	15.5	15.8	16.0	15.5	14.5	14.2	14.8
10-14	12.3	12.7	12.0	12.3	12.8	11.8	13.0	12.3	13.6
15 – 19	10.9	10.8	11.0	10.6	10.5	10.7	13.3	13.1	13.6
20 – 24	9.3	8.9	9.7	9.0	8.6	9.4	11.7	11.2	12.2
25 – 29	7.7	7.6	7.7	7.6	7.5	7.6	8.6	8.7	8.5
30 – 34	5.7	5.8	5.6	5.7	5.8	5.5	6.3	6.6	6.0
35 – 39	4.5	4.6	4.5	4.5	4.5	4.5	5.1	5.4	4.9
40 – 44	3.4	3.4	3.3	3.3	3.4	3.3	3.7	3.9	3.4
45 – 49	2.7	2.7	2.7	2.7	2.7	2.7	2.7	3.0	2.5
50 – 54	2.4	2.2	2.6	2.5	2.2	2.7	2.0	2.4	1.7
55 – 59	1.9	1.8	1.9	1.9	1.8	2.0	1.2	1.5	0.9
60 – 64	1.8	1.6	2.0	1.9	1.7	2.1	0.8	0.9	0.7
65 – 69	1.4	1.4	1.3	1.5	1.5	1.4	0.7	0.7	0.6
70 – 74	1.0	1.0	1.0	1.1	1.1	1.0	0.3	0.4	0.3
75 – 79	0.6	0.6	0.5	0.6	0.7	0.5	0.2	0.2	0.2
80 – 84	0.3	0.4	0.3	0.4	0.4	0.4	0.1	0.1	0.1
85+	0.3	0.3	0.3	0.3	0.3	0.4	0.1	0.1	0.1
Total	100	100	100	100	100	100	100	100	100
Total Pop	1,306,173	648,676	657,497	1,190,714	591,128	599,585	115,461	57,549	57,911

Source: 2000 Census of Population and Housing

Figure 3.4 Population Percent Distribution by Age, Eastern 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 Eastern Province in 2000 was 104.5 per 100 persons in the working group. Its overall dependency ratio is higher than the national ratio of 96 per 100 persons. 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 8.8 and 8.6 persons from 95.7 and 88.6 dependants per 100 persons, (respectively), in 1990 to 104.5 and 97.2 dependants in 2000.

From the foregoing, it is also observed that persons in productive ages who reside in rural areas continue to bear a heavy burden of dependants compared to their urban counterparts, whose dependency between 1990 and 2000 has actually declined. Table 3.7 shows that the dependency ration for rural areas is 10.6 while that of urban areas is 80.3 dependants per 100 persons.

Table 3.7: Dependency Ratio by Residence and Districts, Eastern Province, 1990-2000

Residence/Districts	Ratios	1990	2000
Zambia	Overall Dependency Ratios	95.1	96.2
	Child Dependency Ratios	87.2	90.9
	Aged Dependency Ratios	5.0	5.4
Eastern	Overall Dependency Ratios	95.7	104.5
	Child Dependency Ratios	88.6	97.2
	Aged Dependency Ratios	7.1	7.3
Rural	Overall Dependency Ratios	96.7	101.6
	Child Dependency Ratio	89.1	93.8
	Aged Dependency Ratio	7.6	7.8
Urban	Overall Dependency Ratio	86.6	80.3
	Child Dependency Ratio	84.6	77.8
	Aged Dependency Ratio	2.0	2.5
Chadiza	Overall Dependency Ratios	104.1	110.6
	Child Dependency Ratios	97.6	104.2
	Aged Dependency Ratios	6.4	6.4
Chama	Overall Dependency Ratios	100.4	107.8
	Child Dependency Ratios	95.2	101.8
	Aged Dependency Ratios	5.2	6.0
Chipata	Overall Dependency Ratios	91.5	99.8
	Child Dependency Ratios	84.3	92.8
	Aged Dependency Ratios	7.2	7.0
Katete	Overall Dependency Ratios	100.6	109.5
	Child Dependency Ratios	93.0	101.6
	Aged Dependency Ratios	7.7	7.9
Lundazi	Overall Dependency Ratios	95.4	105.3
	Child Dependency Ratios	88.5	98.4
	Aged Dependency Ratios	6.9	6.9
Mambwe	Overall Dependency Ratios	-	101.2
	Child Dependency Ratios	-	93.9
	Aged Dependency Ratios	-	7.3
Nyimba	Overall Dependency Ratios	-	105.7
	Child Dependency Ratios	-	96.9
	Aged Dependency Ratios	-	8.7
Petauke	Overall Dependency Ratios	95.3	104.5
	Child Dependency Ratios	88.0	96.5
	Aged Dependency Ratios	7.2	8.1

Source: 1990 and 2000 Censuses of Population and Housing

Table 3.7 further shows that between 1990 and 2000, dependency ratios of all types (overall, child and aged) have increased for all districts except for Lundazi, Chipata and Chadidza where child dependency ratio has either remained the same or declined. The 1990 dependency ratios for Mambwe and Nyimba are reflected by those of Chipata and Petauke respectively.

3.5.3 Household Headship

Household headship by various characteristics is presented in Table 3.8. The table shows that one in five households are female headed. In comparison to the national, Eastern province has slightly more female-headed households than the national level of (18.9 percent) one in five households. 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 ZSBS).

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

Residence/Marital Status/District	Number of Household Heads	Total Percentage of Household Heads	Sex of Head	
			Male	Female
Zambia	1,884,741	100.0	81.1	18.9
Eastern Province	254,603	100.0	80.0	20.0
Rural	233,367	100.0	79.8	20.2
Urban	21,236	100.0	83.1	16.9
Marital Status				
Married	196,802	100.0	95.8	4.2
Separated	7,434	100.0	28.4	71.6
Divorced	12,153	100.0	21.7	78.3
Widowed	30,942	100.0	15.7	84.3
Never Married	6,824	100.0	81.5	18.5
Living Together/Cohabiting	448	100.0	23.4	76.6
District				
Chadiza	15,928	100.0	81.9	18.1
Chama	14,597	100.0	82.2	17.8
Chipata	70,347	100.0	80.2	19.8
Katete	38,387	100.0	78.3	21.7
Lundazi	46,178	100.0	84.0	16.0
Mambwe	9,578	100.0	79.0	21.0
Nyimba	13,201	100.0	78.1	21.9
Petauke	46,587	100.0	76.8	23.2

Source: 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 separated (71.6 percent), divorced (78.3 percent) and widowed (84.3 percent). Among the married (96 percent) and never married (80 percent) household heads, the majority are male. Amongst the districts, Petauke exhibits the highest proportion of female heads of households with 23.2 percent, while Lundazi have the least at 16.0 percent

3.5.4 Marital Status

Categorization 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 by marital status of population above 12 years by age, sex, residence and district. The majority of young males and females in the young age group 15-19 years have never married. However, slightly over a third of the females (35.8 percent) compared to 5.2 percent of males are married.

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

Age Group	Married		Separated		Divorced		Widowed		Never married		Cohabiting		Total no of cases	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
12-14	1.2	1.9	0.0	0.1	0.0	0.1	0.1	0.3	98.3	97.3	0.2	0.3	41,851	40,322.0
15-19	5.2	35.8	0.2	1.6	0.2	1.5	0.2	0.4	93.8	59.7	0.4	1.0	64,156	67,121.0
20-24	44.4	72.4	1.1	3.6	1.0	4.6	0.4	1.3	52.5	17.1	0.6	0.9	51,504	59,967.0
25-29	76.1	78.4	1.6	4.4	1.8	6.5	0.8	3.2	19.3	7.0	0.4	0.6	43,690	48,046.0
30-34	85.5	78.5	1.8	4.3	2.5	7.3	1.2	5.9	8.7	3.4	0.2	0.6	33,113	34,891.0
35-39	88.5	77.9	1.6	4.1	2.5	7.4	1.7	8.1	5.5	2.1	0.1	0.3	25,546	28,112.0
40-44	90.0	74.5	1.8	3.8	2.4	7.9	2.3	12.3	3.3	1.4	0.1	0.2	18,937	20,661.0
45-49	89.9	71.3	1.7	4.2	2.6	7.4	3.0	16.0	2.7	1.0	0.1	0.2	14,748	167,57.0
50-54	88.0	65.1	1.9	3.8	3.0	7.0	4.9	23.3	2.1	0.7	0.0	0.1	11,994	165,32.0
55+	84.7	42.6	1.8	2.7	2.7	6.0	9.4	47.9	1.4	0.7	0.0	0.1	40,339	468,03.0
Total	53.7	56.2	1.1	3.0	1.5	4.9	2.0	10.2	41.3	25.2	0.3	0.5	345,878	379,212
Population	185,898	213,221	3,957	11,411	5,214	18,413	6,860	38,536	142,964	95,599	985	2,032	345,878	379,212

Source: 2000 Census of Population n 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 Eastern Province in 1990 was 24.6 years for males and 20.0 years for females (CSO, 1995). Table 3.9 also shows that about three in four females in their early 20s are married

compared to less than one in two 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

Ethnicity in the 2000 Census implied indigenous Zambian tribes while citizenship referred to the continent of origin for non-Zambians. Table 3.10 presents the ethnic composition of the population in Eastern 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 Eastern Province mostly constitutes persons of African origin, with 99.9 percent. The American, Asian, European and 'Other' ethnic groups make up the remaining 0.1 percent. This is similar to the national with 99.5 percent of the population being persons of African origin. 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 98.9 percent. 'Other' ethnic groups made up the remaining 1.1 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 Eastern Province, 2000

Residence/Sex		Ethnic 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
Central Province	Male	596,667	31	523	128	177	597,526
	Female	628,505	19	469	62	186	629,241
	Both sexes	1,225,172	50	992	190	363	1,226,767
Percent of total population		99.87	0.00	0.08	0.02	0.03	100
Rural	Male	54,4207	20	51	81	144	544,503
	Female	57,3269	8	27	45	152	573,501
	Both sexes	111,7476	28	78	126	296	1,118,004
Percent of total population		99.95	0.00	0.01	0.01	0.03	100
Urban	Male	52,460	11	472	47	33	53,023
	Female	55,236	11	442	17	34	55,740
	Both sexes	107,696	22	914	64	67	108,763
Percent of total population		99.02	0.02	0.84	0.06	0.06	100

Source: 2000 Census of Population n 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 Eastern Province. It is most apparent that the majority of foreign citizens in the province hail from Malawi (71.6 percent), followed by those from Zimbabwe (13.0 percent) and Mozambique (5.3 percent). Amongst those who stated their citizenship in the 1990 Census, Mozambique had the highest proportion (59.8 percent) of citizens in Eastern Province. This shows an actual decrease in the number of foreign citizens from Mozambique between 1990 and 2000. The decline could be attributed to return of refugees to Mozambique following the end of the civil war.

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

Country/Region	Percent 1990	Percent 2000	Population 2000
Zimbabwe	4	13.0	771
Malawi	12.5	71.69	4,261
Mozambique	59.8	5.3	316
South Africa		0.9	54
Other Southern Africa	0.2	0.2	13
Ghana		0.2	12
Mali		0.1	6
Other Western Africa	0.8	1.3	77
Uganda		0.3	18
Tanzania	0.2		
Other Eastern Africa	0.6	0.2	12
Congo		0.3	15
Zaire (Congo DR)		0.7	44
Other Central Africa	0.3	0.4	24
Northern Africa	0.3	0.5	32
United Kingdom		0.6	36
Germany (East and West)		0.1	5
Other Europe	1.5	0.8	48
United States Of America		0.3	20
Canada		0.4	22
Other Americas	0.2	0.2	14
India		1.6	93
Japan		0.1	7
Other Asia & Oceania	0.7	0.2	14
Not Stated	18.9	0.6	38
% Total	**100**	**100**	
Total Foreign Citizens	**30,269**		**5,952**
% Foreign Population	**3.1**	**0.49**	

Source: 1990 and 2000 Census of Population n and Housing

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

3.6 Economic Characteristic

Data on economic characteristics of the Eastern 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 (Table 3.12).

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

Characteristics	Total			Rural			Urban		
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
Total Population (12 Yrs and Above)	725,984	346,361	379,623	657,293	312,930	344,363	68,691	33,431	35,260
Current Labour Force Size	471,741	254,495	217,246	451,916	249,660	202,256	18,521	4,835	13,686
Current Participation Rate	65	73.5	57.2	74.1	90.6	59.7	77.6	84.4	75.2
Age Dependency Ratio	104.5	111.3	98.5	106.7	114.5	99.8	84.5	83.1	85.8
Economic Dependency Ratio	38.1	36.0	40.0	33.2	33.3	33.2	112.2	68.3	182

Source: 2000 Census of Population and Housing,

Table 3.12 also shows that of the total population in Eastern Province, 725, 984 comprise those over 12 years, commonly referred to as the *working age population*. Majority of these are found in rural as opposed to urban areas (657,293 versus 68,691) and are mostly women. Despite dominance of females in the working age population, majority of these are considered economically inactive due to their classification as full-time homemakers. In all, sixty five percent of the total working age population in

the province, are economically active or make up the labour force: 73.5 percent for males and 57.2 percent for females.

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, particularly those in urban areas, 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 more than five times that of rural areas, 182 vs. 33.

3.7 Summary

Eastern Province's de jure or *resident* population recorded in 2000 census is 1,306,173. However, the de facto population adopted for analytical purposes in this chapter and the rest of the report is 1,226,767 of which 51.3 percent are females. The population has continued to grow from 2.3 percent during the 70s to an increasing average annual population growth rate of 4.0 percent in the 80s and then a declining rate of 2.7 percent during the last inter-censal period of 1990-2000. It is apparent that the increase in rural population obtained in the past decades has continued, whilst the proportion of the urban population has declined from 9.7 percent in 1980 to 8.8 percent in 2000.

Analysis of the age-sex distribution indicates that Eastern Province has overtime maintained a young population. The proportion of those below the age of 15 years has increased from 45.3 (1990) to 46.2 percent (2000). 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 for adults in the 20s and 30s (as of 2000) who are apparently more affected by the impact of AIDS to terminal illnesses (e.g. AIDS) as well as complications associated with a declining economy.

Some economic characteristics of the population show that the overall dependency ratio as of 2000 Census was 104.5 per 100 persons in the working-age population (15-64 years). It is apparent that dependency on those with economically productive abilities rose during the 1990s. In addition, the chapter reveals that unlike urban counterparts, economically active persons in rural areas have a bigger challenge of providing for those who are economically inactive.

Chapter 4

LANGUAGE AND ETHNICITY

4.1. INTRODUCTION

Zambia is a country endowed with many languages. 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.

There 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 exist several dialects. 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 most frequently used language of communication. The matter of second language shows the phenomenon of trans-tribe character of some languages in that they are spoken by other tribes.

nguages 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, Tabwa, they will say their mother tongue is Bemba. Fifthly, the languages presented in this chapter are illustrated by sex. The chapter discusses the distribution of language in relation to the use by men and women. It has been necessary to make observations in this area to help in getting a clearer picture vis-à-vis language as for example in rural and urban areas.

hould be noted 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 province. The population speaking a second language of communication is therefore even smaller.

. Predominant Language of Communication

4.2.1 Provincial Distribution

Table 4.1 and Figure 4.1 show the 11 most spoken languages in Eastern Province. The predominant language of communication in the province in the year 2000 was Chewa with 33.8 percent of the population using it. The reason is the early settlement by Chewa speakers in large numbers in the province.

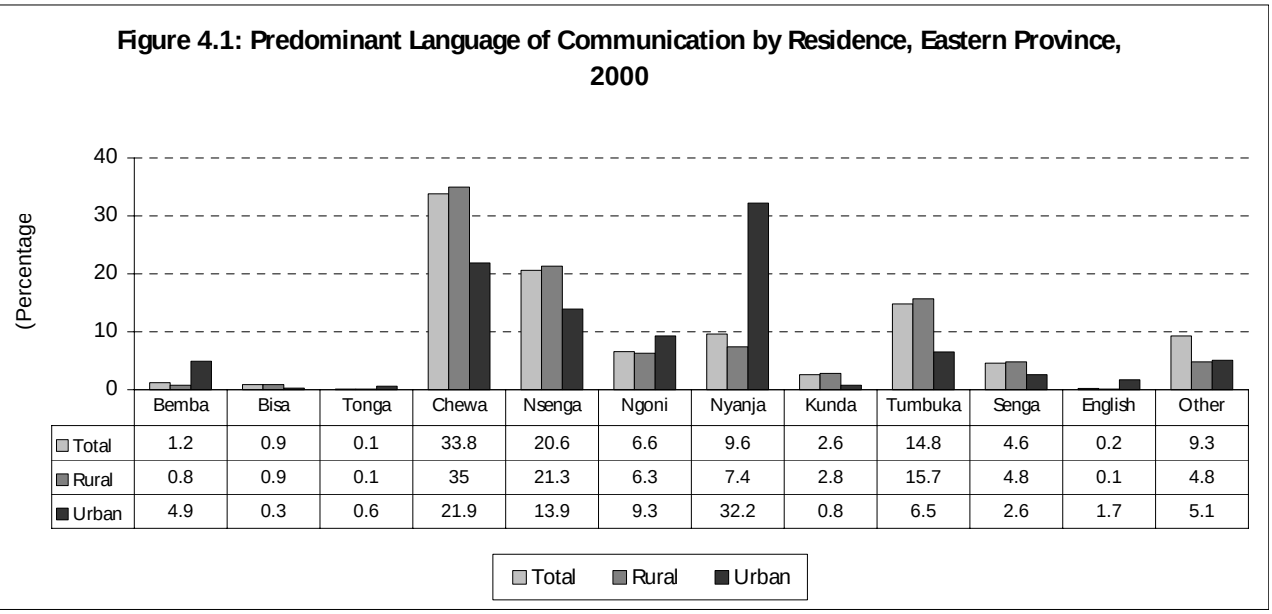
Table 4.1: Predominant Language of communication by residence, Eastern Province, 2000

Predominant Language of Communication	Total	Rural	Urban
Bemba	1.2	0.8	4.9
Bisa	0.9	0.9	0.3
Tonga	0.1	0.1	0.6
Chewa	33.8	35	21.9
Nsenga	20.6	21.3	13.9
Tumbuka	14.8	15.7	6.5
Nyanja	9.6	7.4	32.2
Ngoni	6.6	6.3	9.3
Kunda	2.6	2.8	0.8
Senga	4.6	4.8	2.6
English	0.2	0.1	1.7
Other Languages	9.3	4.8	5.1
Total	100	100	100
Population	1,134,948	1,033,117	101,831

rce: 2000 Census of Population and Housing

The other most spoken languages in the province in descending order are Nsenga (20.6 percent), Tumbuka (14.8) and Nyanja (9.6 percent). Ngoni is spoken by 6.6 percent of the population while 4.6 percent use Senga as their predominant language of communication.

Figure 4.1: Predominant Language of Communication by Residence, Eastern Province, 2000



rce: 2000 Census of Population and Housing

Of the 11 most spoken languages in Eastern Province, three predominant languages are among the nation's seven official languages. These are Bemba, Tonga and Nyanja accounting for only 11 percent of the total population in the province.

4.2.2. District Distribution

Table 4.2 shows that Chewa is spoken by a large proportion of the population in two districts: Chadidza (89.5) and Katete (90.8). Besides Chadiza and Katete, Chewa is the language mostly used for communication in Chipata (33.9 percent). Elsewhere, Chewa is often spoken in Mambwe (18.4 percent), and Petauke (15.9

percent) districts. In Chipata District, more than 21 percent of the population speak Ngoni after Chewa. Chewa's predominance is second in Lundazi District after Tumbuka (76.4 percent). Kunda is predominant in Mambwe District at 62.6 percent followed by Chewa (18.4 percent.) English is one of the least spoken languages throughout the province with significant elements of it in Nyimba and Chipata districts 0.6 and 0.5 percent, respectively. Bemba, Bisa, and Tonga are remotely spoken in all the districts of Eastern Province.

Table 4.2: Predominant Language of Communication by District, (percent), Eastern Province, 2000

Predominant Language of Communication	Total	Chadiza	Chama	Chipata	Katete	Lundazi	Maambwe	Nyimba	Petauke
Bemba	1.2	0.3	5.5	1.7	0.4	0.8	1.3	0.9	0.6
Bisa	0.9	0.0	0.1	0.1	0.0	4.3	1.6	0.0	0.0
Tonga	0.1	0.1	0.0	0.3	0.1	0.1	0.2	0.1	0.1
Chewa	33.8	89.5	0.3	33.9	90.8	9.1	18.4	1.3	15.9
Nsenga	20.6	0.5	0.1	4.1	1.4	1	3.3	89.3	77.3
Ngoni	6.6	3.6	0.2	21.3	0.8	0.5	3.2	0.3	0.4
Nyanja	9.6	1.0	1.1	31	0.4	1.9	4.4	1.1	1.0
Kunda	2.6	0.1	0.1	0.3	1.0	0.2	62.6	0.0	0.2
Tumbuka	14.8	0.3	8.2	1.8	0.2	76.4	0.4	0.2	0.2
Senga	4.6	0.1	78.6	0.2	0.0	0.5	0.1	0.0	0.0
English	0.2	0.1	0.1	0.5	0.1	0.1	0.2	0.6	0.1
Other Languages	5	4.4	5.7	4.8	4.8	5.1	4.3	6.2	4.2
Total	100	100	100	100	100	100	100	100	100
Population	1,134,948	73,034	63,691	317,682	166,202	204,414	41,434	60,862	207,629

Source: 2000 Census of Population and Housing

Unlike other districts, Chipata has a diverse range of languages spoken within its confines because they are not all people are indigenous to the district. This is manifested by the fact that more than one-third of the population in the district speak Chewa as the predominant language with 31.0 and 21.3 percent speaking Nyanja and Ngoni, respectively. Tumbuka and Bemba account for 1.8 and 1.7 percent respectively.

. Predominant Language Groups

re than 70 percent of all languages spoken in Eastern Province are in the Nyanja-speaking group. By residence, 72.9 percent are in rural and 78.1 percent are in the urban area. The next most prevalent language group is the Tumbuka group (19.4 percent), who are more than twice as many in rural areas as in urban areas. Bemba speaking group constitute 2.2 percent while the Tonga, Barotse speaking groups and English each make up 0.2 percent (see Table 4.3 for details).

ble 4.3: Predominant Language Groups by Sex and Residence, Eastern Province, 2000

Predominant Language	Total			Rural			Urban		
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
Bemba	2.2	2.2	2.2	1.9	1.9	1.9	5.2	5.2	5.1
Tonga	0.2	0.2	0.2	0.1	0.1	0.1	0.8	0.8	0.8
North-Western	0.1	0.1	0	0	0	0	0.2	0.2	0.2
Barotse	0.2	0.2	0.2	0.1	0.1	0.1	0.6	0.6	0.6
Nyanja	73.3	73.4	73.3	72.9	72.9	72.8	78.1	78.1	78.5
Mambwe	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1
Tumbuka	19.4	19.2	19.7	20.5	20.2	20.7	9.1	9.1	9.2
English	0.2	0.3	0.2	0.1	0.1	0.1	1.7	1.7	1.4
Other	4.3	4.4	4.1	4.3	4.6	4.2	4.2	4.2	4.2
Total	100	100	100	100	100	100	100	100	100
Population	1,134,948	551,640	583,308	1,033,117	502,090	531,027	101,831	49,550	52,281

rce: 2000 Census of Population and Housing

ike rural areas, urban areas tend to have a diverse spectrum of languages spoken. These are, among others, Bemba (5.2) and Barotse speaking groups (0.6 percent) in urban areas compared to their corresponding percentages in rural areas with 1.9 and 0.1 percent, respectively.

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 Nyanja speaking group has remained dominant throughout in the last 30 years followed by Tumbuka and Bemba. Of all the language groups, Nyanja and Tumbuka speaking groups recorded significant decline in usage as the most predominant languages of 3.7 and 0.4 percentage points (i.e. from 77 to 73.3 and from 19.8 to 19.4 respectively) while the rest of the language groups did not change significantly in terms of usage between 1990 and 2000.

ble 4.4: Predominant Language Groups by Census Year, Eastern Province, 1980-2000

Language Group	Percentage of Total Population		
	1980	1990	2000
	3.0	**2.3**	**2.2**
	0.2	**0.2**	**0.2**
	0.1	**0.1**	**0.1**
	0.2	**0.1**	**0.2**
	75.4	**77.0**	**73.3**
	0.1	**0.1**	**0.1**
	19.4	**19.8**	**19.4**
	1.4	**0.3**	**0.2**
	0.2	**0.1**	**4.3**
	100	**100**	**1000**
	607,243	**916,745**	**1,134,948**

rce: 2000 Census of Population and Housing

4.5 Second Language of Communication

For each respondent, the census collected information on not only the predominant language of communication but also their second language of communication. From Table 4.5, it is noted that only 28 percent or 318,329 people in the province spoke a second language. Thus, a fairly large proportion of the people speak more than one language.

The distribution of the second language of communication follows the same trend as the predominant language except that a large proportion of people speak Nyamja (35.1). The most second language of communication is Nyanja with a percentage of 35.1 followed by English at 25.3 percent with Bemba and Tonga at 17.5 percent and 5.0 percent, respectively. Of these, Nyanja and Bemba have recorded reduction of 20.1 and 0.9 percentage points respectively between 1990 and 2000. The two main second languages (i.e. Nyanja and English) have collectively declined in usage from 70.6 percent in 1990 to 60.4 percent in 2000 (see Table 4.5 for details).

Table 4.5: Percent Distribution of Population by Second Language and Residence, Lusaka Province, 2000

Second Language of Communication	Total	Rural	Urban
Bemba	17.5	9.4	19.1
Lala	0.2	0.2	0.3
Bisa	0.1	0.1	0.1
Lamba	0.3	0.2	0.3
Tonga	5.0	8.0	4.5
Lenje	1.3	3.0	1.0
Soli	2.2	8.5	0.9
Ila	0.3	0.4	0.3
Luvale	0.3	0.2	0.3
Lunda (N/West)	0.2	0.1	0.2
Kaonde	0.6	0.3	0.7
Lozi	2.0	2.0	2.0
Nkoya	0.1	0.1	0.1
Chewa	2.2	1.4	2.3
Nsenga	2.3	2.0	2.4
Ngoni	1.0	0.6	1.1
Nyanja	35.1	48.8	32.3
Kunda	0.3	0.1	0.3
Mambwe	0.7	0.2	0.8
Namwanga	0.4	0.2	0.4
Tumbuka	1.2	0.7	1.4
Senga	0.1	0.1	0.1
English	25.3	11.4	28.1
Total	**100**	**100**	**100**
Population	**318,329**	**166,283**	**152,091**

Source: 2000 Census of Population and Housing

Similarly, when disaggregated by sex and residence, the language groups also depict distinctions. Nyanja speaking group under which the Chewa falls still is significant. This may be attributed to the fact that Chewa is the most predominantly spoken language in Eastern Province.

English is also spoken by a significant proportion of people (18.3 percent) in Eastern Province 23.8 percent of males and 12.4 percent of females use English as their second language of communication This could be attributed to the fact that male employees are more in the formal sector than females. As a result, more males than females use English as a second language of communication. For example, 35.7 percent of males compared with 26.9 percent females in urban areas use English as their second language of communication. This portrays a much more pronounced English usage than that of rural areas at 21.2 percent versus 9.1 percent respectively.

Table 4.6: Second Language By Sex and Residence, Eastern Province, 2000

Second Language of **Communication**	Total			Rural			Urban		
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
North-Western	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.4
Barotse	0.7	0.6	0.7	0.6	0.5	0.7	0.8	0.7	0.9
Nyanja	53.4	50.2	56.9	55.4	52	59.1	44.5	41.7	47.9
Mambwe	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.1	0.2
Tumbuka	6.8	6.2	7.5	6.8	6.1	7.6	7.0	6.8	6.2
English	18.3	23.8	12.4	15.5	21.2	9.1	31.2	35.7	26.9
Total	100	100	100	100	100	100	100	100	100
Population	318,329	166,283	152,091	261,291	137,579	123,754	56,662	28,519	27,837

Source: 2000 Census of Population and Housing

The proportion for the North-western group was 0.2 percent and 0.4 percent in rural and urban areas respectively. The same distribution for the Barotse group stands at 0.6 and 0.8 percent, respectively. Table 4.6 further shows that more females than males use Nyanja as their second language of communication.

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, Maambwe group and the Tumbuka group. These groups are such that all the tribes in Zambia belong to one of these broad tribal groupings. The Bemba group constitutes all tribes of Luapula province, some Central, Copperbelt and Northern tribes and all but those tribes belonging to the Maambwe group in the Northern Province. The Tonga group consists of all the tribes of Southern province including 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 (which is lingua franca of the languages in the said group) consists of some tribes of the Eastern Province including the Chikunda of Lusaka Province. Lungu, Maambwe, 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 bordering the Northern Province.

Table 4.7 and Figure 4.5 below show that there are 16 most predominant ethnic groups found in Eastern Province as reported in the 2000 Census of Population and Housing. In descending order, the 8 largest ethnic groups are Chewa (37.1 percent), Nsenga (20.0 percent), Tumbuka (14.9 percent), Ngoni (14.5 percent), Senga (4.8 percent), Kunda (3.3 percent), Bemba (1.3 percent) and Bisa (1.2 percent).

Table 4.7: Ethnic groups by Residence, Eastern Province, 2000

Tribe	Total	Rural	Urban
Bemba	1.3	0.9	4.8
Lala	0.1	0.1	0.4
Bisa	1.2	1.3	1.1
Tonga	0.4	0.3	1.8
Lozi	0.3	0.2	1.1
Chewa	37.1	37.9	29.3
Nsenga	20	20.8	12.6

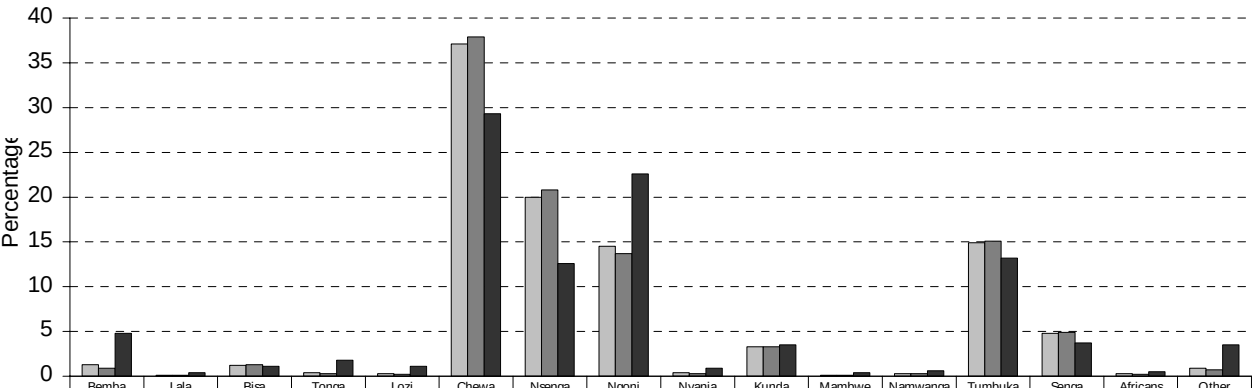
Ngoni	14.5	13.7	22.6
Nyanja	0.4	0.3	0.9
Kunda	3.3	3.3	3.5
Mambwe	0.1	0.1	0.4
Namwanga	0.3	0.3	0.6
Tumbuka	14.9	15.1	13.2
Senga	4.8	4.9	3.7
Africans	0.3	0.2	0.5
Other	0.9	0.7	3.5
Total	100	100	100
Population	1,226,767	1,118,004	108,763

rce: 2000 Census of Population and Housing

These groups collectively account for 97.1 percent of the ethnic groups in the province. It is worth noting here that 4 of the 8 largest ethnic groups in Table 4.7 are from Eastern Province. These four ethnic groups are Chewa, Nsenga, Tumbuka, and Ngoni accounting for 86.5 percent of all ethnic groups in Eastern province. In general, ethnic groups and most widely spoken languages (see previous section) follow a similar descending order.

In terms of residence Nsenga, Chewa and Tumbuka are more prevalent in rural than in urban areas of the province. There are 20.8,37.9 and 15.1 percent of the people belonging to the Nsenga, Chewa and Tumbuka ethnic groups in rural areas respectively, compared to 12.6, 29.3 and 13.2 percent of same ethnic groups in urban areas. Conversely, tribes such as Tonga, North-Western, Barotse and Mambwe ethnic groups are more pronounced in urban areas. For example, Bemba is 5.3 times as many in urban areas as in rural areas. For details, see Table 4.7 and Figure 4.5.

Figure 4.2: Ethnic Groups by Residence, Eastern Province, 2000



	Bemba	Lala	Bisa	Tonga	Lozi	Chewa	Nsenga	Ngoni	Nyanja	Kunda	Mambwe	Namwanga	Tumbuka	Senga	Africans	Other
Total	1.3	0.1	1.2	0.4	0.3	37.1	20.0	14.5	0.4	3.3	0.1	0.3	14.9	4.8	0.3	0.9
Rural	0.9	0.1	1.3	0.3	0.2	37.9	20.8	13.7	0.3	3.3	0.1	0.3	15.1	4.9	0.2	0.7
Urban	4.8	0.4	1.1	1.8	1.1	29.3	12.6	22.6	0.9	3.5	0.4	0.6	13.2	3.7	0.5	3.5

rce: 2000 Census of Population and Housing

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). Tribes in the Nyanja ethnic group account for more than two-thirds of all tribes in Eastern Province. By residence, 76.0 percent and 69.0 percent of the people belonging to the Nyanja tribal group reside in rural and urban areas respectively. The distribution of the Bemba group by sex shows very little variation in relation to residence.

order of size, the Tumbuka ethnic group is the next largest of the tribal groups at 19.8 percent of the whole population. The others are; Tonga (0.6 percent), North-Western group (0.2), Barotse (0.4) and Mambwe (0.5 percent). The "others" (that is non-Zambian tribes/ethnic groups) accounted for 0.4 percent. The distributions by residence of all these tribes show some variation except for English which depicts the same rating in both rural and urban areas . Bemba Tonga, Northwestern, Barotse and Mambwe ethnic group are more prevalent in urban areas than in rural areas while Nyanja and Tumbuka ethnic groups are more significant in rural areas (refer to Table 4.8 for details).

ble 4.8: Ethnic Groups by Sex and Residence, Eastern Province, 2000

Tribe/Nationality	Total			Rural			Urban		
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
Bemba Speaking Group	2.9	2.9	2.8	2.5	2.5	2.5	6.8	7.0	6.5
Tonga Speaking Group	0.6	0.6	0.6	0.4	0.4	0.4	2.6	2.5	2.6
North-Western Group	0.2	0.2	0.2	0.2	0.2	0.2	0.9	1.0	0.9
Barotse Language Group	0.4	0.4	0.4	0.3	0.3	0.3	1.3	1.3	1.2
Nyanja Speaking Group	75.3	75.4	75.3	76.0	76.1	75.9	69.0	68.2	69.7
Mambwe Language Group	0.5	0.5	0.5	0.4	0.4	0.4	1.1	1.1	1.1
Tumbuka Language Group	19.8	19.6	19.9	20.0	19.9	20.2	16.9	17.2	16.6
English	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Languages	0.4	0.0	0.4	0.3	0.3	0.3	1.4	1.6	1.3
Total	100.0	99.6	100.0	100	100.0	100	100	100	100
Population	1,226,767.0	597,526	629,241	1,118,004	544,503	573,501	108,763	53,023	55,740

rce: 2000 Census of Population and Housing

4.8 Summary

Overall, there were 1,134,948 persons who reported to have spoken a predominant language of communication while 318,329 reported to have spoken a second language of communication. The common spoken second language of communication in Eastern Province is Nyanja 20.3 percent followed by English 18.3 percent. Rural residents outnumber urban dwellers in almost all the major second languages of communication.

Chapter 5

EDUCATION CHARACTERISTICS

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) and are conducted by the Ministry of Education,
- Household Surveys conducted by the Central Statistical Office,
- Population Censuses conducted by, 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 even at the smallest administrative unit in the country such as districts and constituencies. 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 adsorption 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 Educational 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 by the population in Eastern 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, by an individual. The term "Education" is understood to comprise all deliberate, systematic and organized communication designed to bring about learning.

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

- Level 0: Early childhood Education programmes
- 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 (still on pilot)
- Level 5: College and undergraduate education programmes, and
- Level 6: Graduate and Post Graduate education programmes

In Zambia, 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 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 formal education system in Zambia. According to the 1996 education policy, the Government of Zambia intends to abolish grade 7 examinations by 2015 in order to achieve universal education up to grade 9.

In addition to primary and secondary education, the last two decades saw the mushrooming of community schools and some institutions offering early childhood education such as pre-schools, mainly in urban areas. Some of the pre-schools have since started enrolling 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 the less privileged or vulnerable children including dropouts 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). However, efforts are under way towards the establishment of a sector–wide Education Management Information System (EMIS), which will comprehensively cover all institutions of learning including privately run ones, community schools and centers offering Interactive education radio programmes.

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 (MOE, EFA2000 Assessment).

- **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 to 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 entries in 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, etc, 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 over who can read and write. Conversely, 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 proportion of the population aged 5 years and above who were able to read and write in Eastern Province. Results from the table indicate that in the year 2000 the literacy rate for the population aged 5 years and above still remained at the 1990 level of about 38 percent. Results further show that the problem of illiteracy is still more common among females than males since 1990. More than two-thirds of female

population (69 percent) were illiterate compared to about half of (54 percent) the male population by the year 2000.

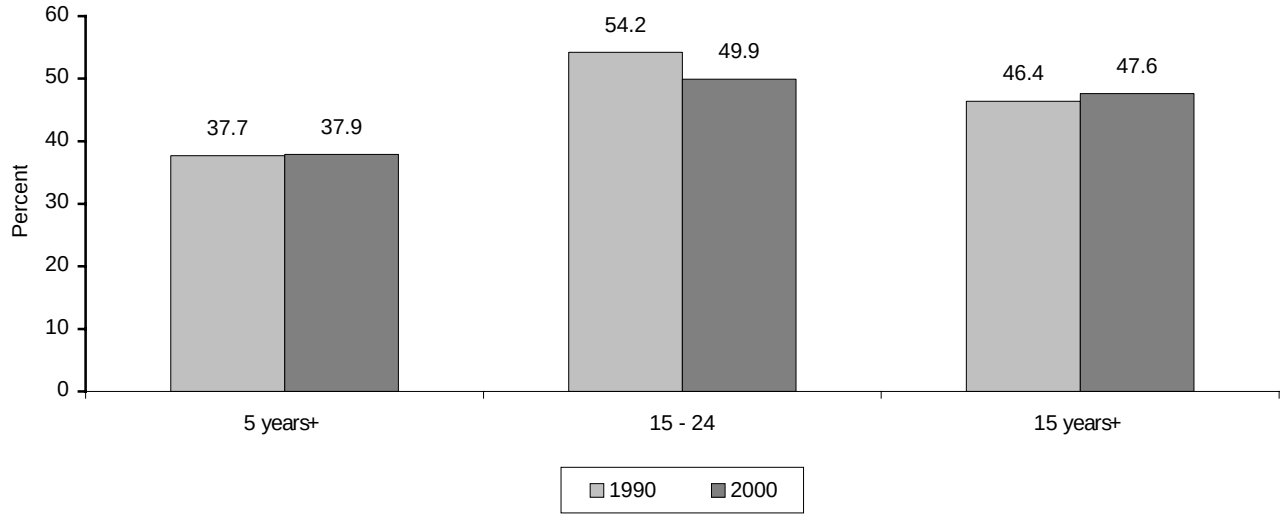
In rural areas, the proportion of the population that could read and write in any language stagnated at about 35 percent between 1990 and 2000. On the other hand, literacy levels slightly increased in urban areas by 1-percentage point during the same period. Nearly two-thirds of the rural population aged 5 years and above remained illiterate compared to about one-third of the urban population.

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

Sex, Residence and District	5 Years and Above	15 - 24	15 and Above	Population
Zambia (1990)	55.3	74.9	66.0	6,181,285
Eastern (1990)				
Both Sexes	37.7	54.2	46.4	806,885
Male	45.8	60.5	59.9	387,363
Female	30.3	48.3	34.6	419,522
Rural	34.9	51.1	43.3	732,688
Urban	65.8	81.9	76.8	74,197
Zambia (2000)	55.3	70.1	67.2	7,680,705
Eastern (2000)				
Both Sexes	37.9	49.9	47.6	994,607
Male	45.5	57.8	60.2	481,808
Female	30.8	42.6	36.3	512,799
Rural	35.0	46.1	44.4	903,748
Urban	67.1	80.2	78.3	90,859
District				
Chadiza	30.4	42.0	39.1	63,900
Chama	36.5	49.8	46.9	54,907
Chipata	45.1	57.5	54.9	280,247
Katete	29.1	38.5	37.1	144,656
Lundazi	39.3	53.6	49.9	177,530
Mambwe	45.9	59.1	57.0	36,536
Nyimba	37.0	47.0	46.9	53,644
Petauke	34.2	44.4	43.6	183,187

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

Figure 5.1: Literate Population by Age-Group, (Percent), Eastern Province, 1990 and 2000



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

Comparison of 2000 literacy rates for districts in Eastern province reveals high rates in Mambwe and Chipata districts, at 46 and 45 percent, respectively followed by Lundazi and Nyimba districts (39 and 37 percent), respectively. The lowest literacy rate was observed in Katete District (29 percent), followed by Chadiza (30 percent), Petauke (34 percent) and Chama (36 percent). Overall, results indicate that the population in predominantly rural districts is less likely to be literate than the population in urbanized districts.

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

Youth literacy rate had declined from 54.2 percent in 1990 to about 49.9 percent in 2000.Table 5.1 and Figure 5.1) The drop in the proportion of the population aged 15 to 24 years was more pronounced among females (from 48 to 43 percent) than the males (from 60 to 58 percent). The problem of youth illiteracy still remained more pervasive among females than males between 1990 and 2000. By the year 2000, more than half of the male, as opposed to 43 percent of the female population aged 15 to 24 years were able to read and write in any language. When provincial indicators are compared to the national, the later are higher than former as can be seen from the table below.

The problem of youth illiteracy is still more of a rural than urban phenomena. By the year 2000, 54 percent of the population aged 15 to 24 years in rural areas compared to only 20 percent in urban areas was illiterate. The youth literacy rate in rural areas declined by 5 percentage points, from 51 percent to 46 percent, between 1990 and 2000. The rate also dropped in urban areas from 82 percent by almost 2-percentage points from 82 percent between 1990 and 2000.

Katete District recorded the lowest youth literacy rate of 38 percent in the year 2000 followed by Chadiza and Petauke district, at 42 and 44 percent, respectively. High rates of literacy were identifiable with Mambwe and Chipata districts, at 59 and about 58 percent, respectively followed by Lundazi district at 54 percent. Thus, the problem of youth literacy is more identifiable with predominantly remote districts than the urbanized ones in Eastern Province.

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

Adult literacy rate increased slightly from 46.4 percent to 47.6 percent between 1990 and 2000 in Eastern Province. There were relatively higher literacy rate at national level than at provincial level as evidenced in the table below. The proportion of female adults who were literate marginally increased from about 35 percent to 36 percent while the male rate almost remained at the 1990 level of 60 percent. In rural and urban areas, the literacy rates barely increased by 1 percentage point over the 1990 level of 43 and 77 percent, respectively.

Mambwe and Chipata scored the highest rates of adult literacy of 57 and 55 percent, respectively. On the other hand, Katete (37 percent) and Chadiza District (39 percent) had the lowest proportions of adult persons 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 shows the population aged 5 years and above presently attending school in Eastern Province. Overall, the proportion of the population presently attending school marginally increased from about 17 percent in 1990 to 19 percent in 2000. Compared to the national average, the proportion of the population currently attending school is lower for the province than the national (19.4 percent for the province against 26.7 percent for the nation). Since 1990, there have been proportionately more males attending school than females. The percentage of both males and females attending school marginally increased between 1990 and 2000 from 21 and 15 percent to 22 and 17 percent, respectively.

During the same period under review, there was an increase in the proportion of children aged 5 to 19 years presently attending school. This population cohort almost befits the official primary and secondary school age population. Marginal declines were recorded for the tertiary school age population (20 – 29 years)..

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

Age	1990				2000			
	Total	Male	Female	Population	Total	Male	Female	Population
Eastern Total	17.1	20.7	15.0	806,885	19.4	21.9	17.1	994,607
5 – 9	17.1	16.6	17.6	146,813	22.8	21.7	23.9	197,189
10 – 14	45.3	45.5	45.0	132,251	54.1	54.6	53.5	153,701
15 – 19	34.9	43.6	26.3	118,528	35.9	45.6	26.7	131,379
20 – 24	11.2	17.7	5.7	86,389	8.8	13.8	4.5	111,553
25 – 29	3.8	5.0	2.9	65,059	2.6	3.3	2.0	91,840
30 – 44	2.7	3.5	2.0	121,037	2.3	2.9	1.8	161,540
45+	1.0	1.3	0.7	136,808	1.3	1.9	0.8	147,405

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

Table 5.3 shows school attendance rates by residence and age group in Eastern province. Results in the table reveal that almost 1 in every 6 persons in rural areas of Eastern province was attending school, as opposed to 1 in every 3 in urban areas since 1990. However, there was some minor increase in the proportion of the rural population attending school from 16 percent in 1990 to 18 percent by 2000. In urban areas, the percentage of the population attending school more or less remained at the 1990 level of 33 percent. In general, older persons are less likely to be attending school than younger ones particularly those residing in rural parts of eastern province.

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

Age	1990				2000			
	Total	Rural	Urban	Population	Total	Rural	Urban	Population
Eastern Total	17.7	16.2	32.5	806,940	19.4	18.1	32.8	994,607
5 – 9	17.1	14.8	40.3	146,813	22.8	20.6	46.9	197,189

10 – 14	45.3	41.9	76.2	132,251	54.1	51.7	77.2	153,701
15 – 19	34.9	32.5	56.1	118,528	35.9	33.3	57.8	131,379
20 – 24	11.2	10.6	16.9	86,389	8.8	7.7	17.0	111,553
25 – 29	3.8	3.7	4.6	65,059	2.6	2.5	3.9	91,840
30 – 44	2.7	2.6	3.3	121,072	2.3	2.3	2.3	161,540
45+	1.0	1.0	1.1	136,828	1.3	1.3	1.5	147,405

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

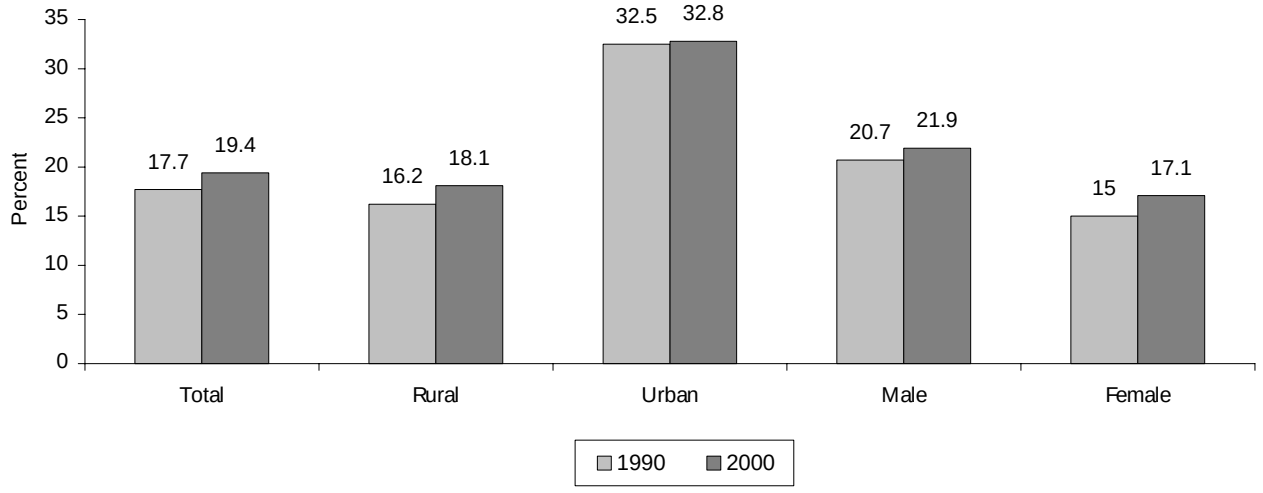
Furthermore, Table 5.4 reveals that females are less likely to be attending school than their male counterparts particularly those residing in rural areas. The proportions of urban females attending school were about twice that of the rural female population by 2000. Variations in the proportion of the population presently attending school in all the eight districts of eastern province have also been observed. Table 5.4 shows that during the year 2000, the proportion of the population attending school was highest in Mambwe district (23 percent), followed by Chama district (22 percent). Chipata, Lundazi and Nyimba districts registered attendance rates in excess of the provincial average of 19 percent in the year 2000, while the remaining districts scored below it.

Table 5.4: Population Aged 5 Years and Above Presently Attending School by residence, (Percent) Eastern Province, 1990 and 2000

Residence and District	Total	Male	Female	Population
Zambia (1990)	**25.8**	**28.1**	23.6	6,181,285
Eastern (1990)				
Total	17.7	20.7	15.0	806,885
Rural	16.2	19.3	13.4	732,688
Urban	32.5	34.1	31.0	74,197
Zambia (2000)	26.7	28.7	24.9	7,680,705
Eastern (2000)				
Total	19.4	21.9	17.1	994,607
Rural	18.1	20.7	15.6	903,748
Urban	32.8	34.4	31.3	90,859
District				
Chadiza	17.2	18.4	16.1	63,900
Chama	22.4	29.1	16.5	54,907
Chipata	21.4	23.2	19.7	280,247
Katete	15.3	16.9	13.8	144,656
Lundazi	21.4	25.3	17.9	177,530
Mambwe	22.9	25.7	20.1	36,536
Nyimba	20.4	23.7	17.4	53,644
Petauke	16.6	18.7	14.7	183,187

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

Figure 5.2: Population Aged 5 Years and Above Attending School, (Percent), Eastern Province, 1990 and 2000



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

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

Analysis of school attendance makes sense when the data relates to some 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 by the population aged 7 to 13 years in Eastern province had increased from 36 percent in 1990 to 45 percent in 2000. This increase is much higher than the national average increase of 6 percent. The primary school attendance rates for the province are lower than those of the national average for both censuses (55.8 percent versus 36.1 in 1990 and 62.2 percent versus 44.7 percent in 2000 for National and Eastern Average respectively). The increase in school attendance was slightly higher for females, (from 36 to about 45 percent) than for males (36 to 44 percent) between 1990 and 2000. No major sex differences were observed in the school attendance rates since 1990 although girls were more likely to be attending school than boys particularly during the year 2000.

Table 5.5 shows that out of the total 175,285 rural children aged 7 to 13 years in the province, only 33 percent were attending school, compared to 69 percent of the 18,052 urban children in 1990. School attendance rates increased from 33 to 42 percent and from 69 to 72 percent for the rural and urban areas between 1990 and 2000, respectively. School attendance among rural girls rose by 10 percentage points from about 33 percent in 1990 to nearly 43 percent by 2000. In urban areas, female school attendance rate increased by only 3 percent, from 68 percent to 71 percent between 1990 and 2000. The same pattern was observed for the rural and urban boys of primary school age. 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 counterparts.

Table 5.5 also reveals that during the year 2000, Katete District had the lowest percentage of children attending school (35 percent), followed by Petauke and Chadiza districts with about 37 percent each. On the other hand, school attendance by the primary school age population was highest in Mambwe District (56 percent), followed by Lundazi and Chama districts at 51 percent each. With the exception of Chama and Lundazi districts, girls were more likely to be attending school in the remaining districts than boys.

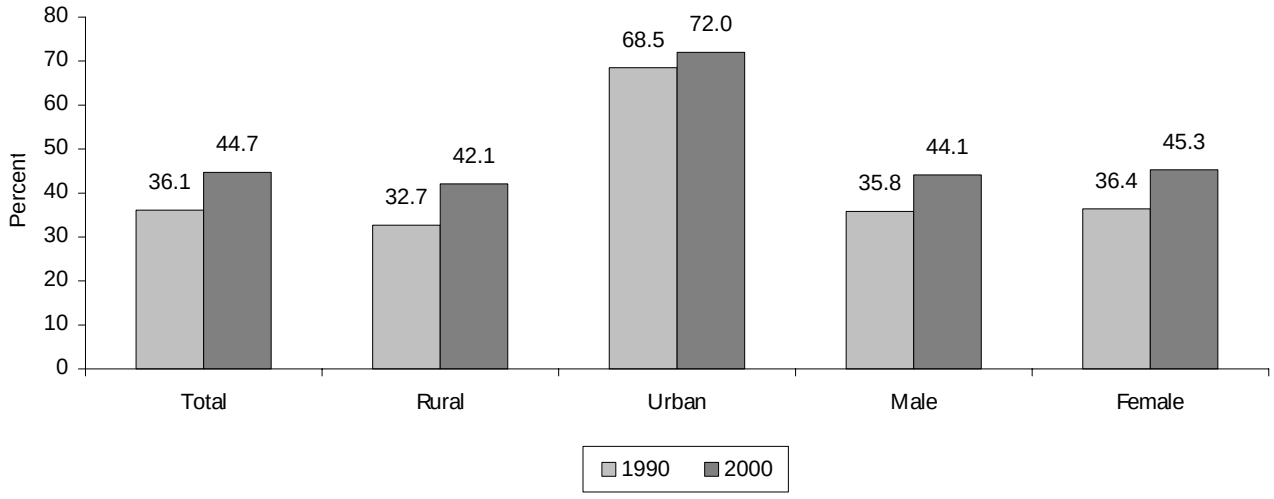
Table 5.5: Population Aged 7 to 13 Years Presently Attending School by Sex and Residence, (Percent) Eastern Province, 1990 and 2000

Residence and District	Primary School Attendance Rates			
	Total	Male	Female	Population
Zambia (1990)	55.8	55.4	56.2	1,486,062

Eastern (1990)				
Total	36.1	35.8	36.4	193,337
Rural	32.7	32.5	33.0	175,285
Urban	68.5	68.9	68.1	18,052
Zambia (2000)	62.2	61.8	62.6	1,826,590
Eastern (2000)				
Total	44.7	44.1	45.3	239,682
Rural	42.1	41.5	42.6	218,734
Urban	72.0	72.6	71.3	20,948
District				
Chadiza	37.0	33.7	40.3	16,259
Chama	51.1	55.0	47.1	13,154
Chipata	49.6	49.1	50.1	65,892
Katete	35.0	33.9	36.2	35,903
Lundazi	51.2	52.2	50.1	41,931
Mambwe	55.8	54.9	56.8	8,655
Nyimba	48.2	47.6	48.9	13,132
Petauke	36.8	35.1	38.6	44,756

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

Figure 5.3: Population Aged 7 to 13 Years Attending School, (Percent), Eastern Province, 1990 and 2000



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

5.7 Gross Primary School Attendance Ratio by All Ages

Gross school attendance rate at primary level shows the ratio of children of all ages attending exactly primary grades to the eligible primary school age population (7 to 13 years). Due to school enrolment by under 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 Eastern Province from 58.1 percent in 1990 to 59.2 percent by the year 2000. In comparison to the national average, the gross rates for the province are significantly lower in both 1990 and 2000. Whilst the gross rates for males almost remained at the 1990 level of 62 percent, the rate for females increased from about 54 to 57 percent between 1990 and 2000. Results from the last 2 census surveys further demonstrate that more males than females have had access to primary education in gross terms. The Gender Parity Index (GPI) calculated as a ratio of female gross rate to that of males increased from 0.87 in 1990 to 0.92 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 0.85 and 0.93 to 0.91 and 0.96 between 1990 and 2000, respectively.

By the year 2000, the Goss Primary School Attendance Ratios for urban population still remained above those obtaining in rural areas. However, gross school attendance in rural areas of Eastern Province barely increased from about 54 percent to 57 percent between 1990 and 2000, while in urban areas the ratio dropped by 10 percentage points, from 92.3 percent to about 82.3 percent. The Gender Parity Index (GPI) for 2000 results exhibits inequality in terms of education participation in rural (0.91) than in urban areas, (0.96). 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.

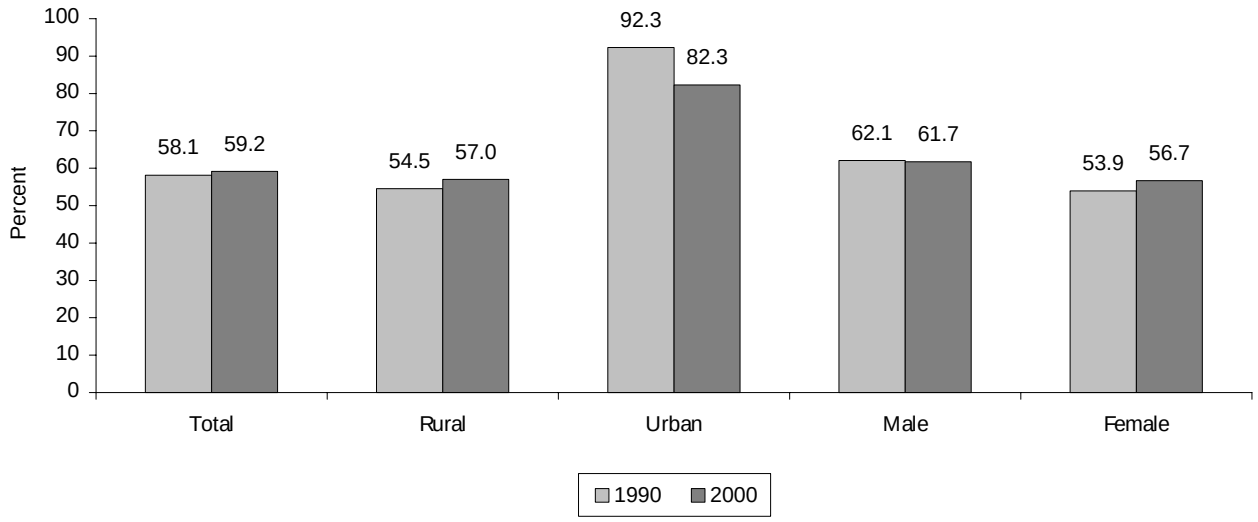
District level analysis of the 2000 Gross Primary School Attendance rates shows high levels of participation in Mambwe (74 percent) and Chama (72 percent) districts. Once again education participation in gross terms was lowest in Katete district, at 46 percent followed by Petauke and Chadiza, at 50 and 51 percent respectively. The ratios for Lundazi, Nyimba and Chipata were above the provincial average of 59 percent. The scenario in the year 2000 revealed more school attendance in gross terms among boys than girls in all the 8 districts except Chadiza District.

Table 5.6: Gross Primary School Attendance Ratio by Sex, Residence, Eastern Province, 1990 and 2000

Residence and District	Gross Primary School Attendance Rates			
	Total	Male	Female	Population
Zambia (1990)	82.3	85.7	78.9	1,486,062
Eastern (1990)				
Total	58.1	62.1	53.9	193,337
Rural	54.5	58.8	50.1	175,285
Urban	92.3	95.6	89.1	18,052
Zambia (2000)	79.1	81.4	76.8	1,826,590
Eastern (2000)				
Total	59.2	61.7	56.7	239,682
Rural	57.0	59.6	54.3	218,734
Urban	82.3	84.2	80.6	20,948
District				
Chadiza	50.6	49.3	51.9	16,259
Chama	72.0	82.4	61.4	13,154
Chipata	62.4	63.9	60.9	65,892
Katete	45.7	46.2	45.2	35,903
Lundazi	69.9	75.7	64.0	41,931
Mambwe	73.9	77.1	70.7	8,655
Nyimba	65.8	70.0	61.5	13,132
Petauke	49.8	50.8	48.8	44,756

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

Figure 5.4: Gross Primary school attendance ratios by sex and residence, Eastern Province, 1990 and 2000



Sources: CSO, 1990 and 2000 Censuses of Population and 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 Eastern Province, from 35.6 percent in 1990 to 43.5 percent by the year 2000. In 2000 and 1990, the net primary school attendance rates are lower for the province than the national. Since 1990, net school attendance of girls of primary school age has been slightly higher than that of boys by about 1 percentage point. School attendance by the eligible children has been slightly higher among boys than girls in urban areas of the province since 1990. The opposite is true for rural areas where the attendance rates for girls have been slightly higher than the rates for boys. The 1990 and 2000 census results indicate that about 64 and 56 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, nearly two thirds of the rural children aged 7 to 13 years (68 percent) were not attending primary education compared to almost one-third of their urban counterpart. By 2000, the proportion of children attending school in rural areas increased by about 9 percentage points, from 32.4 percent to 41.2 percent. These results imply that roughly two in every five 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, net school attendance rate marginally increased from about 66 percent in 1990 to 67 percent in 2000. No major sex differences were noticed since 1990, an indication of achievement of 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 (LCMS Reports, 1996 and 1998).

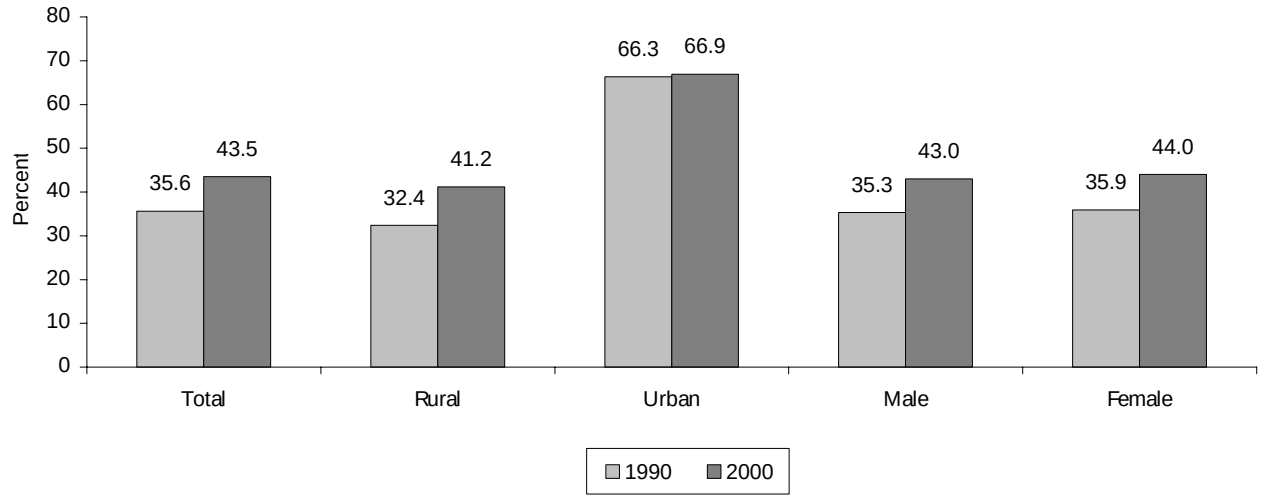
In 2000, the proportion of children aged 7 to 13 years attending primary education was highest in Mambwe (55 percent) followed by Lundazi and Chama districts, both at 50 percent. Net school attendance was lowest in Katete (34 percent), followed by Chadiza and Petauke districts, at 36 percent each. With the exception of Lundazi and Chama districts, girls were more likely to be attending school than boys in the rest of the districts, though the sex differences were insignificant.

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

Residence and District	Net Primary School Attendance Rates			
	Total	Male	Female	Population
Zambia (1990)	55.0	54.6	55.3	1,486,062
Eastern (1990)				
Total	35.6	35.3	35.9	193,337
Rural	32.4	32.1	32.7	175,285
Urban	66.3	66.9	65.8	18,052
Zambia (2000)	60.0	59.8	60.2	1,826,590
Eastern (2000)				
Total	43.5	43.0	44.0	239,682
Rural	41.2	40.7	41.8	218,734
Urban	66.9	68.2	65.8	20,948
District				
Chadiza	36.2	33.1	39.5	16,259
Chama	50.1	53.9	46.2	13,154
Chipata	47.7	47.4	48.1	65,892
Katete	34.1	33.0	35.3	35,903
Lundazi	50.1	51.2	49.0	41,931
Mambwe	54.5	53.3	55.7	8,655
Nyimba	47.4	46.7	48.0	13,132
Petauke	35.9	34.2	37.6	44,756

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

Figure 5.5: Net Primary School Attendance Ratios by Sex and Residence, Eastern Province, 1990 and 2000



Source: CSO, 1990 and 2000 Census of Population and 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 Eastern Province. Overall, the percentage of the secondary school age children attending school increased from 39.3 percent in 1990 to 42.2 percent in 2000 (Figure 5.6). The provincial rate is below the national average of 54 percent. In 1990, there were proportionately more boys (46.2 percent) than girls (32.2 percent) attending school. The percentage of this population cohort attending school in rural and urban areas marginally increased by 3 and 1 percentage points over and above the 1990 levels, respectively. Once again, the proportion of boys attending school remained much higher in both rural and urban areas than that of girls. Since 1990, children in urban areas are more likely to attend school than those in rural areas of the province. In general, these results clearly indicate that the problem of the girl child is more associated to older (14 to 18 years) than younger children (7 to 13 years), particularly those children in rural areas. By the year 2000, more than two thirds of the females aged 14 to 18 years in rural areas were not attending school.

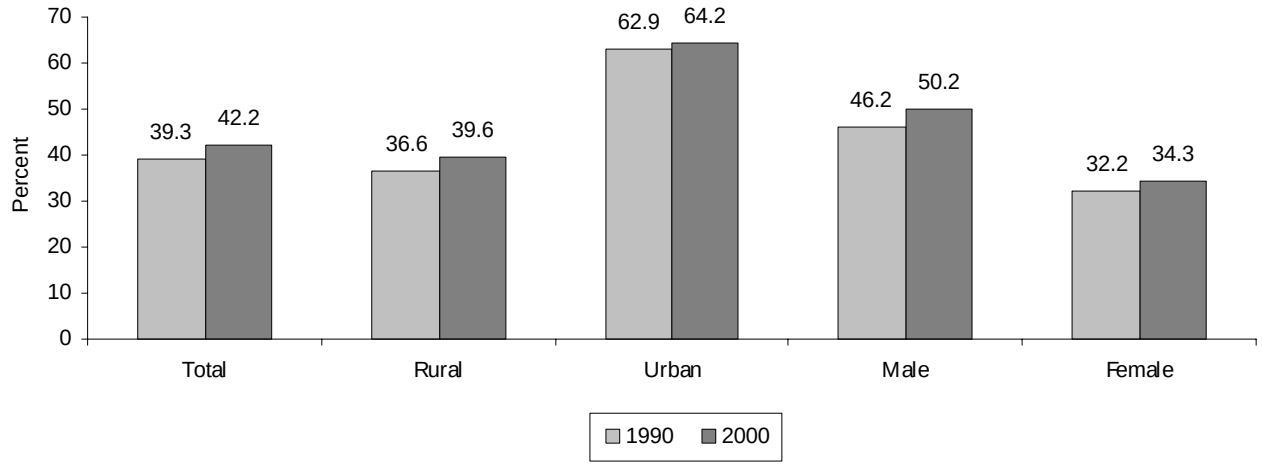
In 2000, school attendance by children of secondary school age was highest in Chama, Lundazi and Mambwe, at 49 percent each, followed by Chipata and Nyimba districts, at 45 and 44 percent respectively. The lowest rates of attendance were observed in Katete (32 percent),followed by Petauke and Chadiza districts, at 37 and 38 percent. Results from table 5.8 further reveal high rates of school attendance among boys than girls in all the 8 districts in the province.

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

Residence and District	School Attendance Rates			
	Total	Male	Female	Population (14 – 18 Yrs)
Zambia (1990)	53.9	61.1	47.1	996,450
Eastern (1990)	39.3	46.2	32.2	125,684
Rural	36.6	43.6	29.3	112,959
Urban	62.9	70.0	56.6	12,725
Zambia (2000)	53.9	61.3	47.0	99,320
Eastern (2000)	42.2	50.2	34.3	135,231
Rural	39.6	47.9	31.2	120,801
Urban	64.2	70.0	59.0	14,430
District				
Chadiza	38.2	42.5	33.6	8,559
Chama	49.4	67.4	31.7	7,833
Chipata	44.9	50.7	39.3	39,014
Katete	31.8	36.8	26.9	18,981
Lundazi	49.3	61.7	37.2	23,295
Mambwe	48.8	60.3	37.1	4,793
Nyimba	43.7	54.2	33.2	7,371
Petauke	36.7	43.1	30.2	25,385

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

Figure 5.6: School Attendance Rates by Children Aged 14 to 18 years, by Sex and Residence, Eastern Province, 1990 and 2000



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

5.10 Gross Secondary School Attendance Rate

Results in Table 5.9 reveal that a sizeable proportion of secondary school age population in Eastern province has no access to secondary education. Overall, the proportion of children attending secondary education expressed as a percentage of the eligible secondary school age population increased from about 24 percent in 1990 to 31 percent by 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 about 55 to 74 percent, than in rural areas, from 20 to about 26 percent. Once again the gross attendance ratios indicate that females, more especially those residing in rural areas, are less likely to attend secondary education than their male counterpart in the province. More than 80 percent of the rural females were not attending secondary education compared to less than one third of their urban counterpart.

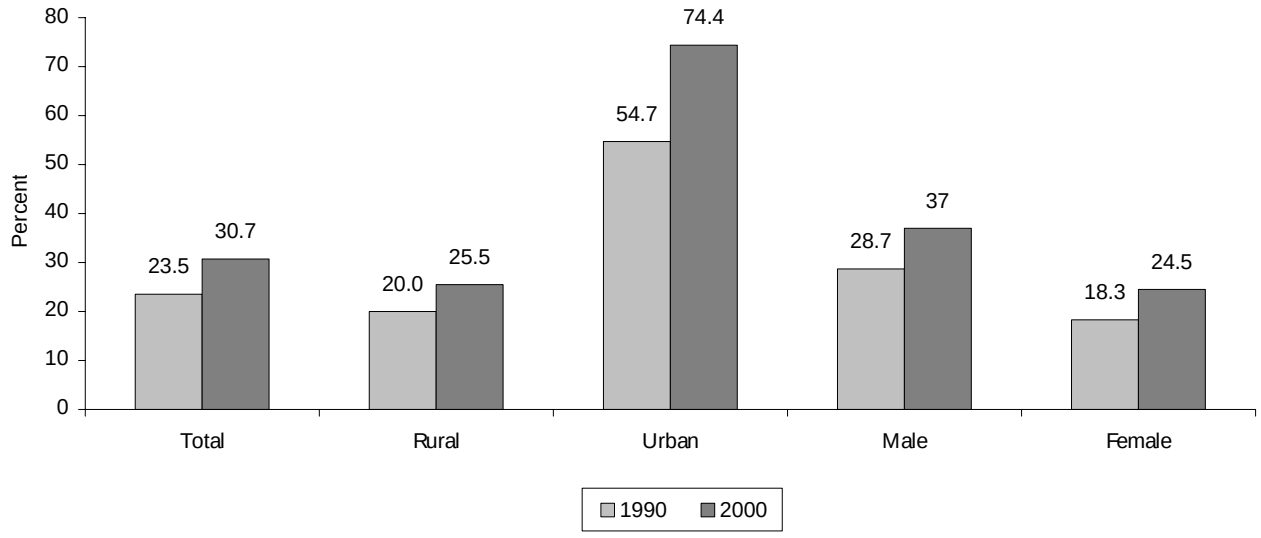
The 2000 Census results further demonstrate high levels of participation in secondary education in Chipata (38 percent), followed by Mambwe (36 percent), Lundazi and Chama districts, both at 32 percent each. Katete district recorded the least rate of attendance of about 22 percent, followed by Petauke, Nyimba and Chadiza districts, all at 26 percent apiece. It is important to note the low levels female of education participation in Chama, Katete and Nyimba districts, which only account for less than 1 fifth of the eligible female population.

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

Residence and District	Gross Secondary School Attendance Rates			
	Total	Male	Female	Population (14 – 18 Yrs)
Zambia (1990)	34.6	40.4	29.0	996,450
Eastern (1990)				
Total	23.5	28.7	18.3	125,684
Rural	20	25.1	14.7	112,959
Urban	54.7	62.3	47.9	12,725
Zambia (2000)	44.5	50.2	39.1	1,105,484
Eastern (2000)				
Total	30.7	37	24.5	135,231
Rural	25.5	31.8	19.2	120,801
Urban	74.4	83	66.7	14,430
District				
Chadiza	26.3	31.1	21.1	8,559
Chama	31.8	46	17.9	7,833
Chipata	38.4	43.2	33.7	39,014
Katete	21.9	25.7	18.1	18,981
Lundazi	32.4	41.2	23.7	23,295
Mambwe	36	45.4	26.5	4,793
Nyimba	25.7	32.7	18.8	7,371
Petauke	25.6	31.1	20.1	25,385

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

Figure 5.7: Gross Secondary Attendance Ratios by Sex and Residence, Eastern Province, 1990 and 2000



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

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

Results in Table 5.10 indicate that a significant proportion of the secondary school age population had no access to education in Eastern Province. In 1990, more than one-third of the children aged 14 to 18 years (39 percent) were attending secondary education. This proportion increased to 42.2 percent during the year 2000 and it is higher than the national average which increased to 30.9 in 2000. Since 1990 there were proportionately more boys than girls attending secondary school.

Differences in net secondary school attendance rates have existed since 1990. The proportion of eligible children in urban areas attending secondary education (62.9 percent) was significantly more than that of their rural counterpart (36.6 percent). However, net secondary school attendance rate for rural areas increased from about 36.6 percent in 1990 to 39.6 percent in 2000.Similarly, in urban areas, the proportion of eligible children attending secondary education increased from about 62.9 percent to 64.2 percent during the same period.

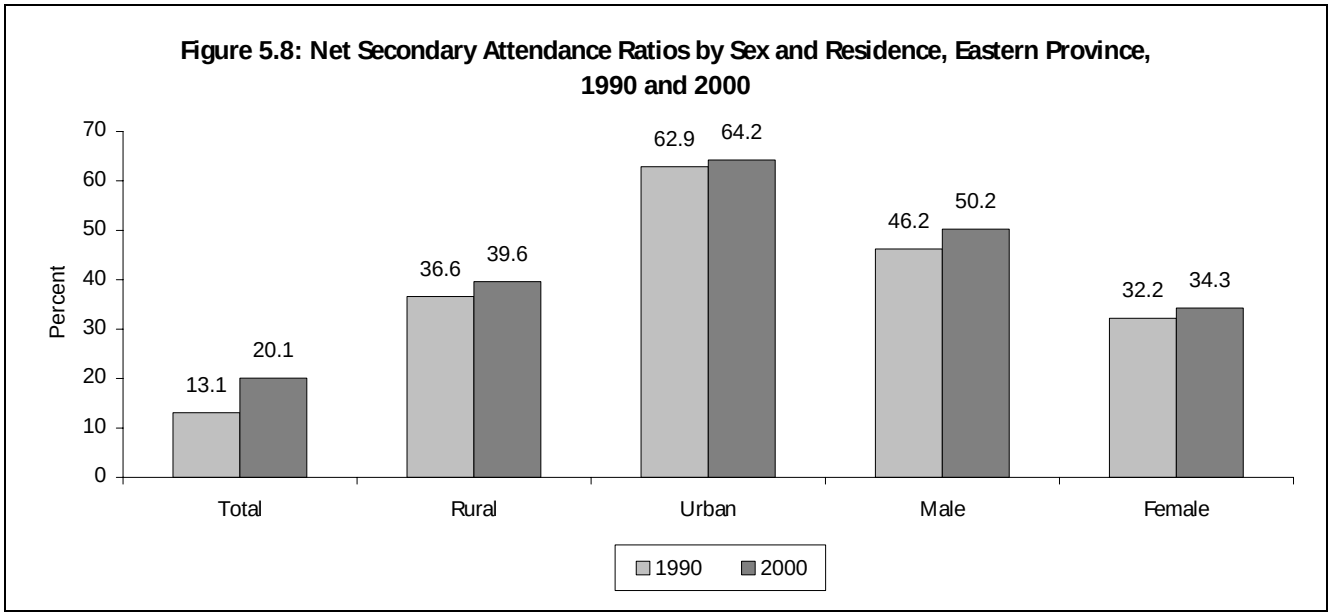
Analysis of the 2000 census results by districts show that Katete District followed by Petauke, Chadiza and Nyimba had the lowest net secondary school attendance rates of 39,37,38 and 44 percent, respectively. On the other hand Chama District recorded the highest rates of about 49.4 percent. In terms 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 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 Eastern Province, 1990 and 2000

Residence and District	School Attendance Rates			
	Total	Male	Female	Population (14 – 18 Yrs)
Zambia (1990)	21.4	22.8	20	996,450
Eastern (1990)				
Total	39.3	46.2	32.2	125684
Rural	36.6	43.6	29.3	112959
Urban	62.9	70	56.6	12725
Zambia (2000)	30.9	33.3	28.7	1,105,484
Eastern (2000)				
Total	42.2	50.2	34.3	135231
Rural	39.6	47.9	31.2	120801
Urban	64.2	70	59	14430
District				
Chadiza	38.2	42.5	33.6	8559
Chama	49.4	67.4	31.7	7833
Chipata	44.9	50.7	39.3	39014
Katete	31.8	36.8	26.9	18981
Lundazi	49.3	61.7	37.2	23295
Mambwe	48.8	60.3	37.1	4793
Nyimba	43.7	54.2	33.2	7371
Petauke	36.7	43.1	30.2	25385

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



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

5.12 Population Distribution by Selected Fields of Study

Table 5.11 shows the population aged 5 years and over by some selected field of study and sex for Eastern province. The table reveals that the most popular fields of study since 1990 have been Teacher training, Industrial engineering, Nursing, Agricultural related training, Accountancy, Mechanics/mechanical engineering. These fields account for more than 60 percent of the population undertaking the selected fields of study.

There was an increase in the number of persons undertaking some of the popular selected fields of study between 1990 and 2000. Notable among the fields of study is nursing which increased by more than 300 percent. There were marked increases in the population undertaking Computer science and textile trade as well. The proportion of the population who reported nursing as their field of study rose from about 7 to 33 percent. The percentage of male nurses soared from about 2 to 30 percent between 1990 and 2000.

The results also clearly indicate that males have 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, (Percent) Eastern Province, 1990 and 2000

Field of Study	1990			2000		
	Total	Male	Female	Total	Male	Female
All Fields	9,901	7,244	2,657	13,539	9,706	3,833
Total	100.0	100.0	100.0	100.0	100.0	100.0
Natural Science	3.2	2.9	3.9	0.5	0.6	0.2
Civil Engineering	1.2	1.3	1.0	0.5	0.6	0.1
Electronic Engineering	2.1	2.3	1.5	1.4	1.9	0.2
Mechanic Engineering	4.5	5.8	0.8	3.5	4.8	0.2
Mining Engineering	1.2	1.3	0.8	0.4	0.6	0.0
Industrial Engineering	6.7	6.0	8.8	0.6	0.6	0.6
Architecture	2.4	2.3	3.0	0.3	0.3	0.1
Medicine/Surgery	2.0	2.2	1.4	0.7	0.8	0.4
Pharmacy	3.2	3.4	2.6	0.6	0.8	0.2
Nursing	6.6	2.3	18.3	32.6	30.1	39.1
Medical Technology	1.5	1.9	0.6	1.6	2.0	0.7
Computer Science	0.1	0.2	0.1	0.8	0.6	1.4
Economics	1.0	0.6	2.0	0.7	0.6	1.0
Accountancy	5.3	6.4	2.4	5.3	6.0	3.4
Teacher Training	35.8	34.4	39.7	29.7	27.7	34.8
Law/jurisprudence	2.3	2.7	0.9	1.1	1.5	0.2
Fine arts	0.4	0.6	0.0	0.5	0.5	0.3
Social Welfare	1.1	1.2	1.1	0.6	0.6	0.5
Criminology	1.5	2.0	0.1	2.6	3.3	0.7
Business Administration	3.3	4.0	1.4	2.3	2.6	1.7
Secretarial Training	1.4	0.6	3.5	1.9	0.3	6.0
Office Machine	0.8	0.9	0.3	0.2	0.2	0.2
Service Trade	1.4	1.2	2.0	1.8	1.7	2.1
Agriculture/Forestry/Fisheries	6.5	8.3	1.6	5.3	6.9	1.4
Wood Working	3.2	4.3	0.2	3.0	4.0	0.4
Textile Trade	1.3	1.0	2.0	1.6	0.6	4.1

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

Note: The ISIC codes for field of study have been reduced to 3 digits to enhance analysis. However, this could lead to the lumping up of specific fields of study into a broad class based on a 3 digit description.

Table 5.12a and 5.12b show the distribution of the 2000 and 1990 population aged 5 years and above by field of study and education level completed in Eastern province. The tables reveal the type of restrictions education attainment imposes on various fields 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. Notable from the 1990 and 2000 tables is the increase in the proportion of degree holders for almost all the fields of study since 1990.

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

Field of Study	Size	Total	Level of Education Completed				
			1-7	8-9	10-12	'A' Level	Degree
Natural Science	313	100	27.5	24.9	42.2	1.0	4.5
Civil Engineering	121	100	38.8	5.0	28.1	2.5	25.6
Electronics/Engineering	205	100	33.7	8.8	41.0	0.5	16.1
Mechanics/Engineering	444	100	38.7	11.0	43.2	0.9	6.1
Chemical Engineering	63	100	55.6	3.2	22.2	1.6	17.5
Mining Engineering	118	100	58.5	6.8	19.5	.	15.3
Industrial Engineering	668	100	80.2	11.7	2.8	0.1	5.1
Metallurgical Engineering	126	100	28.6	27.8	11.1	.	32.5
Architecture	242	100	8.3	62.4	20.2	0.4	8.7
Other Engineering	185	100	14.1	8.1	70.8	0.5	6.5
Medicine/Surgery	198	100	23.2	8.1	59.1	2.0	7.6
Pharmacy	317	100	3.5	2.2	89.9	0.3	4.1
Dentistry	69	100	10.1	10.3	65.2	21.7	2.9
Nursing	652	100	11.2	11.2	74.5	0.6	2.5
Medical Technology	151	100	19.9	11.9	60.9	0.7	6.6
Veterinary	95	100	25.3	17.9	53.7	1.1	2.1
Computer Science	13	100	23.1	7.7	69.2	.	.
Economics	98	100	25.5	17.3	43.9	5.1	8.2
Accountancy	524	100	10.1	9.9	75.4	1.9	2.7
Teacher Training	3,547	100	11.4	12.6	72.7	0.9	2.4
Law/jurisprudence	224	100	25	12.1	57.6	1.3	4.0
Journalism	26	100	11.5	7.7	65.4	11.5	3.8
Fine arts	41	100	34.1	12.2	36.6	4.9	12.2
Social Welfare	113	100	30.1	10.6	51.3	3.5	4.4
Criminology	144	100	37.5	11.1	47.2	.	4.2
Business Administration	323	100	17.3	14.6	62.8	3.1	2.2
Secretarial Training	135	100	11.9	10.4	74.8	0.7	2.2
Shorthand Typing	474	100	18.4	13.1	66.5	.	2.1
Clerical typing	366	100	14.2	20.2	62.8	.	2.7
Office Machine	76	100	39.5	9.2	46.1	.	5.3
Service Trade	143	100	53.1	16.8	20.3	.	9.8
Agriculture/Forestry/Fisheries	646	100	23.7	11.9	61.0	0.8	2.6
Food/Drink Production	44	100	45.5	9.1	36.4	2.3	6.8
Wood Working	320	100	59.7	9.7	25.9	0.3	4.4
Textile Trade	126	100	50.8	9.5	31.0	0.8	7.9

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

Note: The ISIC codes for field of study have been reduced to 3 digits to enhance analysis. However, this could lead to the lumping up of specific fields of study into a broad class based on a 3 digit description.

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

Field of Study	Size	*Total*	Level of Education Completed				
			1-7	8-9	10-12	'A' Level	Degree
Natural Science	69	100	5.8	1.4	58.0	1.4	33.3
Civil Engineering	66	100	9.1	9.1	56.1	3.0	22.7
Electronics/Engineering	189	100	11.6	10.1	45.0	-	33.3
Mechanics/Engineering	471	100	17.2	7.4	46.9	1.5	27.0
Chemical Engineering	15	100	20.0	6.7	53.3	-	20.0
Mining Engineering	55	100	40.0	9.1	32.7	-	18.2
Industrial Engineering	77	100	37.7	28.6	16.9	-	16.9
Metallurgical Engineering	13	100	7.7	15.4	30.8	7.7	38.5
Architecture	34	100	20.6	20.6	29.4	2.9	26.5
Other Engineering	92	100	16.3	7.6	44.6	-	31.5
Medicine/Surgery	97	100	4.1	4.1	55.7	1.0	35.1
Pharmacy	80	100	7.5	21.3	53.8	10.0	7.5
Dentistry	60	100	6.7	3.3	63.3	1.7	25.0
Nursing	4,418	100	17.5	12.6	52.7	0.5	16.7
Medical Technology	223	100	5.4	4.0	54.7	0.4	35.4
Veterinary	102	100	6.9	12.7	48.0	-	32.4
Computer Science	109	100	1.8	4.6	52.3	0.9	40.4
Economics	96	100	13.5	9.4	34.4	-	42.7
Accountancy	716	100	2.2	4.1	56.8	0.3	36.6
Teacher Training	4,021	100	4.3	5.1	57.9	1.1	31.5
Law/jurisprudence	147	100	15.0	8.8	45.6	2.7	27.9
Journalism	56	100	8.9	1.8	58.9	1.8	28.6
Fine arts	62	100	24.2	4.8	40.3	-	30.6
Social Welfare	78	100	5.1	10.3	47.4	-	37.2
Criminology	347	100	7.5	10.1	36.3	-	46.1
Business Administration	315	100	6.0	7.0	48.9	1.0	37.1
Secretarial Training	255	100	2.4	3.5	49.4	0.8	43.9
Shorthand Typing	193	100	11.4	17.6	47.2	1.0	22.8
Clerical typing	229	100	7.9	20.1	48.0	0.9	23.1
Office Machine	23	100	30.4	17.4	30.4	-	21.7
Service Trade	246	100	30.1	17.1	28.9	-	24.0
Agriculture/Forestry/Fisheries	722	100	8.4	9.1	56.2	0.4	25.8
Food/Drink Production	35	100	25.7	11.4	28.6	2.9	31.4
Wood Working	400	100	32.8	22.0	28.8	-	16.5
Textile Trade	218	100	30.3	20.2	24.8	3.2	21.6

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

Note: The ISIC codes for field of study have been reduced to 3 digits to enhance analysis. However, this could lead to the lumping up of specific fields of study into a broad class based on a 3 digit description.

5.13 Certificate and Diploma Holders by Level of Education Completed

Table 5.13 shows the education level completed by certificate and diploma holders in Eastern province. The certificates referred to in this report exclude those obtained during grades school i.e. Grade 7, 9 and 12 school certificates. Overall, the number of certificate holders barely declined by less than 1 percent between 1990 (13,478) and 2000 (13,395). The percent drop was mainly as a result of a decline in the number of male certificate holders of about 6 percent. The number of female certificate holders increased by 12 percent over and above the 1990 figure of 3,690. The proportion of persons with certificates who had attained grades 1 to 7 declined from 33.2 percent in 1990 to 19.0 percent in 2000, whilst the proportions attaining higher grades generally increased quite sharply. This pattern is replicated for both the male and female population. These findings clearly demonstrate how difficult it has become to get certification with limited education background.

Further, the number of diploma holders after grades increased by about 33 percent from 1, 636 in 1990 to 2,174 in 2000. The rise in the number of diploma holders was much more marked among females (48 percent) than males (30 percent). Once again there was a decline in the proportions of diploma holders with grades 7 to 9 education from 9.2 and 5.8 percent to 3.4 and 3.8 percent respectively. However, the percentage of diploma holders who had accomplished grades 10 to 12 increased from 78.8 percent in 1990 to 91.7 percent by 2000. The same pattern applies to both male and female holders. (Refer to table 5.13). These results clearly demonstrate the kinds of restrictions that education background poses on certification and qualification.

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

Level of Education and Sex	Size	Education Level Completed				
		1-7	8-9	10-12	'A' Level	Total
Certificates						
Eastern 1990						
Total	13,478	33.2	15.1	51.3	0.3	100
Male	9,788	35.6	14.4	49.7	0.4	100
Female	3,690	27.1	17.2	55.6	0.2	100
Eastern 2000						
Total	13,395	19.0	15.1	64.7	1.0	100
Male	9,248	20.2	14.2	64.5	1.0	100
Female	4,147	16.1	17.4	65.2	1.2	100
Diploma						
Eastern 1990						
Total	1,636	9.2	5.8	78.8	6.2	100
Male	1,390	8.9	6.0	79.1	6.0	100
Female	246	10.6	4.9	76.8	7.7	100
Eastern 2000						
Total	2,174	3.4	3.8	91.7	1.0	100
Male	1,809	4.0	3.9	91.1	1.0	100
Female	365	-	3.4	95.1	1.5	100

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

5.14. Summary

In Eastern Province literacy rates did not improve between 1990 and 2000, they remained low at about 62.1 percent. Thus 37.9 percent of all persons 5 years and above were illiterate. Literacy rates for males in urban areas are much higher than those for females and rural areas, 46.0 percent and 31.0 percent respectively. The youth (15-24) and adults (15 years +) recorded better overall rates of 50.0 percent and 48.0 percent respectively, in 2000.

In 2000, 19.4 percent of the population 5 years and above were in school an increase of only 2.3 percentage points from the 1990 level. The male children had a higher attendance rate of about 21.9 percent compared to 17.1 percent for their female counterparts.

At primary level, there are more female children enrolled than there are males. Forty-five percent of the females are enrolled compared to 44.1 percent for the males. This situation is reversed at secondary school level where more males (50.2 percent) than females (34.3 percent) are attending school.

Children coming from the following groups are disadvantaged: rural, female. Rural and female children are less likely to enroll and progress beyond primary level.

The most popular fields of study are teacher training, nursing, accountancy and agriculture. This is a typical rural province with a limited number of institutions of higher learning.

Chapter 6

ECONOMIC CHARACTERISTICS

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 labourforce 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:

- Labourforce participation
- Employment and unemployment
- Employment status
- Occupation
- Industry and
- Educational attainment

6.2 Concepts and Definition

- **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 Population and Housing Census, the working-age population is defined as all persons aged 12 years and over.

Figure 6.1: Working Age Population 12 Years and Over

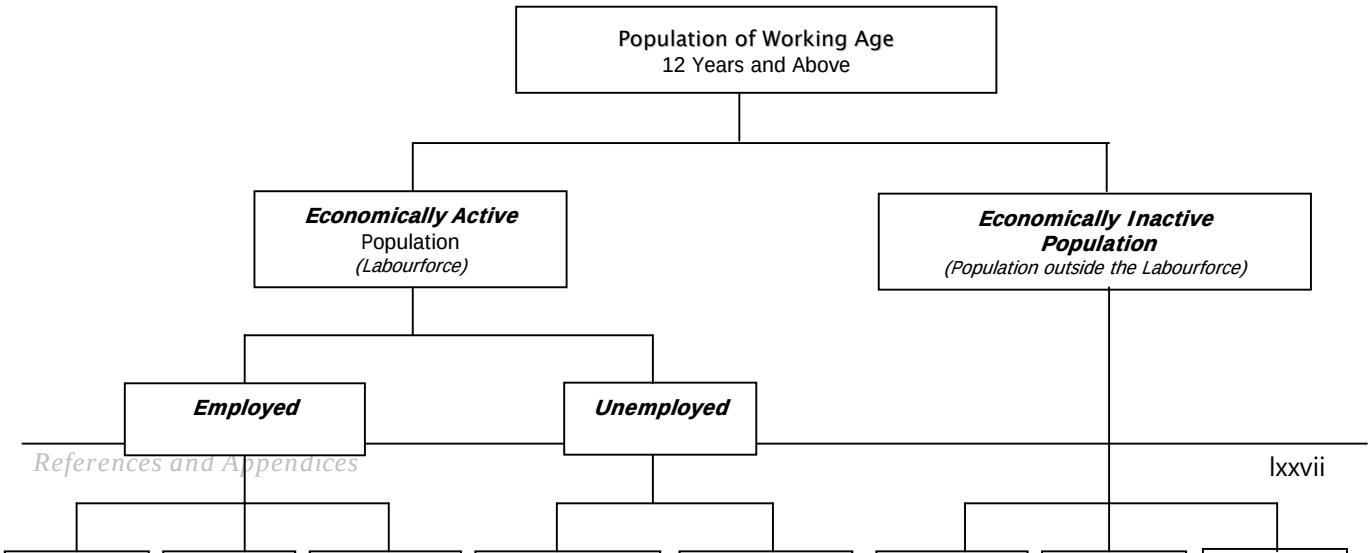


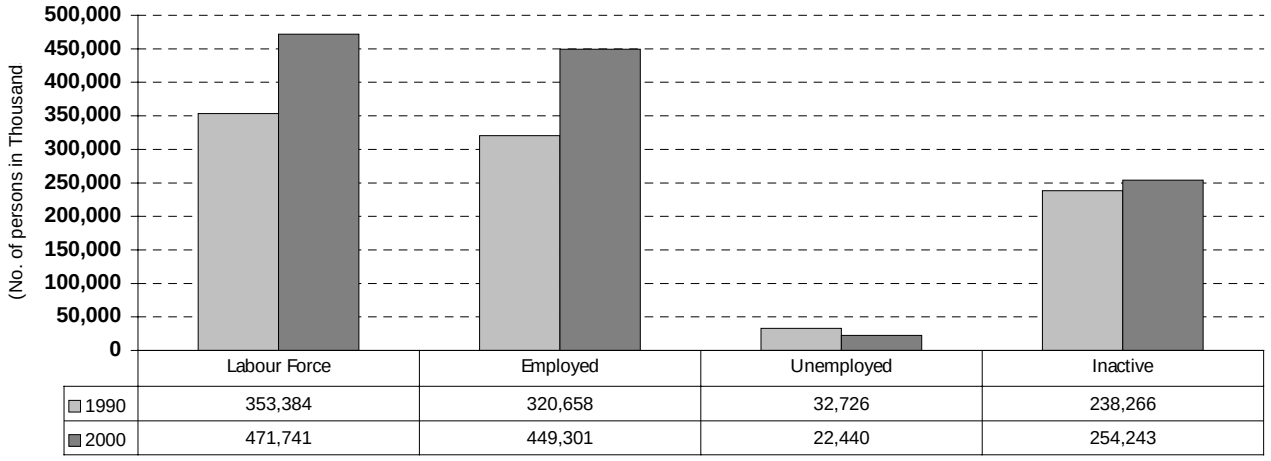
Figure 6.1 is a diagrammatic presentation of the various categories of the population of working-age. Table 6.1 presents the population 12 years and over by age group, residence and sex for 1990 and 2000. The working-age population in Eastern Province has increased by 20.2 percent. The increase of the male working-age population of 21.1 percent is higher than the female working-age population of 19.0 percent. In rural areas, the working-age population has increased by 19.9 percent, while in urban areas it has increased by 22.6 percent. The increase of 21.7 percent for the male working-age population in rural areas is more than the increase of 18.4 percent for the female working-age population; In urban areas, on the other hand, the increase of 19.8 percent in the male working-age population is significantly less than the increase in the female working-age population of 25.4 percent.

Table 6.1: Population 12 years and Over by Broad Age Groups-Residence and Sex Eastern Province 1990 and 2000.

Residence and Sex	Year	Population Size	Total Percent	12-19	20-24	25-29	30-59	60+	Not Stated
	1990	604,043	100	32.1	14.3	10.8	33.6	9.1	0.1
Total	2000	725,984	100	29.4	15.4	12.7	33.6	9	0.0
Percent Increase		20.2							
	1990	285,912	100	34.4	14	10.5	31.5	9.5	0.1
Male	2000	346,361	100	30.6	14.9	12.6	33	8.9	0.0
Percent Increase		21.1							
	1990	319,000	100	30.1	14.6	11	35.5	8.7	0.1
Female	2000	379,623	100	28.3	15.8	12.7	34.1	9.1	0.0
Percent Increase		19.0							
Residence									
Rural									
	1990	548,013	100	31.8	14.2	10.6	33.6	9.8	0.0
Total	2000	657,293	100	29.1	15.1	12.6	33.7	9.5	0.0
Percent Increase		19.9							
	1990	257,131	101	34.5	13.9	10.4	30.9	10.9	0.1
Male	2000	312,930	100	30.5	14.6	12.5	32.9	9.4	0.0
Percent Increase		21.7							
	1990	290,882	100	29.5	14.4	10.8	36	9.3	0.0
Female	2000	344,363	100	27.8	15.5	12.6	34.5	9.7	0.0
Percent Increase		18.4							
Urban									
	1990	56,013	100	35	15.8	12.5	33.5	3	0.2
Total	2000	68,691	100	32.6	18.1	13.4	32.2	3.7	0.0
Percent Increase		22.6							
	1990	27,913	100	33.4	14.7	11.7	36.5	3.4	0.3
Male	2000	33,431	100	31.6	17.3	13.4	33.9	3.8	0.0
Percent Increase		19.8							
	1990	28,118	100	36.6	16.9	13.3	30.5	2.6	0.1
Female	2000	35,260	100	33.6	18.9	13.4	30.5	3.6	0.0
Percent Increase		25.4							

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

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



	Labour Force	Employed	Unemployed	Inactive
1990	353,384	320,658	32,726	238,266
2000	471,741	449,301	22,440	254,243

Sources: CSO, 1990 and 2000 Censuses 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. Almost two thirds (64 percent) of the inactive population is female, while more than a third (36 percent) are male. About 86 percent are in the rural areas while 14 percent are in the urban areas. Home making (40.4 percent) is the most important reason for inactivity, closely followed by studying (40.1) and lastly other reasons (19.5 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 not in an order similar to the one for the whole province as in both cases "other reasons" follows home making. The only thing to note is that there are more home makers in the rural areas (80.1 percent) than in the urban areas (56.0 percent); slightly more students in the urban areas (2.0 percent) than in the rural areas (1.5 percent); there were more economically inactive people for other reasons in urban areas (42.1 percent) compared to rural areas (18.4 percent).

In 2000, males were economically inactive mainly because of studying (65.2 percent) while females were inactive primarily because of home making (57.8 percent).

Table 6.2: Current Economically Inactive Population by Reason For Inactivity, Residence and Sex, Eastern Province 2000.

Residence and Sex	Reason For Inactivity				
	Total Number	**Total**	**Home maker**	**Student**	**Other**
Eastern Province					
Total	254,243	100	40.4	40.1	19.5
Rural	218,944	100	80.1	1.5	18.4
Urban	35,299	100	56.0	2.0	42.1

Sex					
Male	91,866	100	9.8	65.2	25
Female	162,377	100	57.8	25.9	16.4

Source: CSO, 2000 Census of Population and Housing

6.5 Economically Active Population (Labour force)

Figure 6.1 above 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 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 6.4. According to this table, the labour force increased by 50.8 percent, from 353,384 in 1990 to 471,174 in 2000.However, the average annual growth rate for the province was 2.9. Its average annual growth rate in labour force between 1990 and 2000 was lower than the national average of 3.8 percent representing a deviation of 0.9 percentage points from the national. The increase of 53.6 percent in the female labour force is more than the increase of 20.1 percent among the male labour force. A big proportion of the labour force (92.7 percent in 1990 and 93.5 percent in 2000) was in rural areas, as compared to the labour force in urban areas (7.3 percent in 1990 and 6.6 percent in 2000).

Chadidza and Katete have recorded the highest average annual growth rates in the labourforce between 1990 and 2000 of 4.0 percent and 3.7 percent respectively. Chipata, Petauke and Chama (2.1 percent, 1.9 percent and 1.5 percent respectively)recorded average growth rates that are relatively lower than that of the province that is at 2.9 percent. On the other hand, Lundazi registered the lowest average growth rate as shown in Table 6.2 below.

Table 6.3: Trends in the Labourforce and the average annual growth rate of the Labour Force 1990 and 2000

District	1990	2000	Growth Rate
Zambia	2,162,487	3,165,151	3.8
Eastern Province	353384	471,741	2.9
Chadiza	21227	31336	4.0
Chama	20705	23978	1.5
Chipata	103047	127689	2.2
Katete	45631	65822	3.7
Lundazi	76795	76938	0.0
Mambwe	-	20270	-
Nyimba	-	22410	-
Petauke	85979	103298	1.9

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

"-"Denotes not applicable as they refer to new or non-existent districts.

In terms of percentage distribution of the labour force in 2000, Chipata and Petauke had the highest proportions of 27.1 percent and 21.9 percent, respectively. Lundazi and Katete were the next highest with 16.3 percent and 14.0 percent respectively. Chadiza, Chama, and the new Districts Nyimba and Mambwe had the least proportion of the labourforce with 6.6 percent, 5.1 percent, 4.8 percent and 4.3 percent respectively.

Table 6.4: Percentage Distribution of the Labourforce By District, Eastern Province 2000.

Province	Total	Male	Female
Eastern	100	100	100
Chadiza	6.6	6.6	6.7
Chama	5.1	4.5	5.7
Chipata	27.1	28.7	25.2
Katete	14.0	14.7	13.1
Lundazi	16.3	16.9	15.6
Mambwe	4.3	3.8	4.8
Nyimba	4.8	5.1	4.4
Petauke	21.9	19.7	24.4

Source: 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 471,741 total labour force in Eastern Province, 449,301 or 95.2 percent are employed. The employed population increased by 40.1 percent from 320,658 in 1990 to 449,301 in 2000. The increase of 61.5 percent in the female employed labour force is much more than the increase of 25.6 percent in the male employed labour force. The proportion of the employed population residing in rural areas has also increased from 93.1 percent in 1990 to 96.2 percent in 2000 while the proportion of the employed labour force residing in urban areas has decreased from 6.9 percent in 1990 to 3.8 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.

According to Table 6.5, the unemployed population has decreased by 31.4 percent from 32,722 in 1990 to 22,440 in 2000. The decrease of 29.1 percent in the male unemployed population is less than the decrease in the female unemployed population of 35.8 percent

In 1990 there were more unemployed people in the rural areas (88.5 percent for total; 89.5 percent for males and 86.6 for females) than in the urban areas (11.5 percent for total; 10.5 percent for males and 13.4 for females). Similarly, in 2000 there are also more unemployed people residing in the rural areas (93.6 percent for total; 97.0 percent for males and 82.2 percent for females) .In contrast, at national level there were more unemployed people residing in urban than in rural areas.

Table 6.5: Current Economically Active Population 12 Years and Over- Residence and Sex, Eastern Province

Activity and Sex	Residence and Year							
	1990				2000			
	Total Number	Total	Rural	Urban	Total Number	Total	Rural	Urban
Population								
Total	604,043	100	90.7	9.3	725,984	100	96.3	3.7
Male	285,041	100	90.2	9.8	346,361	100	97.9	2.1
Female	319002	100	91.2	9.8	379,623	100	94.9	5.1
Labour Force								
Total	353,384	100	92.7	7.3	471,741	100	93.5	6.6
Male	211,940	100	91.6	8.4	254,495	100	99.9	0.1
Female	141,444	100	94.3	5.7	217,246	100	95.0	5.0
Employed								
Total	320,658	100	93.1	6.9	449,301	100	96.2	3.8
Male	190,655	100	91.9	8.1	239,396	100	98.1	1.9
Female	130,003	100	95.0	5.0	209,905	100	93.9	6.1
Unemployed								
Total	32,726	100	88.5	11.5	22,440	100	93.6	6.4
Male	21,285	100	89.5	10.5	15,099	100	97.0	3.0
Female	11,441	100	86.6	13.4	7,341	100	82.2	17.8
Inactive								
Total	238,266	100	88.2	11.8	254,243	100	96.8	3.2
Male	66,993	100	86.4	13.6	91,866	100	96.6	3.4
Female	171,273	100	88.9	11.1	162,377	100	96.8	3.2
Not Stated								
Total	12,399	100	83.2	16.8	0.0	0.0	0.0	0.0
Male	6,114	100	8.2	17.7	0.0	0.0	0.0	0.0
Female	6,285	100	84.0	16.0	0.0	0.0	0.0	0.0

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

Table 6.6 shows the economically active and economically inactive population by age, sex and nature of current economic activity for the Eastern province. For the total labourforce and the employed the peak-age-group was 35-54 years (25.2 percent for total, 25.7 percent for Males and 24.6 percent for females) and (25.7 percent for total, 26.2 percent for male and 25.1 percent for female), respectively.

For the unemployed and the economically inactive population, the peak-age group was 12-19 years, (30.2 percent for total, 24.8 for male and 41.2 for female) and (47.7 percent for total, 66.5 percent for male and 37.1 percent for female), respectively.

Figure 6.3 shows a diagrammatic presentation of the economically active population by age and sex. The peak age group was the age-range 35-54 years.

Table 6.6 shows the economically active and economically inactive population by age, sex and nature of current economic activity for the Eastern province. For the total labourforce and the employed the peak-age-group is 35-54 years (25.2 percent for total, 25.7 percent for Males and 24.6 percent for Females) and (25.7 percent for total, 26.2 percent for male and 25.1 percent for female, respectively.

For the unemployed and the economically inactive Population, the peak-age group is 12-19 years, (30.2 percent for total, 24.8 for male and 41.2 for female and 47.7 percent for total, 66.5 percent for male and 37.1 percent for female, respectively).

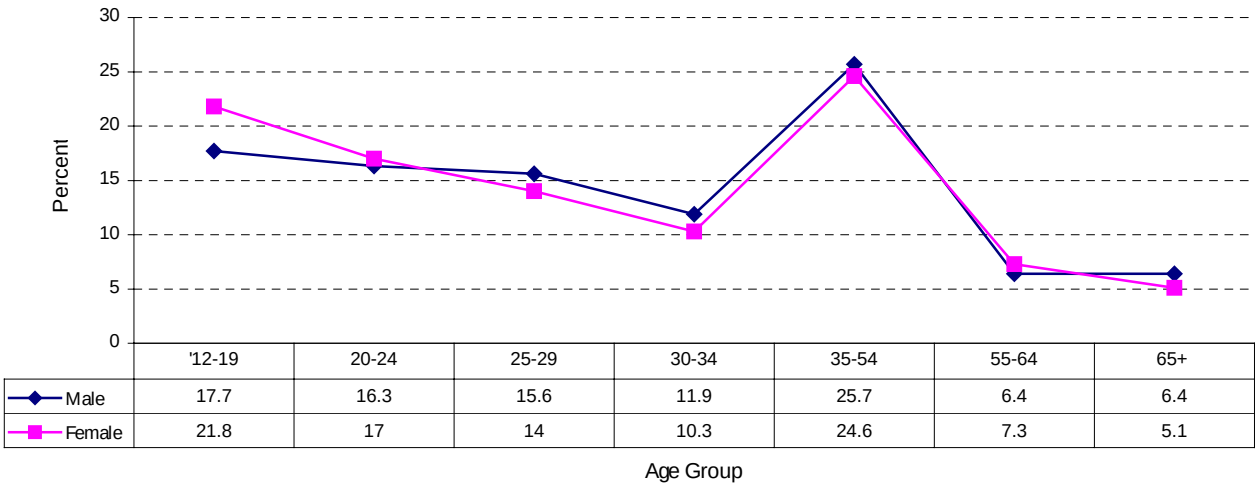
Figure 6.3 shows a diagrammatic presentation of the economically active population by age and sex. The peak age group is the age-range 35-54 years.

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

Activity and sex	Total	Percent	Age Group							
			12-19	20-24	25-29	30-34	35-54	55-64	65+	Not Stated
Labour Force										
Total	471,741	100	19.6	16.6	14.9	11.2	25.2	6.8	5.8	0.0
Male	254,495	100	17.7	16.3	15.6	11.9	25.7	6.4	6.4	0.0
Female	217,246	100	21.8	17.0	14.0	10.3	24.6	7.3	5.1	0.0
Employed										
Total	449,301	100	19.0	16.2	14.8	11.3	25.7	7.0	6.0	0.0
Male	239,396	100	17.2	15.8	15.5	12.0	26.2	6.6	6.6	0.0
Female	209,905	100	21.1	16.7	14.0	10.4	25.1	7.5	5.2	0.0
Unemployed										
Total	22,440	100	30.2	24.9	16.0	9.6	14.8	2.7	1.9	0.0
Male	15,099	100	24.8	24.9	17.6	10.9	16.8	2.9	2.0	0.0
Female	7,341	100	41.2	24.9	12.6	6.9	10.6	2.1	1.6	0.0
Inactive										
Total	254,243	100	47.7	13.0	8.5	6.0	13.7	4.4	6.6	0.0
Male	91,866	100	66.5	11.0	4.4	3.0	6.6	2.6	6.0	0.0
Female	162,377	100	37.1	14.2	10.9	7.7	17.7	5.4	6.9	0.0

Source: CSO, 2000 Census of Population and Housing

Figure 6.3: Economically Active Population (12 Years and Over) by Age and Sex, Eastern Province, 2000



Source: CSO, 2000 Census of Population and Housing

6.6. Economic Dependency Ratios

Economic dependency is a concept which 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 economic dependency ratios by Sex and Residence. The table shows that with the exception of the dependency ratio for males, which increased slightly from 31.6 to 36.1, the ratios had decreased for the rest of the categories. The overall economic dependency ratio decreased from 67.4 percent in 1990 to 53.9 percent in 2000. The most significant decrease was for the females (121 percent in 1990 to 74.7 percent in 2000). A diagrammatic presentation of the decreases are shown in figure 6.4.

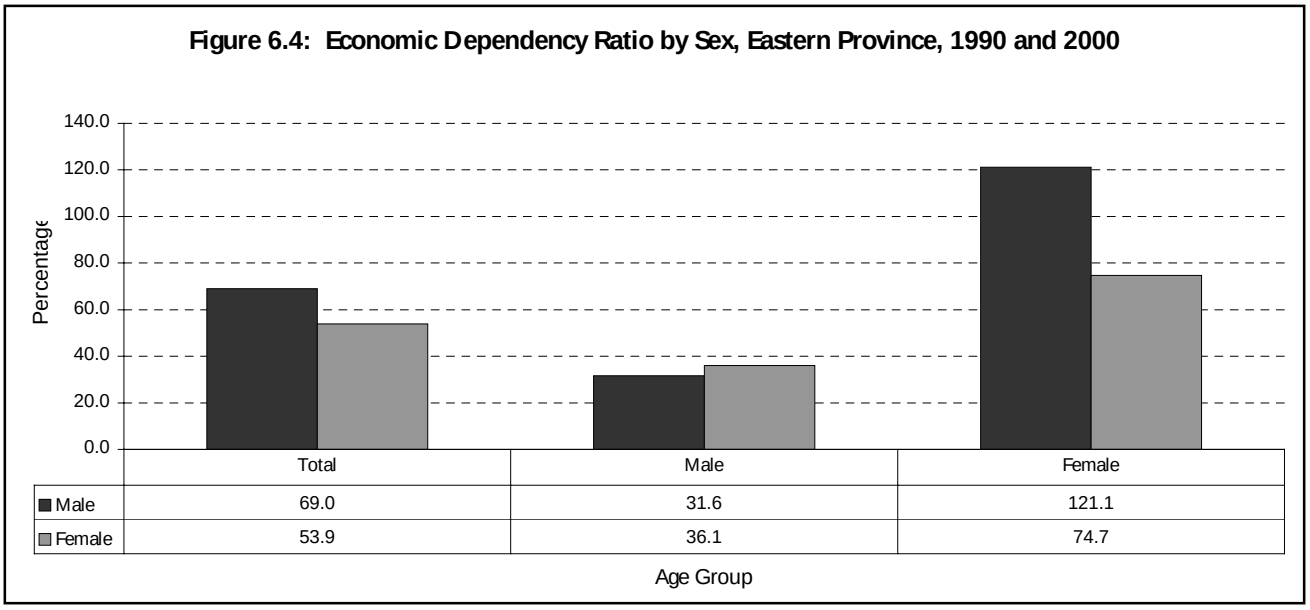
The decline in the economic dependency ratio at national level between 1990 and 2000 was significantly more than the decline of the ratio in the province (114 in 1990 to 79 in 2000 at national level versus 67.4 in 1990 to

53.9 in 2000 at provincial level). The economic dependency ratio for the province was lower than the national economic dependency ratio, in both 1990 and 2000

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

Labour Force	1990	2000
Zambia	**2,162,487**	**3,165,151**
Total Eastern	353,384	471,741
Male	211,940	254,495
Female	141,444	217,246
Rural	327,598	438,349
Urban	25,786	33,392
Economic dependency ratio (Percentage)		
Total Zambia	114	79
Total Eastern	67.4	53.9
Male	31.6	36.1
Female	121.1	74.7
Rural	64.1	49.9
Urban	109.2	105.7

Source: CSO, 2000 Census of Population and Housing



Sources: CSO, 1990 and 2000 Censuses 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 had been an increase in the working-age population who were involved in economic activities between the two censuses, The labour force participation rate increased from 57.7 percent in 1990 to 73.4 percent in 2000. The increase in the female labour force participation rate from 47.2 percent in 1990 to 72.3 in 2000 is more than the increase for male labourforce participation rate from 69.4 percent in 1990 to 74.7 percent in 2000.Labourforce participation at national level (46.6 percent) is less than the provincial labourforce participation (73.4 percent).

The trend by districts is almost the same except Petauke which showed the highest increment in the Labourforce participation rate from 55.8 percent in 1990 to 81.5 percent in 2000. In 1990, labourforce participation rate was highest in Lundazi with 73.7 percent and lowest in chipata with 50.8 while in 2000,the highest was observed in Petauke with 81.5 percent and the least was observed in Nyimba with 60.9 percent.

Table 6.8: Trends in Labour force Participation Rates by District and Sex, Eastern Province 1990 and 2000.

Eastern	1990			2000		
	Total	Males	Females	Total	Males	Females
Zambia	**46.6**	**62.2**	**31.9**	**56.0**	**67.0**	**45.0**
Eastern	57.7	69.4	47.2	73.4	74.7	72.3
Chadiza	57.1	77.4	38.3	78.4	78.2	78.6
Chama	61.5	64.8	58.8	72.1	67.3	76.1
Chipata	50.8	65.7	36.9	70.1	73.6	66.8
Katete	54.9	70.7	41.0	67.6	75.5	60.5
Lundazi	73.7	74.2	73.2	76.9	73.9	79.6
Mambwe	-	-	0.0	77.0	74.1	79.7
Nyimba	-	-	0.0	60.9	69.6	53.1
Petauke	55.8	68.8	44.5	81.5	79.3	83.4

Sources: CSO, 1990 and 2000 Censuses of Population and Housing.
"-"Denotes not applicable as they refer to new or non-existent districts.

Table 6.9 shows the Current labourforce participation rates by Age, Sex and Residence for 1990 and 2000 for Eastern Province. The increase in the rural labour force participation rate (from 59.4 percent to 75.8 percent) is greater than the increase in the urban areas (from 40.5 percent in 1990 to 50.7 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 has increased from 49.4 percent in 1990 to 75.7 percent in 2000, while the male participation rate has increased from 70.7 percent in 1990 to 76.0 percent in 2000. In the urban areas, the female labour force participation rate has increased from 23.7 percent in 1990 to 38.7 percent in 2000, while the participation rate of males has increased from 57.5 percent in 1990 to 63.4 percent in 2000.

An examination of the labour force participation rates by age reveals that they were lowest (32.5 percent) in the age-group 12-14 years, rose with the increase in ages to reach a peak of 78.4 percent in the age-group 40-44 years, and then started to decline until it reached 50.0 percent for the oldest age-group 75 years and over. The pattern of the distribution of the labour force participation rates by age in both rural and urban areas was similar to the pattern described above for the total population in urban areas the where peak was reached in the age group 45 –49. The patterns are also the same for both sexes except for the pattern for females in urban areas where the peak is reached in the age group 45-49 age group.

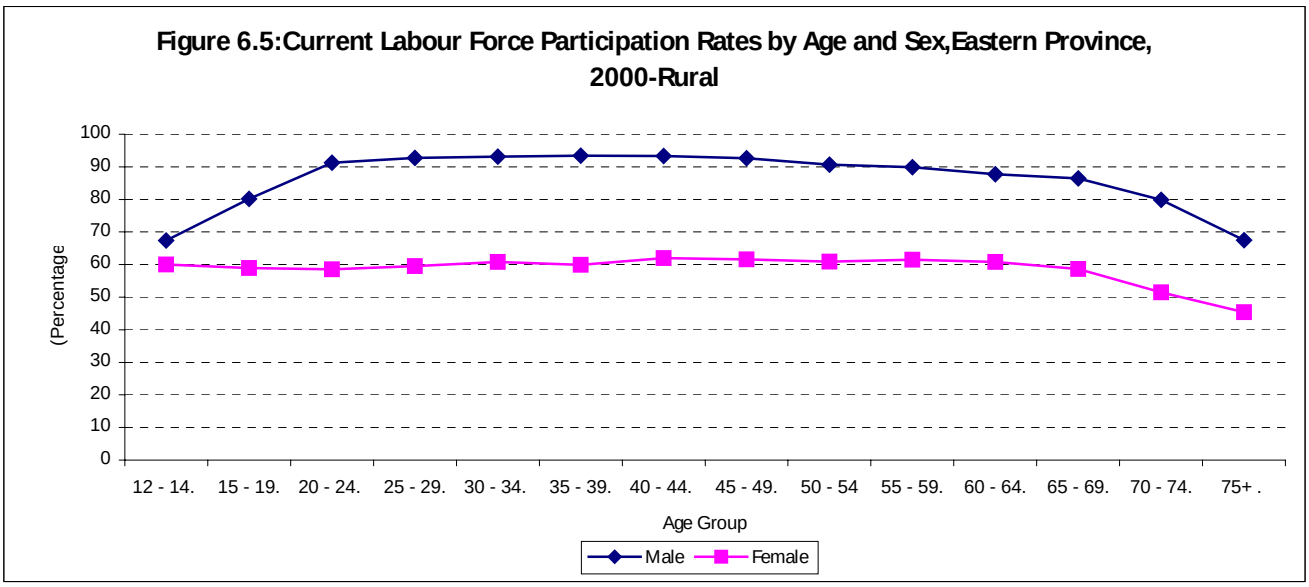
The male labour force participation rates were higher than those for females at every age group; except in the age group 15 – 19; this pattern is the same between the two sexes and in both rural and urban areas.

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

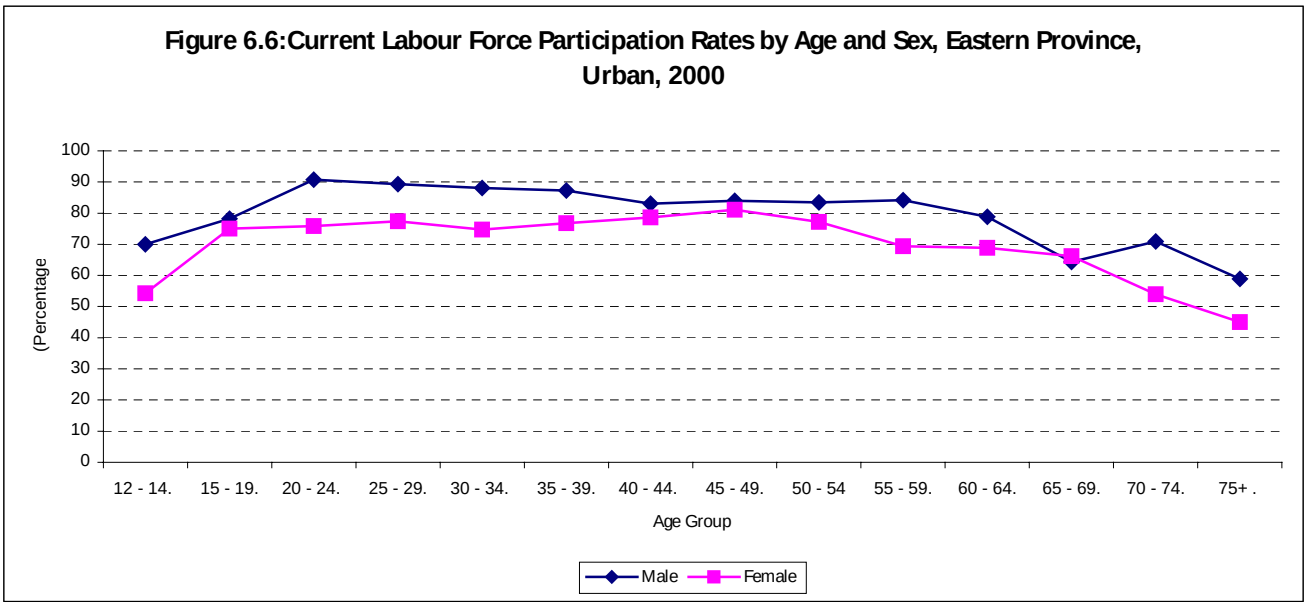
	Current Participation Rates								
	Total			Rural			Urban		
Age Group	Both	Male	Female	Both	Male	Female	Both	Male	Female
1990	57.7	69.4	47.2	59.4	70.7	49.4	40.5	57.5	23.7
2000	73.4	74.7	72.3	75.8	76.0	75.7	50.7	63.4	38.7
2000 Census Age Group									
12 - 14.	32.5	32.8	32.2	63.0	67.4	60.0	59.1	70.0	54.3
15 - 19.	49.9	48.6	51.2	61.5	80.2	58.9	75.4	78.2	75.0
20 - 24.	70.3	80.5	61.5	69.8	91.3	58.5	78.9	90.7	75.8
25 - 29.	76.4	90.8	63.2	75.1	92.7	59.5	80.4	89.3	77.4
30 - 34.	77.5	91.7	64.0	77.2	93.1	60.8	78.6	88.1	74.7
35 - 39.	77.3	92.2	63.7	76.9	93.4	59.9	79.6	87.3	76.8
40 - 44.	78.4	92.2	65.7	78.5	93.3	62.0	79.9	83.0	78.6
45 - 49.	77.9	91.4	66.0	77.9	92.6	61.6	81.8	84.0	81.1
50 – 54	75.3	89.5	65.0	75.6	90.7	60.9	78.9	83.5	77.2

55 - 59.	75.4	88.7	64.9	77.0	89.9	61.5	73.7	84.2	69.4
60 - 64.	72.8	85.5	63.6	76.1	87.7	60.8	72.1	78.8	68.9
65 - 69.	71.8	84.3	60.1	76.9	86.4	58.6	65.5	64.3	66.2
70 - 74.	63.5	76.7	50.9	72.2	79.9	51.5	61.3	70.9	54.0
75+.	50.0	63.3	36.4	63.3	67.5	45.4	51.6	58.9	45.0

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



Source: CSO, 2000 Census of Population and Housing.



Source: CSO, 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 labourforce is found in various forms of self-employment 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).

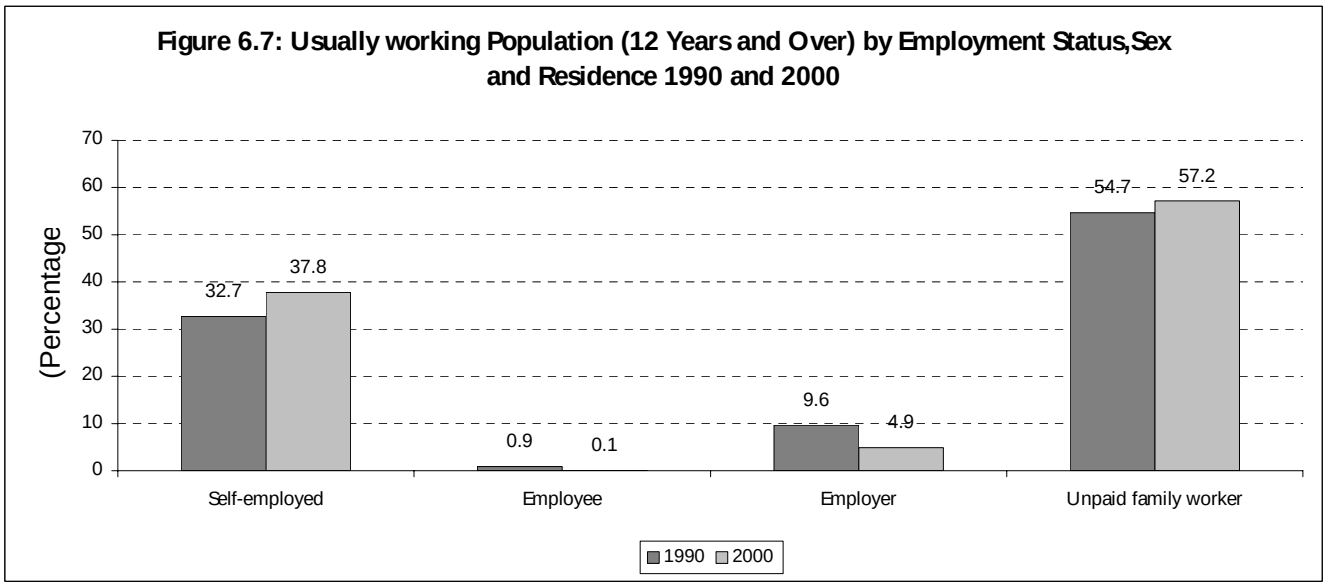
Table 6.10 shows that the usually working population declined by 14.3 percent from 603,269 in 1990 to 516,763 in 2000

In terms of employment status, the total self-employed persons as a proportion of the total usually working population increased from 32.7 percent in 1990 to 37.8 in 2000. The ratio of the self-employed persons by sex has only increased for males between the two periods. The increase in the male self- employed persons is from 39.4 percent in 1990 to 55.2 percent in 2000. However, female self-employed persons had reduced from 24.2 percent in 1990 to 21.8 percent in 2000. With regard to residence, a similar pattern is observed in rural areas alone. But in urban areas the increase observed for both sexes was that the proportion of the male self-employed population has increased by a bigger percentage (from 15.6 percent in 1990 to 39.2 percent) while the female self-employed population had increased from 24.4 percent in 1990 to 28.9 percent in 2000.

There was a decrease in the proportion of the workforce classified as employers. From a proportion of 0.9 percent in 1990, it dropped to 0.1 percent in 2000. A similar trend by sex and residence is observed.

The proportion of the total population classified as employees decreased from 9.6 percent in 1990 to 4.9 percent in 2000. The decrease in the male employees (from 14.5 percent in 1990 to 8.1 percent in 2000) is more than the decrease in the female employees (from 3.2 percent in 1990 to 1.9 percent in 2000).

The proportion of the unpaid family workers has increased in general from 54.7 percent in 1990 to 57.2 percent in 2000. There were larger increases in the urban unpaid family workers especially among females who had increased from 24.8 percent in 1990 to 46.6 percent in 2000. The most significant decrease was in the proportion of male unpaid family workers (from 45.4 percent in 1990 to 38.3 percent in 2000).



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

Table 6.10: 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	311,073	516,763	292,263	488558	18,810	28205
Male	174,258	248,420	160,547	231284	13,711	17136
Female	136,815	268,343	131,716	257274	5,099	11069
Total percentage						
Total	100	100	100	100	100	100
Male	100	100	100	100	100	100
Female	100	100	100	100	100	100
Self Employed						
Total	32.7	37.8	33.6	38	18	35.2
Male	39.4	55.2	41.4	56.3	15.6	39.2
Female	24.2	21.8	24.2	21.5	24.4	28.9
Employee						
Total	9.6	4.9	6.2	3	62.5	37.7
Male	14.5	8.1	9.8	5.3	70	46.5
Female	3.2	1.9	1.7	0.9	42.3	24.2
Employer						
Total	0.9	0.1	0.8	0.1	3.5	0.7
Male	1.5	0.2	1.1	0.1	4.2	0.9
Female	0.4	0.0	0.3	0.0	1.6	0.3
Unpaid-family Worker						
Total	54.7	57.2	57.4	59	11.9	26.5
Male	42.6	36.6	45.4	38.3	7.1	13.4
Female	70.1	76.3	71.9	77.6	24.8	46.6
Not Stated						
Total	0	0	0	0	0	0
Male	0	0	0	0	0	0
Female	0	0	0	0	0	0

Sources: CSO, 1990 and 2000 Censuses 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 show some similarities.

The three most common occupations for males were Agriculture (70.7 percent in 1990 and 86.8 percent in 2000), Production and related workers (3.0 percent in 1990 and 3.4 percent in 2000), and Professional, Technical and related occupations (3.2 percent in 1990 and 2.1 percent in 2000).

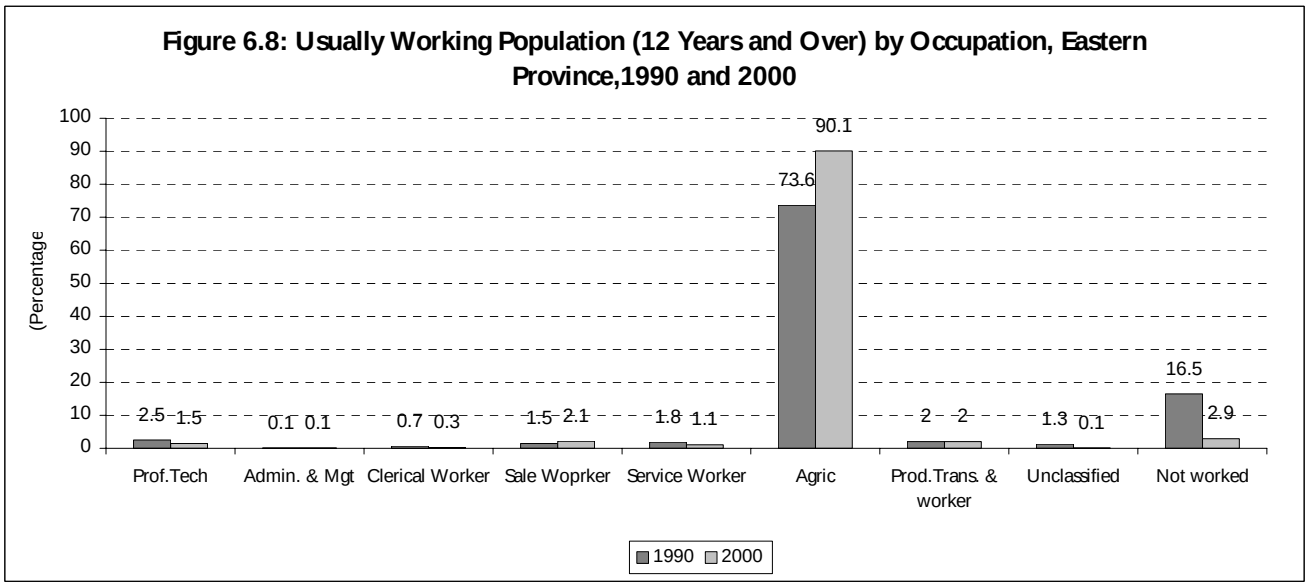
The three most common occupations for females are Agriculture (77.2 percent in 1990 and 93.2 percent in 2000), Sales workers (1.3 percent in 1990 and 1.4 percent in 2000) and Professional, Technical and related occupations (1.7 in 1990 and 0.9 percent in 2000).

In rural areas, the distribution of workers among the various occupations is similar to the one for total Eastern province, 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 spread over many occupations, and not concentrated in few occupations. The four most common occupations in urban areas are Agriculture (30.3 percent),Sales workers (23.2 percent in 2000) Production and related workers (15.5 percent in 2000) and Professional, technical and related workers (10.4 percent).

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

Occupation		Percentage of Working Population								
		Total			Rural			Urban		
		Both	Male	Female	Both	Male	Female	Both	Male	Female
Total Number of Workers	1990	311,072	174,258	136,814	292,262	160,547	131,715	18,810	13,711	5,099
	2000	516,763	248,420	268,343	488,558	231,284	257,274	28,205	17,136	11,069
Total Percentage	1990	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	2000	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Professional, Technical	1990	2.5	3.2	1.7	1.7	2.3	1.0	14.5	13.1	18.5
	2000	1.5	2.1	0.9	1.0	1.5	0.5	10.4	10.6	10.0
Administrative & Managing	1990	0.1	0.2	0.0	0.1	0.1	0.0	1.3	1.6	0.3
	2000	0.1	0.1	0.0	0.0	0.0	0.0	0.6	0.8	0.2
Clerical & Related	1990	0.7	0.8	0.5	0.2	0.3	0.1	7.4	6.5	10.0
	2000	0.3	0.3	0.2	0.1	0.1	0.0	3.1	3.0	3.1
Sales Workers	1990	1.5	1.7	1.3	0.7	0.9	0.5	13.9	11.7	19.8
	2000	2.1	2.8	1.4	0.8	1.2	0.5	23.2	24.3	21.4
Service Workers	1990	1.8	2.7	0.7	1.0	1.5	0.5	13.8	16.4	6.9
	2000	1.1	1.5	0.6	0.6	0.9	0.3	9.7	10.6	8.2
Agriculture, Animal Husbandry	1990	73.6	70.7	77.2	77.9	76.1	80.0	7.0	7.0	6.9
	2000	90.1	86.8	93.2	93.6	91.6	95.3	30.3	21.8	43.5
Production & Related	1990	2.0	3.0	0.8	1.4	2.1	0.6	11.7	14.2	4.7
	2000	2.0	3.4	0.7	1.2	2.0	0.5	15.5	21.6	6.2
Unclassified	1990	1.3	1.4	1.2	1.2	1.2	1.2	3.8	3.9	3.4
	2000	0.1	0.1	0.0	0.0	0.0	0.0	0.7	0.7	0.8
Not Stated	1990	16.5	16.3	16.6	15.8	15.1	16.1	26.6	25.6	29.5
	2000	2.9	2.9	3.0	2.7	2.6	2.8	6.6	6.7	6.5

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



Source: CSO, 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 Eastern province continues to be dominated by the Agriculture industry. In 2000 the Agriculture sector employed 90.4 percent of the workers, the Mining industry employed 0.1 percent, secondary activities together employed 1.2 percent, while tertiary industries together employed 4.9 percent. In comparison to 1990, the agriculture and trade are the only sectors that have recorded an increase from 74.4 percent in 1990 to 90.4 in 2000 and from 1.1 percent in 1990 to 1.8 percent in 2000. The rest of the sectors have shown decreases. The most significant is manufacturing (1.4 percent in 1990 to 0.6 percent in 2000). A study of the shifts of workers from one industry to another shows that apart from Trade, all non-agricultural industries have 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 (77.6 percent in 1990 and 95.8 percent in 2000) and the self-employed (87.4 percent in 1990 and 91.5 percent in 2000) are mostly in Agricultural sector. Employees are more widely distributed over the industries than any other employment status. Employers are more important to Agriculture (48.5 percent in 1990 and 39.7 percent in 2000) and Community and Personal Services (18.9 percent in 1990 and 21.9 percent in 2000).

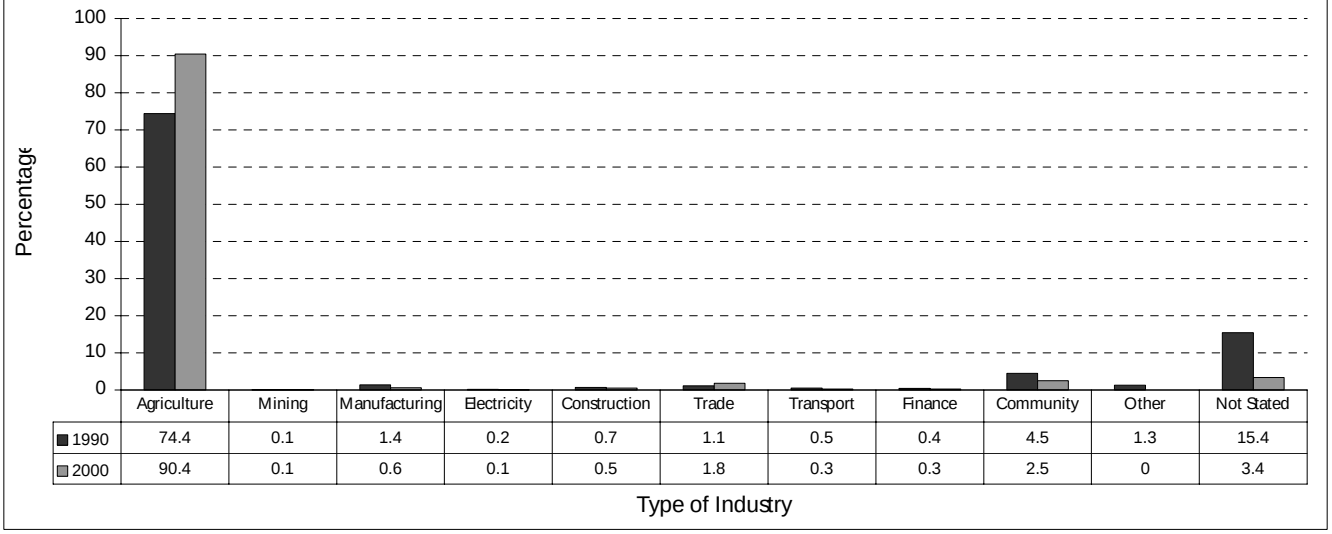
Table 6.12: Percent Distribution of the Usually Working Population (12 Years and Over) by Employment Status and Industry, Eastern Province, 1990 and 2000

Industry and Year		Total Number	Self Employed	Employee	Employer	Unpaid Family Worker	Not Stated
Total Number	**1990**	311,072	101,654	29,741	2,845	2,845	6,711
	2000	516,763	195,496	25,172	521	295,574	0
Total percentage	**1990**	100	100	100	100	100	100
	2000	100	100	100	100	100	-
Agriculture	**1990**	74.4	87.4	22.3	48.5	77.6	39.2
	2000	90.4	91.5	20	39.7	95.8	-
Mining	**1990**	0.1	0.1	0.8	0.2	0	0.2
	2000	0.1	0.1	0.4	0.4	0	-
Manufacturing	**1990**	1.4	1.8	5.9	4.7	0.3	1.1
	2000	0.6	1.0	3.5	4.2	0.2	-
Electricity	**1990**	0.2	0.0	1.4	0.6	0	0.1
	2000	0.1	0.0	1.4	0.8	0	-
Construction	**1990**	0.7	0.4	4.9	3.4	0.1	0.7
	2000	0.5	0.4	5.6	4.6	0	-
Trade	**1990**	1.1	1.3	4.8	7.2	0.1	1.1

	2000	1.8	2.7	9.4	10.7	0.6	-
Transport	**1990**	0.5	0.1	4.6	2.1	0	0.5
	2000	0.3	0.1	5.9	3.6	0	-
Finance	**1990**	0.4	0.4	2.5	1.5	0	0.2
	2000	0.3	0.4	2.1	2.9	0	-
Community	**1990**	4.5	1.8	34	18.9	0.9	3.3
	2000	2.5	0.8	40.3	21.9	0.4	-
Other	**1990**	1.3	0.5	2.4	1.3	1.3	10.9
	2000	0	0	0	0	0	-
Not Stated	**1990**	15.4	6.2	16.4	11.9	19.7	42.6
	2000	3.4	2.9	11.3	11.1	3	-

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

Figure 6.9: Usually Working Population (12 Years and Over) by Employment Status and Industry, Eastern Province, 1980 and 2000



Sources: CSO, 1990 and 2000 Censuses 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 (54.7 percent in 1990 and 57.2 percent in 2000) are the most predominant status of all industries. The Employees are prominent in all industries, except in Agriculture both in 1990 and 2000. The employment status of the employer is not very predominant is in both Censuses. Self employed is predominant in the Mining, Trade, and Finance industries in 2000 (59.7 percent in Mining, 56.2 percent in Trade and 53.5 percent in Finance). 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, Eastern Province, 1990 and 2000

Industry and Year		Total Number Working	Total	Self-Employed	Employee	Employer	Unpaid Family Worker	Not Stated
Total Number	1990	311073	100.0	32.7	9.6	0.9	54.7	2.2
	2000	516763	100.0	37.8	4.9	0.1	57.2	0.0
Agriculture	1990	231605	100.0	38.4	2.9	0.6	57.0	1.1
	2000	467292	100.0	38.3	1.1	0.0	60.6	0.0
Mining	1990	335	100.0	22.4	68.7	1.8	2.7	4.5
	2000	315	100.0	59.7	35.6	0.6	4.1	0.0
Manufacturing	1990	4187	100.0	42.9	41.9	3.2	10.3	1.7
	2000	3264	100.0	57.2	27.2	0.7	14.9	0.0
Electricity	1990	463	100.0	3.0	90.5	3.7	0.4	2.4
	2000	398	100.0	12.8	85.7	1.0	0.5	0.0
Construction	1990	2157	100.0	20.7	67.5	4.5	5.2	2.2
	2000	2358	100.0	34.8	60.1	1.0	4.1	0.0
Trade	1990	3267	100.0	40.9	43.3	6.3	7.2	2.3
	2000	9432	100.0	56.2	25.1	0.6	18.1	0.0
Transport	1990	1614	100.0	7.1	85.3	3.7	2.1	1.9

	2000	1790	100.0	11.7	83.5	1.1	3.7	0.0
Finance	1990	1228	100.0	29.8	61.6	3.5	3.3	1.9
	2000	1481	100.0	53.5	36.1	1.0	9.5	0.0
Community	1990	14106	100.0	12.7	71.8	3.8	10.2	1.6
	2000	12966	100.0	12.6	78.3	0.9	8.2	0.0
Other	1990	4167	100.0	12.5	16.8	0.9	52.3	17.5
	2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Not Stated	1990	47944	100.0	13.2	10.2	0.7	70.0	6.0
	2000	17467	100.0	33.0	16.2	0.3	50.4	0.0

Source: CSO, 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 labourforce were employed in the Agricultural sector (90 percent) followed by the Community and Personal services sector with 3.0 percent. By residence, the rural areas employ 10 percent of the Agricultural industry while the urban areas employ 31.0 percent in the Agricultural industry.

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

Industry	**Total Number**	**Rural**	**Urban**	**Male**	**Female**
Total Number	516,763	488,558	28,205	248,420	268,343
Total Percentage	100	100	100	100	100
Agriculture, Hunting,	90	94	31	87	94
Mining & Quarrying	0	0	0	0	0
Manufacturing	1	0	4	1	0
Elect., Gas and water	0	0	1	0	0
Construction and Allied	0	0	3	1	0
Trade, Restaurants & Hotels	2	1	21	2	1
Transport & Communication	0	0	4	1	0
Finance, Insurance,	0	0	4	0	0
Community and Personal Service	3	2	20	4	2

Source: CSO, 2000 Census of Population and Housing

Disaggregated by Gender, 94 percent of the total usually working population of female were in the Agricultural sector while 31.0 percent were in the Community and personal services sector.

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

Industry	Total Number	Total %	Male %	Female %	Rural Number	Total %	Male %	Female %	Urban Number	Total %	Male %	Female %
Total Number	516,763	100	48	52	488558	100	47	53	28205	100	61	39
Agriculture	315	100	99	1	238	100	99	1	77	100	99	1
Mining & Quarrying	3,264	100	72	28	2119	100	71	29	1145	100	73	27
Manufacturing	398	100	93	7	126	100	95	5	272	100	92	8
Elect., Gas and water	2,358	100	97	3	1454	100	96	4	904	100	98	2
Construction and Allied	9,432	100	65	35	3626	100	69	31	5806	100	63	37
Trade, Restaurants & Hotels	1,790	100	97	3	729	100	97	3	1061	100	96	4
Transport & Communication	1,481	100	67	33	490	100	68	32	991	100	66	34
Finance, Insurance,	12,966	100	67	33	7414	100	70	30	5552	100	63	37
Community and Personal Service	17,467	100	52	48	13951	100	49	51	3516	100	64	36

Source: CSO, 2000 Census of Population and Housing

For the males, 87 percent were in the Agricultural sector while 4 percent were in the Community and Personal services sector.

From the total working population by industry, residence and sex, 48 percent were male and 52 percent were females. The Agriculture, Electricity, Trade and Manufacturing sectors account for majority of the male working population of 99 percent, 97 percent and 93

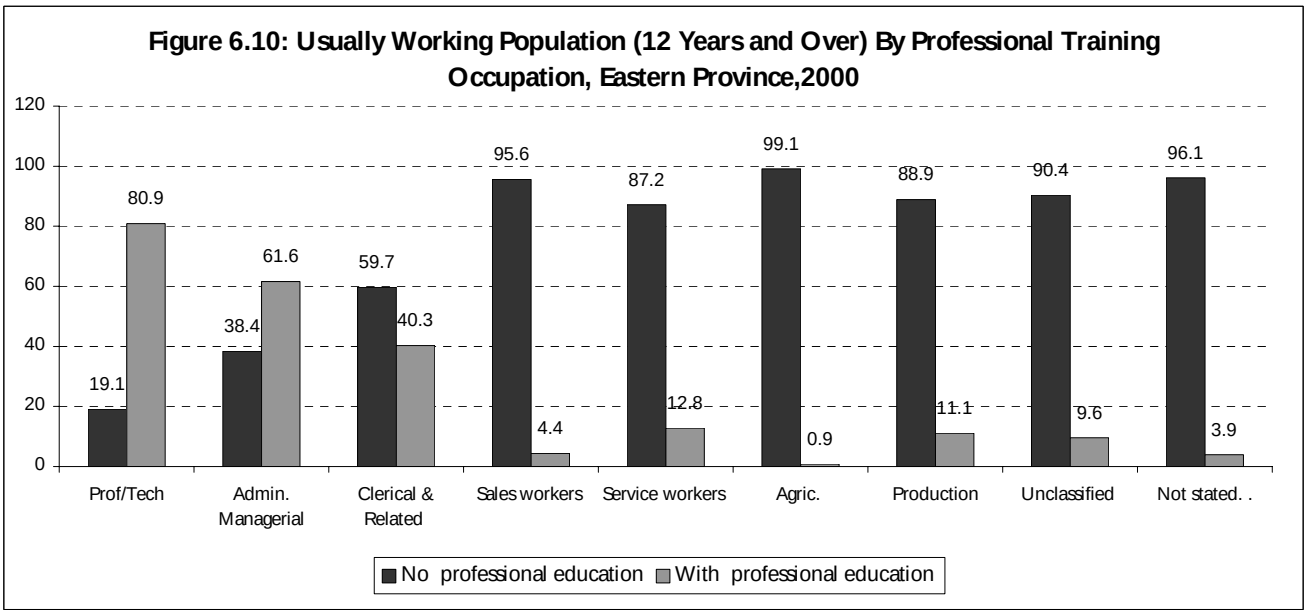
percent respectively. The distribution by rural and urban does not differ much from the total distribution.

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 a 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. The 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 promoted, 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.

Table 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, 97.3 percent of the province's workforce have absolutely no professional /vocational education while only 2.7 percent have such education. Figure 6.10 shows the distribution among the various occupations, about four fifths of those in the Professional, Technical and related occupations had professional education, while a fifth do not have. Almost two thirds of the Administrative and Managerial occupations have professional education while one third does not have. For the Clerical and related workers, only two fifth had professional education (40.3 percent). Over four fifth of the sales, services, 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 fifth quarters (81.9 percent) are trained at Certificate level, less than a fifth (13.7 percent) are trained up to Diploma level and only 4.4 percent are trained up to Degree level. Except for the Administrative and Managerial workers (25.3 percent), the proportion that has been trained up to Degree level is still very low by 2000. A substantial number of workers trained up to Diploma level in the three occupations; Administrative and managerial (39.3 percent); Professional and technical (19.0 percent) and Sales workers (18.4 percent). The majority (ranging from 35.4 percent to 92.8 percent) of the workers are trained up to Certificate level in all the remaining occupations. The proportion of Diploma and degree holders was higher for males than for females, while the opposite is true of certificate holders. This pattern is the same in the majority of the occupations.



Source: CSO, 2000 Census of Population and Housing

Table: 6.16: Usually Working Population 12 Years and over by Professional/Vocational Training; Occupation and Sex (Percent), Eastern Province, 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	516,763	100	97.3	2.7	13,800	100	81.9	13.7	4.4
Prof/Tech	7,587	100	19.1	80.9	6,138	100	75.2	19	5.8
Admin. Managerial	289	100	38.4	61.6	178	100	35.4	39.3	25.3
Clerical & Related	1,292	100	59.7	40.3	521	100	90.8	7.7	1.5
Sales workers	10,688	100	95.6	4.4	472	100	78.8	18.4	2.8
Service workers	5,466	100	87.2	12.8	700	100	91	7	2
Agric.	465,787	100	99.1	0.9	4,040	100	89.6	7.8	2.6
Production	10,243	100	88.9	11.1	1,139	100	92.8	5.5	1.7
Unclassified	301	100	90.4	9.6	29	100	69	10.3	20.7
Not stated. .	15,110	100	96.1	3.9	583	100	76.8	16.5	6.7
Males									
Total	248,420	100	95.9	4.1	10,219	100	79.2	15.6	5.2
Prof/Tech	5,248	100	20	80	4,199	100	69.6	22.7	7.7
Admin. Managerial	242	100	36.4	63.6	154	100	33.1	40.3	26.6
Clerical & Related	862	100	70.6	29.4	253	100	88.9	9.1	2
Sales workers	6,920	100	94.9	5.1	356	100	75.8	20.8	3.4
Service workers	3,788	100	83.7	16.3	618	100	90.8	7.4	1.8
Agric.	215,689	100	98.5	1.5	3,200	100	87.8	9.4	2.9
Production	8,368	100	87.9	12.1	1,011	100	92.8	5.6	1.6
Unclassified	190	100	89.5	10.5	20	100	65	15	20
Females									
Total	268,343	100	98.7	1.3	3,581	100	89.8	8.2	2
Prof/Tech	2,339	100	17.1	82.9	1,939	100	87.3	10.9	1.8
Admin. Managerial	47	100	48.9	51.1	24	100	50	33.3	16.7
Clerical & Related	430	100	37.7	62.3	268	100	92.5	6.3	1.1
Sales workers	3,768	100	96.9	3.1	116	100	87.9	11.2	0.9
Service workers	1,678	100	95.1	4.9	82	100	92.7	3.7	3.7
Agric.	250,098	100	99.7	0.3	840	100	96.7	1.9	1.4
Production	1,875	100	93.2	6.8	128	100	93	4.7	2.3
Unclassified	111	100	91.9	8.1	9	100	77.8	0	22.2
Not stated. .	7,997	100	97.8	2.2	175	100	84.6	9.7	5.7

Source: CSO, 2000 Census of Population and Housing

Table 6.17 shows the usually working population 12 years and over by professional/vocational training, occupation and sex in 1990 for Eastern province.

Intercensal comparisons of training in human resources shows that the proportion of those having professional education declined from 4.3 percent in 1990 to 2.7 percent in 2000 while those having no professional qualification have increased from 95.7 percent in 1990 to 97.3 percent in 2000. This pattern varies in all the occupations. While some have declines others have increments. The declines (especially in the sales and agriculture sectors) were as a result of the shifts to other sectors as a result of the liberalization of the economy where they got better remuneration and conditions of service.

The comparison of the educational levels reached by those having professional/vocational training shows that the proportion for those who were trained at the Certificate level had declined, (from 87.8 percent in 1990 to 81.9 percent in 2000 and increased for those who trained at diploma level from 11.6 percent in 1990 to 13.7 percent in 2000) The proportion of those trained at degree level had increased from 0.6 percent in 1990 to 4.4 percent in 2000. The above pattern of change at certificate and degree levels between the two censuses is maintained between the two censuses in all occupations.

Although Eastern province has made big strides in increasing the number of workers who have received professional/vocational training at Certificate and Degree levels in view of the fact that the province had few persons with university education 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 have hence have low productivity), while critical skills in the professional, Technical, administrative, managerial and related occupations may still be too inadequate to enable the province sustain appreciable development efforts.

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

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	311,073	100	95.7	4.3	13,283	100	87.8	11.6	0.6
Prof/Tech	7,816	100	30.4	69.6	5,439	100	82.2	16.8	1
Admini.Mana	384	100	39.1	60.9	234	100	57.5	40.7	1.8
Clerical	2,105	100	66.5	33.5	705	100	92.6	7.3	0.1
Sales Workers	4,683	100	92.5	7.5	349	100	85.2	14.5	0.3
Service workers	5,616	100	87.6	12.4	695	100	95.3	4.6	0.1
Agric.	228,846	100	98.3	1.7	3,909	100	92.8	6.9	0.3
Production	6,345	100	91.5	8.5	542	100	93.6	6.4	0
Unclassified	4,102	100	96.2	3.8	157	100	90.3	8.4	1.3
Not stated	51,176	100	97.4	2.6	1,350	100	92.9	6.8	0.2
Male									
Total	174,258	100	94	6	10,409	100	86.7	12.7	0.6
Prof/Tech	5,521	100	31.1	68.9	3,803	100	78.6	20.3	1.1
Admini.Mana	353	100	38.2	61.8	218	100	57.1	41	1.9
Clerical	1,460	100	74.5	25.5	373	100	90.9	8.8	0.3
Sales Workers	2,987	100	91.1	8.9	266	100	82.8	17.2	0
Service workers	4,626	100	86.1	13.9	644	100	95.4	4.4	0.2
Agric.	123,189	100	97.3	2.7	3,378	100	92.6	7.1	0.3
Production	5,294	100	90.6	9.4	497	100	93.7	6.3	0
Unclassified	2,412	100	94.6	5.4	130	100	89.8	9.4	0.8
Not stated	28,416	100	95.9	4.1	1,163	100	92.5	7.2	0.3
Female									
Total	136,815	100	97.9	2.1	2,883	100	92	7.5	0.5
Prof/Tech	2,295	100	28.7	71.3	1,636	100	90.5	8.7	0.7

Admini.Mana	31	100	48.4	51.6	16	100	62.5	37.5	0
Clerical	645	100	48.6	51.4	332	100	94.5	5.5	0
Sales Workers	1,696	100	95.1	4.9	83	100	92.7	6.1	1.2
Service workers	990	100	94.9	5.1	51	100	94	6	0
Agric.	105,657	100	99.5	0.5	533	100	94.4	5.6	0
Production	1,051	100	95.7	4.3	45	100	93.3	6.7	0
Unclassified	1,690	100	98.4	1.6	27	100	92.6	3.7	3.7
Not stated	22,760	100	99.2	0.8	188	100	95.7	4.3	0

Source: CSO, 1990 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's workforce of 50.2 percent had not received training at any level by 2000. There was 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 (26.4 percent); Nursing (26.2 percent); Agricultural (4.6); Accountancy (4.3 percent); and mechanical engineering (3.0 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 Completed (percent), Eastern Province, 2000

Field of Training	Total usually Working Population	No Professional Education	Professional/vocational training			
			Total	Certificate	Diploma	Degree
Total Working Number	516,763	502,963	13,800	11,305	1,888	607
Total	100	100	100	100	100	100
Natural science	0.0	0.0	0.5	0.2	0.8	5.1
Civil Engineering	0.0	0.0	0.4	0.3	0.6	1.2
Elec. & Electronic Engineering.	0.0	0.0	1.2	1.1	1.5	0.3
Mechanical Engineering	0.1	0.0	3.0	3.2	2.3	2.3
Chemical Engineering	0.0	0.0	0.1	0.1	0.2	0.2
Mining Engineering	0.0	0.0	0.3	0.4	0.0	0.2
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	0.2	0.2	0.2	0.3
Other Engineering	0.0	0.0	0.6	0.5	0.8	1.0
Medicine and Surgery	0.0	0.0	0.6	0.3	1.7	3.5
Pharmacy	0.0	0.0	0.4	0.4	0.4	0.2
Dentistry	0.0	0.0	0.3	0.3	0.3	0.2
Nursing	0.7	0.0	26.2	28.9	16.4	5.6
Medical Technology	0.0	0.0	1.5	0.5	3.9	11.7
X-RAY Technology	0.0	0.0	0.2	0.0	0.3	2.3
Veterinary	0.0	0.0	0.7	0.6	0.7	1.2
Statistics	0.0	0.0	0.2	0.1	0.3	0.5
Mathematics	0.0	0.0	0.3	0.1	1.1	1.8
Computer Science	0.0	0.0	0.5	0.5	0.9	0.8
Economics	0.0	0.0	0.6	0.5	1.0	2.5
Accountancy	0.1	0.0	4.3	3.2	10.2	5.3
Teacher Training	0.7	0.0	26.3	25.9	28.9	25.7
Law and Jurisprudence	0.0	0.0	0.9	0.8	1.4	1.5
Journalism	0.0	0.0	0.3	0.2	0.9	0.7
Fine Arts	0.0	0.0	0.4	0.3	0.4	1.5
Physical Education	0.0	0.0	0.2	0.1	0.2	0.8
Library Science	0.0	0.0	0.1	0.1	0.1	0.0
Social Welfare	0.0	0.0	0.5	0.4	0.6	2.1
Criminology	0.1	0.0	2.4	2.8	0.6	0.5
Business Administration	0.0	0.0	1.8	1.4	4.2	2.1
Secretarial Training	0.0	0.0	1.2	1.3	0.8	0.2
Shorthand Typing	0.0	0.0	1.0	1.2	0.3	0.0
Clerical Typing	0.0	0.0	1.2	1.4	0.3	0.3
Operating of Office Machine	0.0	0.0	0.1	0.2	0.1	0.0
Service Trade	0.0	0.0	1.5	1.6	0.8	0.7
Radio & TV Broadcasting	0.0	0.0	0.1	0.1	0.1	0.7
Fire Protection & Fire Fighting	0.0	0.0	0.2	0.2	0.1	0.0
Agriculture, Forestry & Fishery	0.1	0.0	4.6	4.1	6.6	8.2
Food and drink Processing	0.0	0.0	0.2	0.2	0.1	0.2

Wood working	0.1	0.0	2.7	3.1	0.7	0.0
Textile Trades	0.0	0.0	1.1	1.3	0.3	0.2
Leather Trades	0.0	0.0	0.1	0.1	0.1	0.0
Other Programmes	0.3	0.0	10.7	11.2	8.5	8.2
No Training	50.2	51.6	0.0	0.0	0.0	0.0
Not Stated	47.1	48.4	0.4	0.4	0.2	0.5

Source: CSO, 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 labourforce. 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 labourforce.

Tables 6.19 and 6.20 show unemployment ratios by sex and residence for 1990 and 2000. There was a decline in the overall unemployment rate from 9.3 percent in 1990 to 4.8 percent in 2000. Females experienced a bigger decline from 8.1 percent in 1990 to 3.4 percent in 2000 while the male unemployment rate had also experienced quite a significant decline from 10.0 percent in 1990 to 5.9 percent during the two reference periods.

In rural areas the unemployment rate has declined for both male and females while in urban areas it has increased. The total unemployment rate had declined from 8.8 percent in 1990 to 3.6 percent in 2000 in rural areas and increased from 14.6 percent in1990 to 20.5 percent in urban in 2000. The increase in the male urban unemployment rate (from 12.6 percent in 1990 to 19.8 percent in 2000) was greater than the increase in the urban female unemployment rate (from 19.0 percent in 1990 to 21.8 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 while the decline in unemployment rates in the rural areas could probably be because some of shrinking of the agricultural sector in the rural areas due to closing up of companies that work closely with agricultural sector.

When the provincial unemployment rates are compared to the national, they were fairly lower than that of the nation (15 percent versus 9.3 percent for total,14.1 percent versus 10.0 percent for males and 16.7 percent versus 8.1 percent for females in 1990 and 12.9 percent versus 4.8 percent for total,14.1 percent versus 5.9 percent for males and 11.3 percent versus 3.4 percent for females in 2000)

In 1990,the highest unemployment rate was observed in Chadiza at 16.4 percent and lowest in Lundazi with 3.8 percent while in 2000 Chama registered the highest unemployment rate with 20.5 percent and Chadiza recorded the lowest.(3.6 percent).

Table 6.19: Trends in Unemployment rates by District and Sex for 1990 and 2000

District	1990			2000		
	Total	Males	Females	Total	Males	Females

Zambia	15	14.1	16.7	12.9	14.1	11.3
Eastern	9.3	10	8.1	4.8	5.9	3.4
Chadiza	16.4	16.3	16.7	3.6	4.7	2.3
Chama	6.2	7.6	4.9	20.5	19.8	21.8
Chipata	12.2	12.9	11.2	7.7	8.8	6.3
Katete	13.9	13.8	14.1	5.1	6.1	3.9
Lundazi	3.8	4.7	2.9	5.1	7.1	2.6
Mambwe	-	-	-	1.8	2.1	1.4
Nyimba	-	-	-	7.3	8.0	6.3
Petauke	12.7	14.3	10.6	1.9	2.3	1.5

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

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

Residence	Sex	1990	2000
Eastern	Total	9.3	4.8
	Male	10.0	5.9
	Female	8.1	3.4
Rural	Total	8.8	3.6
	Male	9.8	4.7
	Female	7.4	2.3
Urban	Total	14.6	20.5
	Male	12.6	19.8
	Female	19.0	21.8

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

Current unemployment rates by age, sex and residence in 2000 are shown in table 6.21. This table shows that unemployment was a more serious problem in the young age groups 12-14 (6.9 percent); 15-19 (7.5 percent); 20-24 (7.1 percent) and 25-29 (5.1 percent). The peak was in the age-group 15-19 years. This pattern was the same for both sexes, and in rural areas. Urban areas, however, have their higher age groups recording very higher unemployment rates; 12 - 14 (43.8 percent), 15 - 19 (43.5 percent); 20 - 24 (32.1 percent); and 25 - 29 (19.2 percent).

The overall unemployment rate of 5.9 percent for males was more than that of females of 3.4 percent. A comparison of rates by age between the two sexes shows that apart from the age-group 12-14 years, the male unemployment rates were higher than the female unemployment rates in all ages.

In rural areas, the male unemployment rates were higher than the female unemployment rates at all ages while in the urban areas, the female unemployment rates were higher than the male unemployment rates in the age-groups 12-14 and 15 - 19. In the remaining age groups the male unemployment rates were higher than the female unemployment rates.

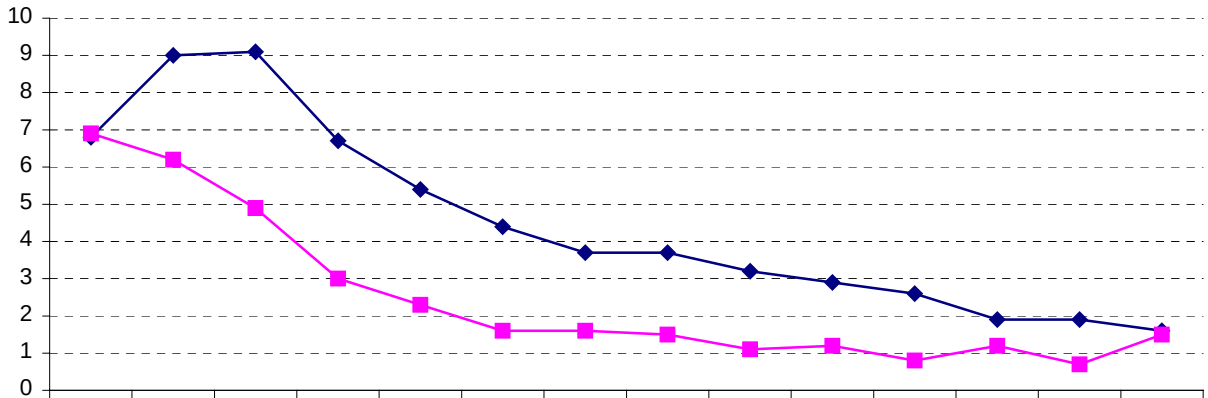
Table 6.21: Current Unemployment Rates by Age, Sex and Residence, Eastern Province, 2000

Age Group	Total			Rural			Urban		
	Both	Male	Female	Both	Male	Female	Both	Male	Female
Total	4.8	5.9	3.4	3.6	4.7	2.3	20.5	19.8	21.8
12 – 14	6.9	6.8	6.9	5.5	5.8	5.2	43.8	43.7	43.9
15 – 19	7.5	9	6.2	5.4	6.8	4.1	43.5	43.7	45.6
20 – 24	7.1	9.1	4.9	4.9	6.7	2.8	32.1	41.7	33.8
25 – 29	5.1	6.7	3	3.8	5.3	2.0	19.2	31.0	18.2
30 – 34	4.1	5.4	2.3	3.2	4.4	1.6	13.6	19.7	11.2
35 – 39	3.2	4.4	1.6	2.6	3.6	1.3	9.4	14.7	5.3
40 – 44	2.8	3.7	1.6	2.4	3.3	1.3	7.5	11.4	6.0
45 – 49	2.7	3.7	1.5	2.2	3.0	1.2	9.1	8.2	5.9
50 – 54	2.1	3.2	1.1	1.8	2.7	0.9	6.9	10.7	5.4
55 – 59	2	2.9	1.2	1.8	2.5	1.0	7.5	7.6	7.1
60 – 64	1.7	2.6	0.8	1.5	2.2	0.8	9.3	7.7	4.8
65 – 69	1.6	1.9	1.2	1.4	1.7	1.0	8.0	10.9	8.7
70 - 74	1.4	1.9	0.7	1.3	1.8	0.7	4.2	7.7	-

75+	1.6	1.6	1.5	1.5	1.5	1.4	10.1	5.3	7.1

Source: CSO, 2000 Census of Population and Housing

Figure 6.11: Usually Unemployed by Age and Sex, Eastern Province,2000



	12 - 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	6.8	9	9.1	6.7	5.4	4.4	3.7	3.7	3.2	2.9	2.6	1.9	1.9	1.6
Female	6.9	6.2	4.9	3	2.3	1.6	1.6	1.5	1.1	1.2	0.8	1.2	0.7	1.5

Source: CSO, 2000 Census of Population and Housing

Table 6.22 shows the usually unemployed population by level of education completed and age in 2000.

Slightly above three quarters (75.8 percent) of the unemployed population in the country either had completed no education or they had a rudimentary education of grade 1 to 7. Less than a quarter of the unemployed population (21.3 percent) had secondary school education of grade 8 to 12. Those who had 'A' level education and Degree constituted 2.5 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 educational level fluctuated and those with grade 8-12 education level decreased with the increase in age.

The data in table 6.22 strongly suggests that unemployment in the Eastern 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, Eastern Province, 2000

Age Group	Total Number Unemployed	Total	None	Grade 1-7	Grade 8-12	A Level	Degree
Total	209,221	100	25.6	50.2	21.3	0.5	2.5
12 – 14	56,943	100	11.0	85.2	3.8	0.0	0.0
15 – 19	63,660	100	12.8	52.9	34.0	0.4	0.0
20 – 24	26,539	100	25.4	26.7	45.6	1.0	1.4
25 – 29	14,265	100	37.4	27.5	28.2	0.8	5.9
30 – 34	9,395	100	40.0	30.4	18.0	0.9	10.8
35 – 39	6,982	100	40.9	31.0	13.6	0.9	13.6
40 – 44	4,871	100	43.0	29.5	13.6	1.1	12.9
45 – 49	3,777	100	49.0	27.5	11.1	1.2	11.1

50 – 54	3,712	100	59.0	24.8	7.5	1.0	7.7
55 – 59	3,018	100	67.8	19.8	4.9	1.3	6.2
60 – 64	3,340	100	73.4	17.6	3.6	0.4	5.0
65 – 69	3,023	100	71.8	20.4	3.0	0.4	4.3
70 – 74	3,290	100	78.0	16.8	2.3	0.2	2.7
75+	6,406	100	79.0	17.0	1.8	0.1	2.1

Source: CSO, 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 (52.0 percent) of the unemployed population had never been married, slightly over a third (38.0 percent) were married and 9.2 percent were either widowed, divorced or separated. The proportion of the female never married unemployed population was higher (51.6 percent in rural and 66.6 percent in urban areas) than the male never married unemployed population (45.4 percent in rural and 60.3 percent in urban areas) in both rural and urban areas.

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

Residence and Sex	Marital Status							
	Total Number Unemployed	Total	Never Married	Married	Widowed	Divorced	Separated	Living together/
Total								
Both Sexes	22440	100.0	52.0	38.0	3.1	3.5	2.6	0.8
Male	15099	100.0	49.5	45.4	1.3	1.8	1.4	0.6
Female	7341	100.0	56.9	23.0	6.8	7.2	5.0	1.2
Rural								
Both Sexes	15593	100.0	47.2	42.6	3.0	3.6	2.7	0.9
Male	10885	100.0	45.4	49.5	1.2	1.8	1.5	0.7
Female	4708	100.0	51.6	26.5	7.3	7.8	5.4	1.4
Urban								
Both Sexes	6847	100.0	62.7	27.7	3.2	3.5	2.4	0.5
Male	4214	100.0	60.3	34.6	1.6	1.9	1.3	0.3
Female	2633	100.0	66.6	16.6	5.9	6.0	4.1	0.8

Source: CSO, 2000 Census of Population and Housing

6.12 Summary

The size of the working-age population in Eastern Province had increased by 20.2 percent between 1990 and 2000. The distribution of this population by age shows that it declined with the increase in age, just as the total population.

The labour force has increased by 50.8 percent between 1990 and 2000.Ninty-six (96) percent of the labour force was in rural areas, while 3.9 percent is in urban areas. Half of the Labour force is in the young age group of 12-29 years.

The employed population has increased by 40.1 percent. The female employed population has increased by an impressive 61.4 percent, while male employed Labour force increased by 25.6 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 1980 Census.

The number of the unemployed has decreased by 31.4 percent between 1990 and 2000. The size of the male unemployed population has decreased by 29.1 percent, while that of females has decreased by 35.8 percent. There are more unemployed persons in the rural than in the urban areas for both males and females. In 2000, unemployment is a more serious problem for the young age group of 12-29 years than for the adult age group of 30 years and over.

Lack of adequate education seems to have contributed to the problem of unemployment for the affected persons. The majority of the unemployed are young people.

The economically inactive population has increased by 6.7 percent in harmony with an increase of 50.8 percent in the labour force between 1990 and 2000. This implies that most of the 20.2 percent increase in the working-age population between 1990 and 2000 had increased the inactive population but not more than the Labour force. Hence the Labour force participation rate has increased from 57.7 percent in 1990 to 73.4 percent in 2000. Similarly the overall unemployment rate has increased from 9.3 percent in 1990 to 35.0 percent in 2000

Economic activities are still organized around family labour as evidenced by the predominance (95.0 percent) of workers who are classified as either self-employed or unpaid family workers. In contrast, only 5.0 percent are 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 self-employment of the informal sector.

There is a large concentration of workers (90.1 percent) in the Agricultural and related occupations because of the ease with which it is 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 two thirds (90.1 percent) of the workforce in 2000. This situation has been exacerbated by the economic recession of the 1990's that 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 reaches 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.

7.3.2. Data Evaluation and Adjustment

The 2000 Census fertility analysis used the Trussel variant of the Brass PF ratio technique to adjust the fertility data and to come up with adjusted Age Specific Fertility Rates (ASFR) and adjusted Total Fertility Rates (TFR). The PF ratio technique originally developed by William Brass provides a method for adjusting reported age specific fertility rates (based on births in the 12 month period prior to the census), to the 'actual ' level of fertility (based on CEB). The PF ratio technique was used to adjust fertility on the basis of the age of the mother at the time of the census, and not the age of the child.

While the Gompertz Relational Technique yielded reasonable estimates of adjusted TFR, the PF Ratio technique was used because it yielded both adjusted ASFR and TFR (See Table 7.1). The analysis of the PF Ratios showed that areas that had experienced fertility declines e.g. urban areas had PF ratios that were rising by age of women suggesting patterns of recent fertility decline, while rural areas with almost constant fertility showed PF ratios with very little deviations from the standard. The analysis and adjustment of fertility used different sets of spreadsheets in the Population Analysis Spreadsheets (PASEX), developed by the US Census Bureau.

The Brass PF Ratio technique is used to estimate fertility by comparing the lifetime fertility (Completed fertility =P) to the current fertility (Age specific fertility pattern prevailing at a particular time=F). If the age pattern and the level of fertility are correctly reported, the ratio of the current fertility and completed fertility, or PF ratio is equal to one.

Deviations from one may indicate the extent and nature of biases in the data, but if consistency checks show that both the P and F are accurate, the deviations with a pattern of increasing ratios with an increase in the age of the woman may be an indication of recent declines in fertility levels.

The Trussel variant of the Brass PF ratio uses adjustment factors developed by Trussel using a set of fertility models (Coale and Trussel, 1974). Since the age specific fertility pattern are with respect to 5-year age groups of women aged 15-19, 20-24, 25-29,… whose mid-point ages are 17.5, 22.5, 27.5, etc, and the completed fertility refer to fertility at exact age 20, 25, 30,..etc, there is need to adjust the data so that the reference ages are harmonized.

The Gompertz fertility model assumes that a relationship exists between the cumulative fertility and the Gompertz function, and hence attempts to fit the completed fertility to the double exponential function.

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

Table 7.2 presents information on the current fertility levels for Eastern Province as a whole and for rural/urban areas. The TFR for Eastern Province is 6.7, which is above that of the national average. Rural areas have a higher TFR (6.8) than urban areas (5.9).

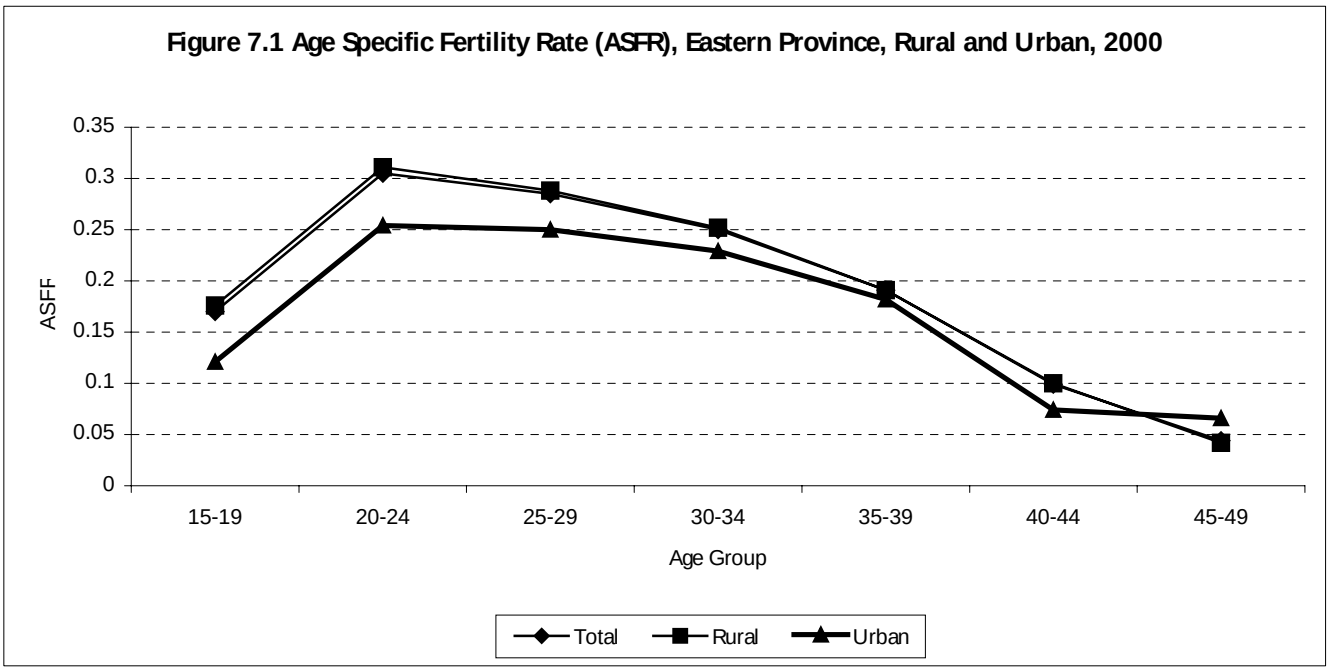
The ASFR provides a measure of fertility variation by age of women and helps in the calculation of Total Fertility Rate (TFR). In this chapter ASFR refers to the prevailing fertility patterns for women aged 15-49 when plotted on a graph, the ASFR shows a characteristic pattern with an initial rise from 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), Eastern Province and Rural/Urban, 2000

Age Group	Total				Rural				Urban			
	Total Women	Births	Observed ASFR	Adjusted ASRF	Total Women	Births	Observed ASFR	Adjusted ASRF	Total Women	Births	Observed ASFR	Adjusted ASRF
15-19	**67,176**	**8,157**	**0.121**	**0.170**	**59,767**	**7,613**	**0.127**	**0.176**	**7,409**	**544**	**0.073**	**0.121**
20-24	**60,008**	**15,161**	**0.253**	**0.305**	**53,336**	**13,974**	**0.262**	**0.311**	**6,672**	**1,187**	**0.178**	**0.254**
25-29	**48,088**	**11,559**	**0.240**	**0.285**	**43,374**	**10,714**	**0.247**	**0.288**	**4,714**	**845**	**0.179**	**0.250**
30-34	**34,943**	**7,464**	**0.214**	**0.250**	**31,641**	**6,916**	**0.219**	**0.252**	**3,302**	**548**	**0.166**	**0.229**
35-39	**28,151**	**4,665**	**0.166**	**0.191**	**25,483**	**4,302**	**0.169**	**0.191**	**2,668**	**363**	**0.136**	**0.182**
40-44	**20,696**	**1,861**	**0.090**	**0.099**	**18,798**	**1,742**	**0.093**	**0.100**	**1,898**	**114**	**0.060**	**0.074**
45-49	**16,783**	**730**	**0.043**	**0.044**	**15,378**	**659**	**0.043**	**0.042**	**1,405**	**71**	**0.051**	**0.066**
Observed TRF				5.6			5.8				4.2	
Adjusted TRF					6.7			6.8				5.9

Source: 2000 Census of Population and Housing

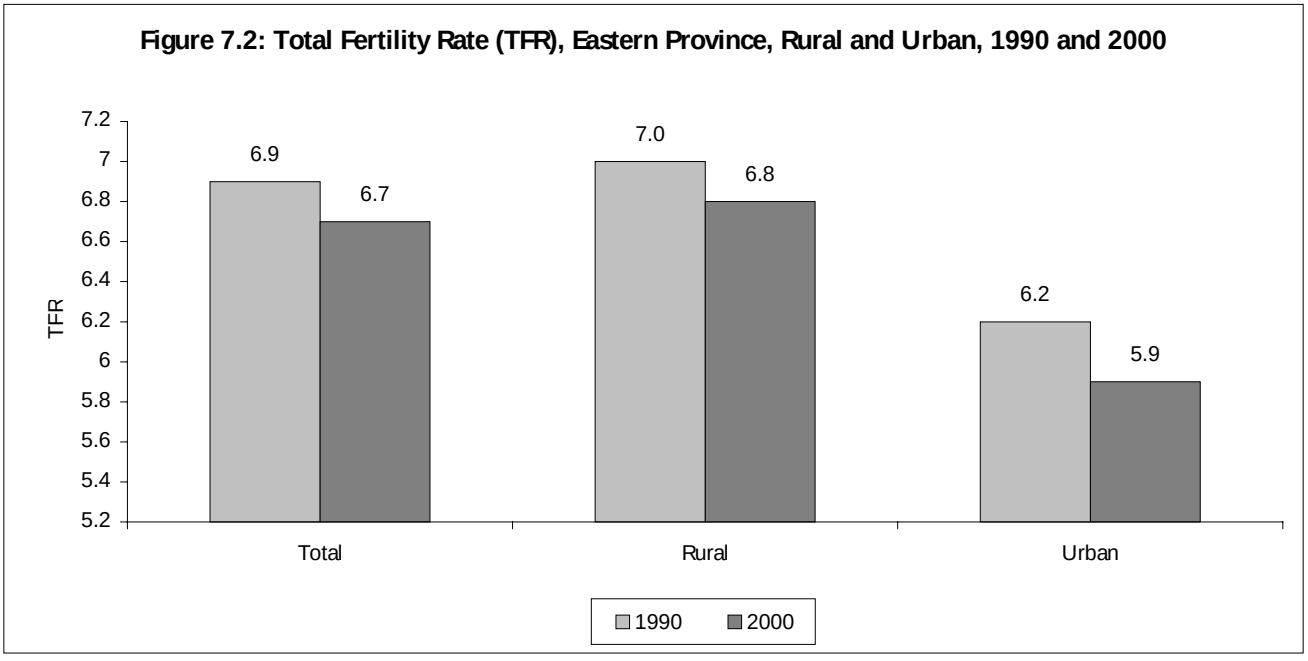
The Table 7.2 and Figure 7.1 show that childbearing is at its peak in the age group 20 – 24 after which steadily declines. In both rural and urban areas the peak of childbearing is in the same age group. Women in urban area have lower ASFR at all ages.



Source: 2000 Census of Population and Housing

Fertility declined slightly from 6.9 to 6.7 between 1990 and 2000. Fertility for women in both rural and urban areas has changed in the ten-year period. Rural women's fertility has declined from 7.0 in 1990 to 6.8 in 2000 whereas those in urban areas have had their fertility decline from 6.2 in 1990 to 5.9 in 2000. The larger decline in fertility in urban areas could point to the fact that urban areas may have the socio-economic conditions necessary for fertility decline such as access to reproductive health services, better and enhanced access to education by both girls and boys etc as opposed to the conditions prevailing in rural areas.

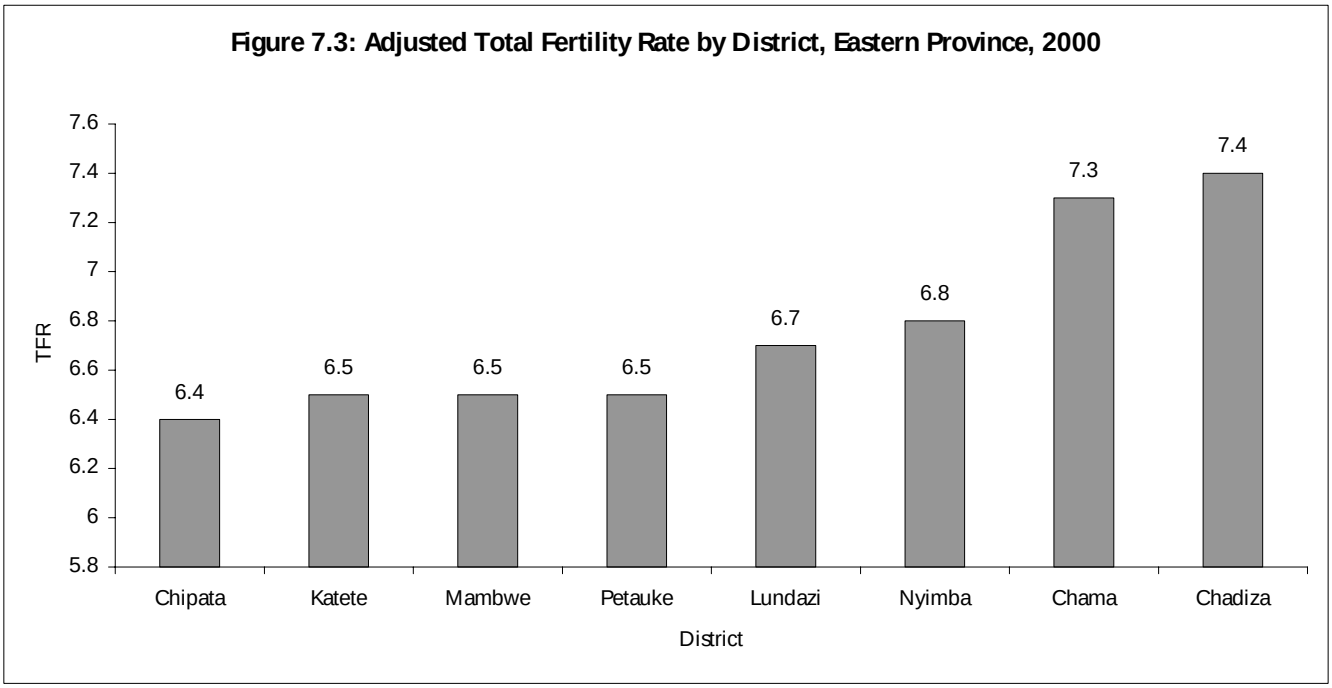
Though fertility has been declining in Eastern province, the rate of decline has been rather slow, with TFR declining from 6.9 in 1990 to 6.7 in 2000 (Figure 7.2).



Source: 2000 Census of Population and Housing

Figure 7.3 shows the TFRs for the districts. Chadidza had the highest TFR (7.4) closely followed by Chama (7.3)The district with the least TFR is Chipata followed by Katete, Mambwe and Petauke with

6.5 each TFR. The rest of the districts have a higher TFR with the highest being that of Chadidza (7.4). Lundazi has a similar TFR as that of the provincial average (6.7).



Source: 2000 Census of Population and Housing

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 (6.9) followed by the widowed (5.5) and separated (5.5); and least among the never married (2.1)

Table 7.3: Fertility Differentials by Marital Status of Women Aged 15-49, Eastern Province, 2000

District	Marital Status						
	Total	Married	Separated	Divorced	Widowed	Never Married	Living Together
Chadiza	**7.4**	**7.5**	**4.6**	**5.0**	**5.4**	**1.9**	**3.7**
Chama	**7.3**	**7.4**	**5.3**	**5.4**	**6.0**	**2.0**	**4.1**
Chipata	**6.4**	**6.4**	**6.1**	**4.5**	**4.2**	**4.4**	**1.7**
Katete	**6.5**	**6.6**	**4.6**	**4.8**	**6.4**	**2.0**	**5.8**
Lundazi	**6.7**	**6.8**	**4.0**	**5.1**	**6.2**	**2.0**	**7.3**
Mambwe	**6.5**	**7.0**	**4.6**	**5.5**	**5.3**	**1.8**	**3.5**
Nyimba	**6.8**	**6.9**	**5.5**	**5.2**	**5.2**	**2.9**	**4.0**
Petauke	**6.5**	**6.6**	**4.9**	**4.7**	**4.7**	**2.1**	**3.7**
Eastern	**6.7**	**6.9**	**5.5**	**5.3**	**5.5**	**2.1**	**5.3**

Source: 2000 Census of Population and Housing

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 described in detail in Chapter six of this report. Women classified as working have a lower fertility rate of 6.5 compared to 7.1 for those classified as working. This pattern holds true for all the districts in the province.

Table 7.4: Total Fertility Rates By Economic Background of women Age 15-49 and District, Eastern Province, 2000

District	Economic Status		
	Total	Working	Not Working
Chadiza	7.4	7.2	7.7
Chama	7.3	7.1	7.4
Chipata	6.4	6.2	6.4
Katete	6.5	6.2	6.9
Lundazi	7.2	7.0	7.2
Mambwe	6.5	6.2	6.9
Nyimba	6.8	6.6	7.0
Petauke	6.5	6.3	6.6
Eastern	**6.7**	**6.5**	**7.1**

Source: 2000 Census of Population and Housing

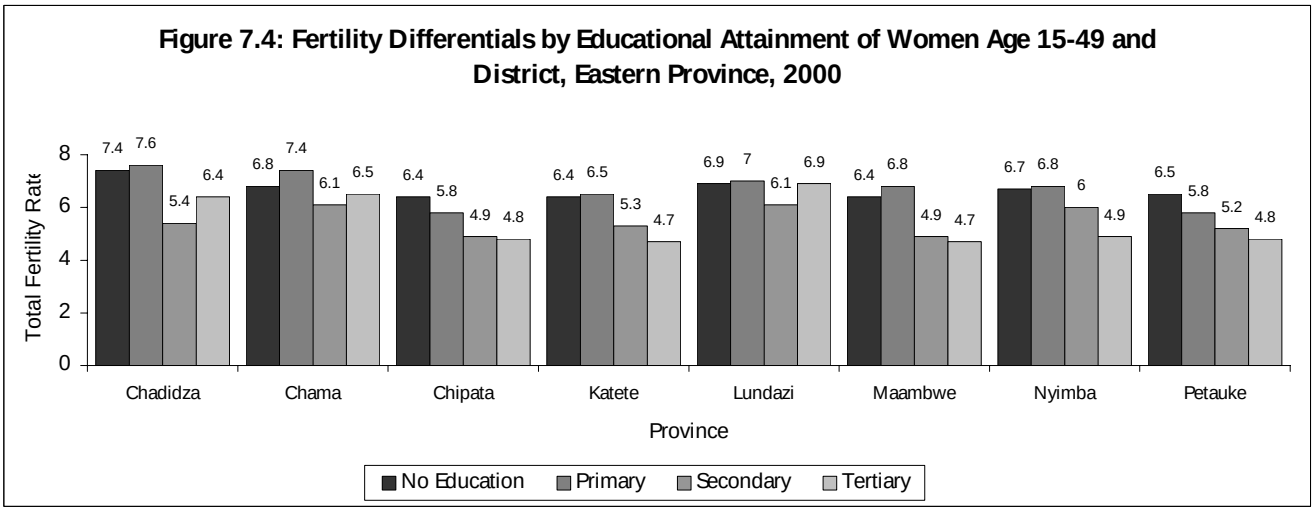
7.5.3 Fertility Differentials by level of Educational Attainment of Women Aged 15-49

Figure 7.4 and Table 7.5 shows the fertility levels according to women's levels of education in Eastern Province. Women with tertiary education have lower fertility than women in other education categories. For instance, women with tertiary education had a TFR of 5.5 compared with TFR of 6.6 for women without any schooling. In Lundazi, however, the TFR for women without education is equal to those who have completed tertiary education.

Table 7.5: Total Fertility Differentials by level of Education of Women Aged 15-49, Eastern Province, 2000

District					Level of education
	Total	No Education	Primary	Secondary	Tertiary
Chadiza	7.4	7.4	7.6	5.4	6.4
Chama	7.3	6.8	7.4	6.1	6.5
Chipata	6.4	6.4	5.8	4.9	4.8
Katete	6.5	6.4	6.5	5.3	4.7
Lundazi	6.7	6.9	7.0	6.1	6.9
Mambwe	6.5	6.4	6.8	4.9	4.7
Nyimba	6.8	6.7	6.8	6.0	4.9
Petauke	6.5	6.5	5.8	5.2	4.8
Eastern Total	6.7	6.6	7.3	5.3	5.5

Source: 2000 Census of Population and Housing



Source: 2000 Census of Population and Housing

7.6. Gross Reproductive Rates (GRR)

From Table 7.6, it can be observed that the GRR for women in Eastern Province is estimated at 2.7. This means that by the time a woman reaches the end of her reproductive period, she will have given birth to 2.7 female children if she conforms to the current observed age specific fertility patterns. The provincial GRR is just slightly above the national average of 2.3. Women in rural areas give birth to a large number of girls (2.8 per thousand live births) by the time they reach the end of their reproductive age compared to women in urban areas with a GRR of 2.0.

Table 7.6: Gross Reproduction Rate (GRR) By Residence, Eastern Province, rural- urban, 2000

	Total			Rural			Urban		
Age Group	Women	Female Births	ASFR (f)	Women	Female Births	ASFR (f)	Women	Female Births	ASFR (f)
15-19	**67,176**	**3,942**	**0.059**	**59,767**	**3,690**	**0.062**	**7,409**	**252**	**0.034**
20-24	**60,008**	**7,242**	**0.121**	**53,336**	**6,677**	**0.125**	**6,672**	**565**	**0.085**
25-29	**48,088**	**5,619**	**0.117**	**43,374**	**5,218**	**0.120**	**4,714**	**401**	**0.085**
30-34	**34,943**	**3,710**	**0.106**	**31,641**	**3,468**	**0.110**	**3,302**	**242**	**0.073**
35-39	**28,151**	**2,194**	**0.078**	**25,483**	**2,051**	**0.080**	**2,668**	**143**	**0.054**
40-44	**20,696**	**892**	**0.043**	**18,798**	**836**	**0.044**	**1,898**	**56**	**0.030**
45-49	**16,783**	**372**	**0.022**	**15,378**	**317**	**0.021**	**1,405**	**55**	**0.039**
GRR			2.7			2.8			2.0

Source: 2000 Census of Population and Housing

7.7. Net Reproduction Rate (NRR)

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. The NRR for Eastern province in 2000 was estimated at 1.9 daughters, implying that each woman will be replaced by almost two daughters who will survive up to the end of their reproductive age. The NRR is higher in rural (1.9) than in Urban areas (1.5). This means that the population will continue growing at a faster rate in rural than in urban areas (See Table 7.7)

Table 7.7: Net Reproduction Rate (NRR) By Residence, Eastern, rural-urban, 2000

	Total			Rural			Urban		
Age Group	ASFR (f)	Survival Ratio	*ASFR (f)	ASFR (f)	Survival Ratio	*ASFR (f)	ASFR (f)	Survival Ratio	*ASFR (f)
15-19	**0.059**	**0.7359**	**0.0434**	**0.062**	**0.7315**	**0.0454**	**0.034**	**0.8004**	**0.0272**
20-24	**0.121**	**0.7163**	**0.0867**	**0.125**	**0.7116**	**0.0890**	**0.085**	**0.7837**	**0.0666**
25-29	**0.117**	**0.6939**	**0.0812**	**0.120**	**0.6891**	**0.0827**	**0.085**	**0.7644**	**0.0650**
30-34	**0.106**	**0.6689**	**0.0709**	**0.110**	**0.6639**	**0.0730**	**0.073**	**0.7428**	**0.0542**
35-39	**0.078**	**0.6412**	**0.0500**	**0.080**	**0.6359**	**0.0509**	**0.054**	**0.7187**	**0.0388**
40-44	**0.043**	**0.6112**	**0.0263**	**0.044**	**0.6057**	**0.0267**	**0.030**	**0.6919**	**0.0208**
45-49	**0.022**	**0.5798**	**0.0128**	**0.021**	**0.5741**	**0.0121**	**0.039**	**0.6628**	**0.0258**
NRR			1.9			1.9			1.5

Source: 2000 Census of Population and Housing

Note*: *ASFR at prevailing rates of mortality*

NRR has declined over the last 20 years (Table 7.8). This implies that population has been growing, but at a declining rate. NRR has declined from 2.3 in 1980 to 2.1 in 1990 and 1.9 in 2000.

The decline has occurred more in urban areas, declining by 0.4 between 1990 and 2000, compared to a decline of 0.2 in rural areas over the same period.

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

Residence	Year of Census		
	1980	1990	2000
Total	2.3	2.1	1.9
Rural	2.2	2.1	1.9
Urban	2.7	1.9	1.5

Source: 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 Eastern Province is 7.0 children per woman, with rural women having a higher CFS of 7.1 compared with their urban counterparts with 6.7 children per woman. The mean parity for the province is slightly above the national average of 6.8 children per woman.

Another measure of trends in fertility is comparing the TFR with the mean number of CEB to women at the end of their childbearing period, aged 45-49 (mean parity). While TFR is a measure of current fertility, mean parity measures past or completed fertility. Overall, women age 45–49 reported having given birth to an average of 7 children. This compares with a TFR of 6.7 for women age 15-49, the difference may be attributed to the observed fertility decline overtime.

Table 7.9: Observed Mean Parity By Age Group and Residence, Eastern Province, Rural and Urban, 2000

Age Group	Total	Rural	Urban
15-19	0.4	0.4	0.2
20-24	1.6	1.7	1.2
25-29	3.1	3.1	2.5
30-34	4.5	4.5	3.8
35-39	5.7	5.8	5
40-44	6.7	6.8	6.2
45-49	**7.0**	**7.1**	**6.7**

Source: 2000 Census of Population and Housing

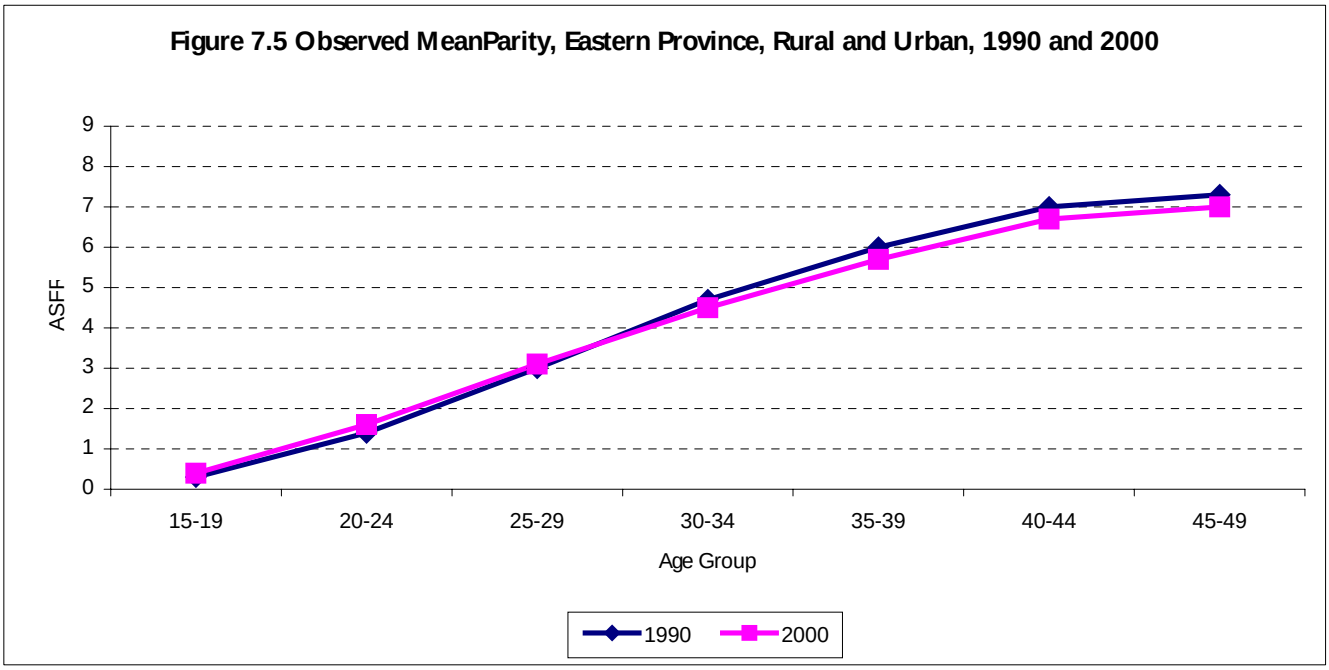
Table 7.10 and Figure 7.5 show that the mean parity or CFS for Eastern province has declined between 1990 and 2000. In the young age groups of 15-29, the mean parity has increased while in the higher age groups, the rate has decreased between the said period.

Table 7.10: Observed Mean Parity By Age Group, Eastern Province, 1990-2000

Age Group	Mean Parity (1990)*	Mean Parity (2000)
15-19	0.3	0.4
20-24	1.4	1.6
25-29	3.0	3.1
30-34	4.7	4.5
35-39	6.0	5.7
40-44	7.0	6.7
45-49	**7.3**	**7.0**

Source: 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.



Source: 2000 Census of Population and Housing

7.9. Other Fertility Indicators

Table 7.11 shows a summary of fertility indicators for districts of Eastern Province.These include Crude Birth Rate (CBR), Child Women Ratio (CWR) and General Fertility Rate (GFR). The table shows that the Crude Birth Rate (CBR) range from 38.7 in Petauke to 44.4 in Lundazi. The General Fertility Rate and Child Woman Ratio are lowest in Petauke and highest in Lundazi.

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

District	Adjusted Total Fertility Rate	Crude Birth Rate	General Fertility Rate	Child Woman Ratio	Mean Parity	Gross Reproduction Rate
Eastern Province	6.7	41.0	181.0	842	7.0	2.7
Chadiza	7.4	41.5	191.0	537	7.3	2.8
Chama	7.3	44.2	190.6	866	7.5	2.9
Chipata	6.4	39.2	171.3	768	7.0	2.6
Katete	6.5	39.2	179.5	871	6.9	2.7
Lundazi	6.7	44.4	198.2	867	7.3	3.1
Mambwe	6.5	42.6	190.2	806	7.0	2.9
Nyimba	6.8	38.9	175.7	777	7.0	2.6
Petauke	6.5	38.7	171.1	774	6.8	2.6

Source: 2000 Census of Population and Housing

7.10 Summary

Fertility levels for Eastern Province have declined over the period 1990-2000, from 6.9 to 6.7. In urban areas, the TFR dropped from 6.2 in 1990 to 5.9 in 2000 while that of the rural areas has declined slightly over the period from 7.0 to 6.8.

Child bearing is at its peak in the age group 20-24 years after which it declines steadily. Chadiza has the largest TFR (7.4) among the districts while Chipata has the least (6.4).

Generally, fertility rates are highest in Lundazi and lowest in Petauke. These include Crude Birth Rate, General Fertility Rate Mean Parity and Gross Reproduction Rate.

Chapter 8

CHILD AND ADULT MORTALITY

1.1 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 dying 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, and Q5 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) ($_{\mathbf{1}}q_{\mathbf{0}}$) refers to the number of deaths among infants aged below one year per thousand (1,000) live births per year
- *Child mortality rate* (CMR) ($_{\mathbf{5}}q_{\mathbf{1}}$) 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) ($_{\mathbf{5}}q_{\mathbf{0}}$) 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* ($e_{\mathbf{0}}$) 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* ($e_{\mathbf{x}}$) 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* ($_{\mathbf{60}}q_{\mathbf{15}}$) 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 that infant mortality rate (IMR) in Eastern province increased from 128 in 1980 to 149 in 1990. In 2000, it declined to 129 deaths per 1000 live births. Compared to the national average of 110, the IMR for Eastern province is higher.

Table 8.1: Infant Mortality Rates by Sex of Child, Residence and Districts, Eastern Province, 1980, 1990 and 2000

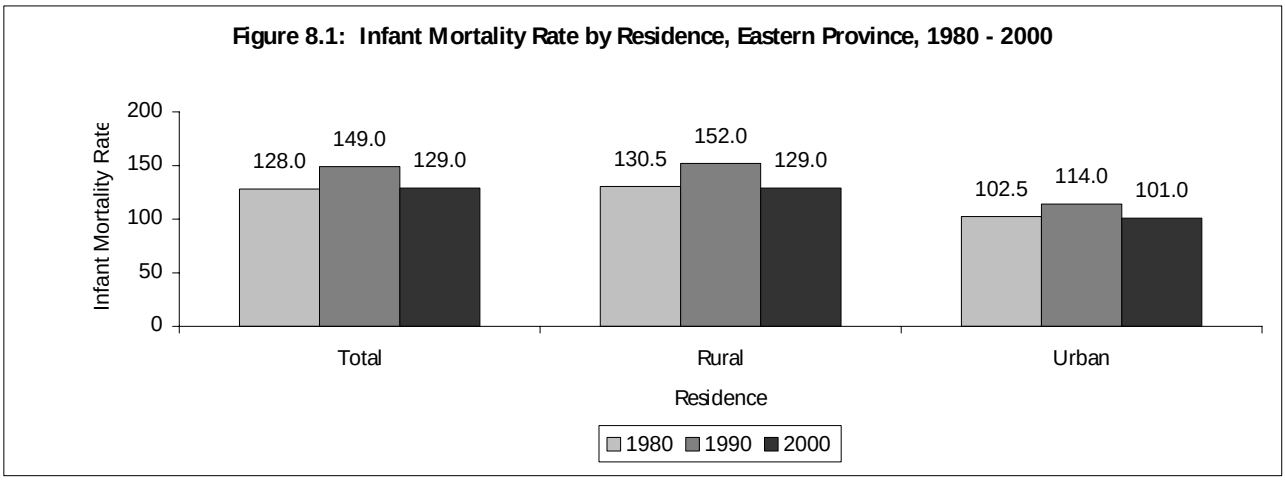
	Infant Mortality Rate (Per '000)		
Residence and Sex	**1980**	**1990**	**2000**
Zambia	**99**	**124**	**110**
Eastern Province	**128**	**149**	**129**
Residence			
Rural	131	152	129
Urban	103	114	101
Sex of Child			
Male	129	156	137
Female	127	143	117
Districts (2000)	**Total (2000)**	**Rural (2000)**	**Urban (2000)**
Chadiza	119	119	113
Chama	127	128	101
Chipata	111	111	106
Katete	99	99	101
Lundazi	137	139	88
Mambwe	100	100	-
Nyimba	128	129	-
Petauke	120	120	114

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

8.3.1 Infant Mortality Rate by Residence

Figure 8.1 shows that IMR has also declined in both rural and urban areas between 1990 and 2000. In rural areas, it declined from 152 to 129 deaths per 1000 live births while in rural areas, it declined from 114 to 101 deaths per 1000 live births. This indicates that infants in rural areas of Eastern Province experience a higher risk of dying before age one than urban infants.

Figure 8.1: Infant Mortality Rate by Residence, Eastern Province, 1980 - 2000



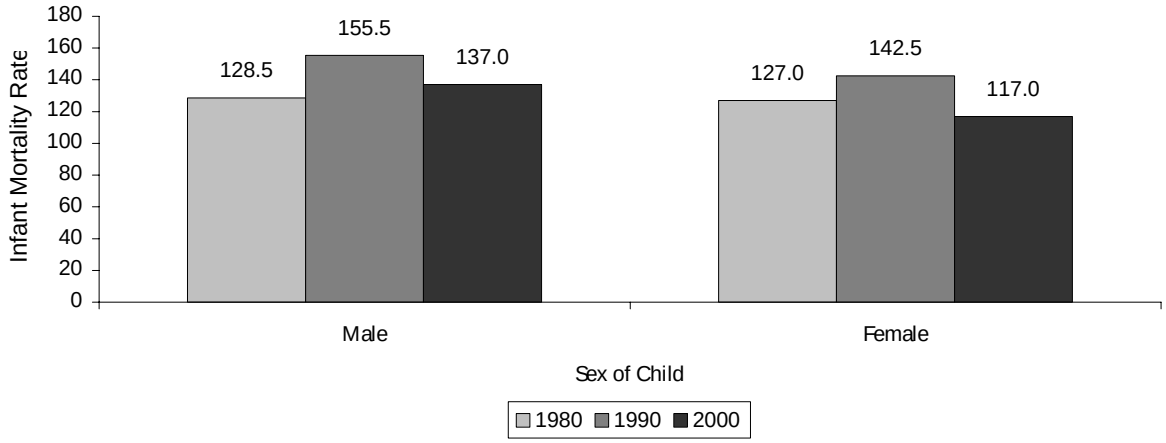
Sources: CSO, 1980, 1990 and 2000 Censuses of Population and Housing

8.3.2 Infant Mortality Rate by Sex

Figure 8.2 shows that sex differentials in IMR are observed. Male infants have in a higher IMR than females. In 2000, 137 deaths per 1000 live births occurred among males compared to 117 among females. A similar pattern was also observed in 1980 and 1990. In 1980, 129 males and 127 female infants died before reaching age one; and in 1990, 155.5 male infants and 142.5 female infants died in the stated age range.

In 2000 the pattern of infant mortality rate by sex is similar to that of the national average; where male s have a higher IMR than females.

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

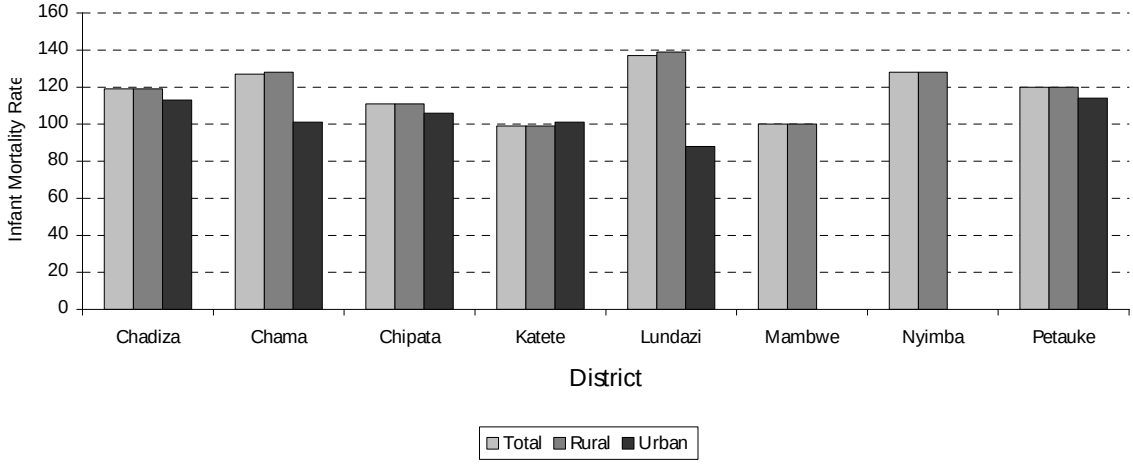


Sources: CSO, 1980, 1990 and 2000 Censuses of Population and Housing

8.3.3 Infant Mortality Rate by District

Figure 8.3 shows that IMR is relatively very high in Lundazi (137), Nyimba (128) and Chama (127). This rate is lowest in Katete(99) and Mambwe (100), although it is still very high. With the exception of Katete, it is evident that infants in urban areas of all the districts have higher risks of dying before age one than their rural counterparts. The difference is significantly high in Lundazi district.

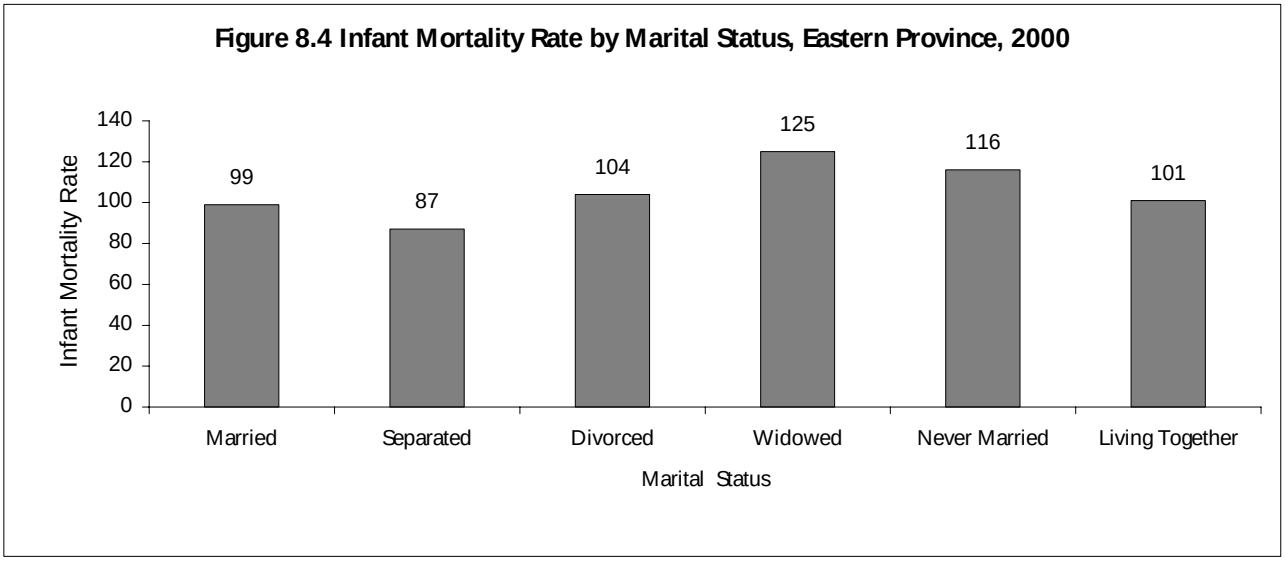
Figure 8.3: Infant Mortality Rate by Residence, Eastern Province,2000



Source: CSO, 2000 Census of Population and Housing

8.3.4 Infant Mortality Rate by Marital Status of Mother

Figure 8.4 and Table 8.2 show the IMR differentials by marital status of mother. Children born to widowed and never married mothers have the highest risks dying before age one (125 and 116, respectively), while children born to separated and mothers have the lowest chances of dying (87 deaths per 1000 live births).



Sources: CSO, 2000 Census of Population and Housing

In both rural and urban areas, the highest IMR is among the widowed mothers. The lowest IMR is among the separated mothers in rural areas and cohabiting mothers in urban areas.

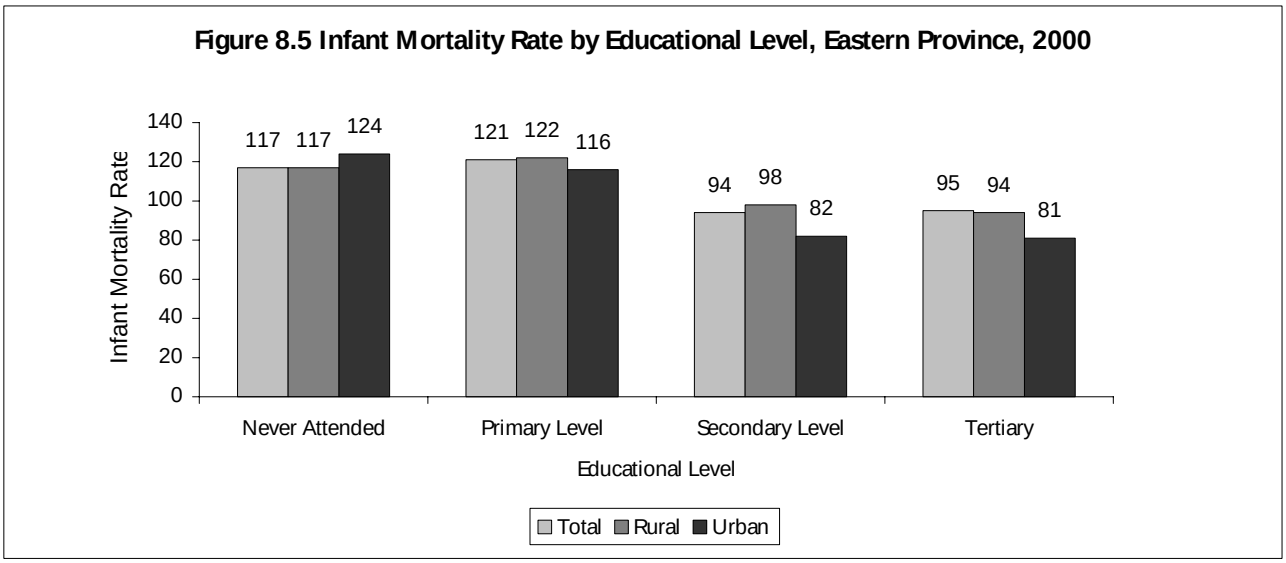
Table 8.2: Infant Mortality Rate by Marital Status, Eastern Province, 2000

Marital Status	Infant Mortality Rate (per '000)		
	Total	Rural	Urban
Married	99	100	82
Separated	87	86	92
Divorced	104	105	93
Widowed	125	128	97
Never Married	116	123	86
Living Together	101	104	70

Sources: CSO, 2000 Census of Population and Housing

8.3.5 Infant Mortality Rate by Educational Level of Mother

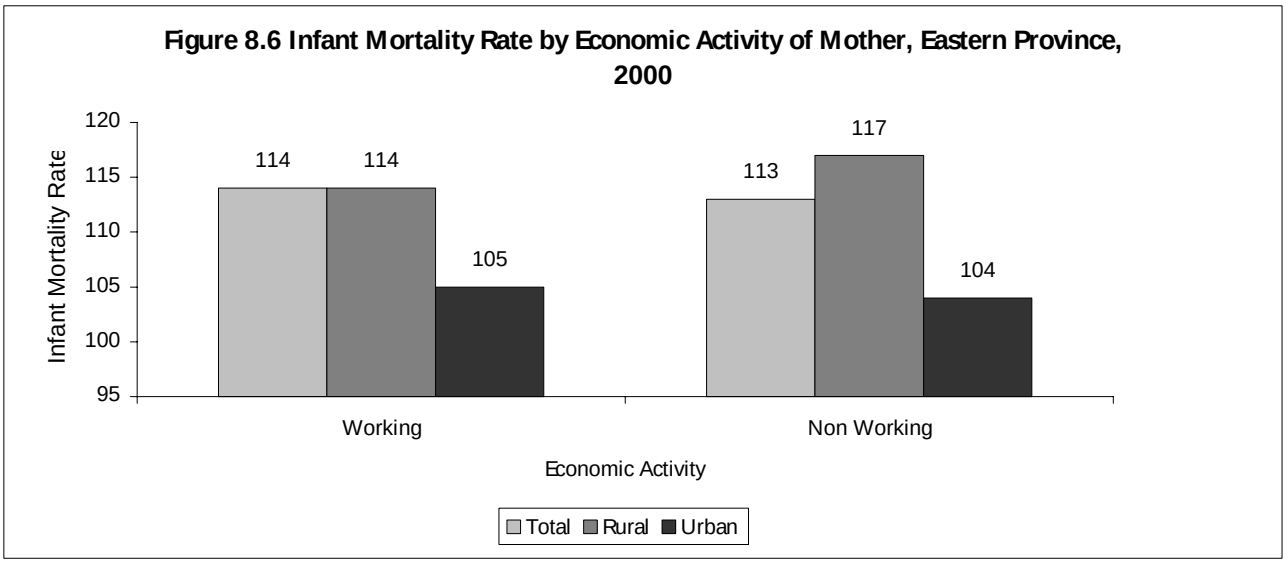
Variation in IMR by level of education of mother is shown in Figure 8.5. It would be expected that survival chances of infants increase with increasing level of education of mother. However, the IMR of babies born to mothers with no education is slightly lower (117) than that of children of women with primary education (121). Also, there is no significant difference in IMRs for children born to mothers with secondary and tertiary education (94 and (% deaths per 1000 live births, respectively).



Source: CSO, 2000 Census of Population and Housing

8.3.6 Infant Mortality Rate by Economic Activity of Mother

Figure 8.6 shows that children born to non- working mothers have a lower IMR than those born to working mothers. However, the difference is quite minimal (113 versus 114 death per 1000 respectively).



Source: CSO, 2000 Census of Population and Housing

8.4 Child Mortality Levels, Trends and Differentials.

Table 8.3 shows that overall, Child Mortality Rate (CMR) increased from 99 in 1980 to 120 in 1990 then decreased to 100 in 2000. In comparison to the national rate, Eastern Province has had higher child mortality rates for all the three census years. In the year 2000, the child mortality rates were 100 for the province and 82 for Zambia.

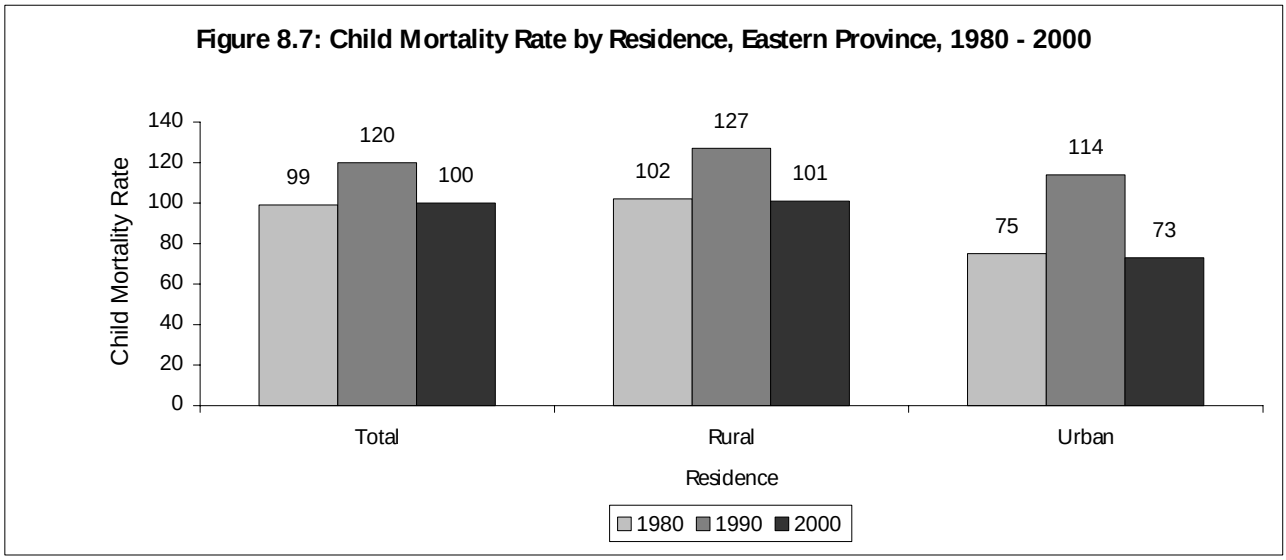
Table 8.3: Child Mortality Rates by Sex of Child, Residence and District, Eastern Province, 1980, 1990 and 2000

Residence and Sex	Child Mortality Rate (Per '000)		
	1980	1990	2000
Zambia	**71**	**96**	**82**
Eastern Province	**99**	**120**	**100**
Residence			
Rural	102	124	101
Urban	75	86	73
Sex of Child			
Male	100	127	109
Female	98	114	88
Districts (2000)	**Total** (2000)	**Rural (2000)**	**Urban (2000)**
Chadiza	92	92	85
Chama	76	75	51
Chipata	90	95	74
Katete	78	76	103
Lundazi	133	136	40
Mambwe	77	77	-
Nyimba	101	101	-
Petauke	104	104	103

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

8.4.1 Child Mortality Rate by Residence

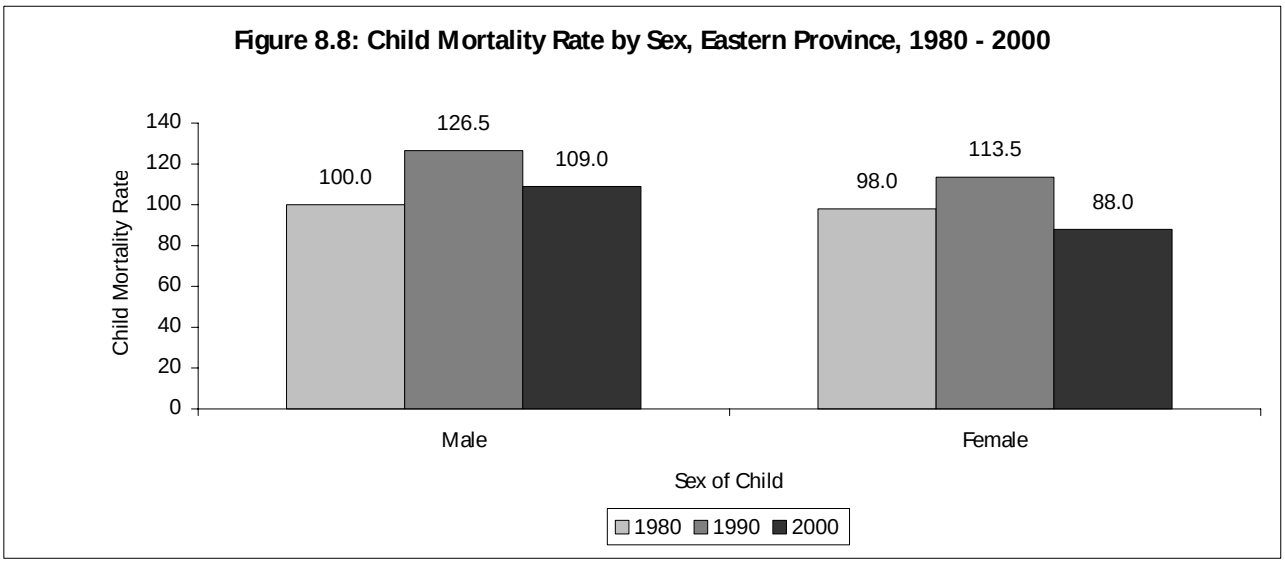
Figure 8.7 shows that children born to mothers residing in rural areas have higher risks of dying between age one and five (101 compared to 73.0 deaths per 1000 children) than those in urban areas. This is true for all census years.



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

8.4.2 Child Mortality Rate by Sex

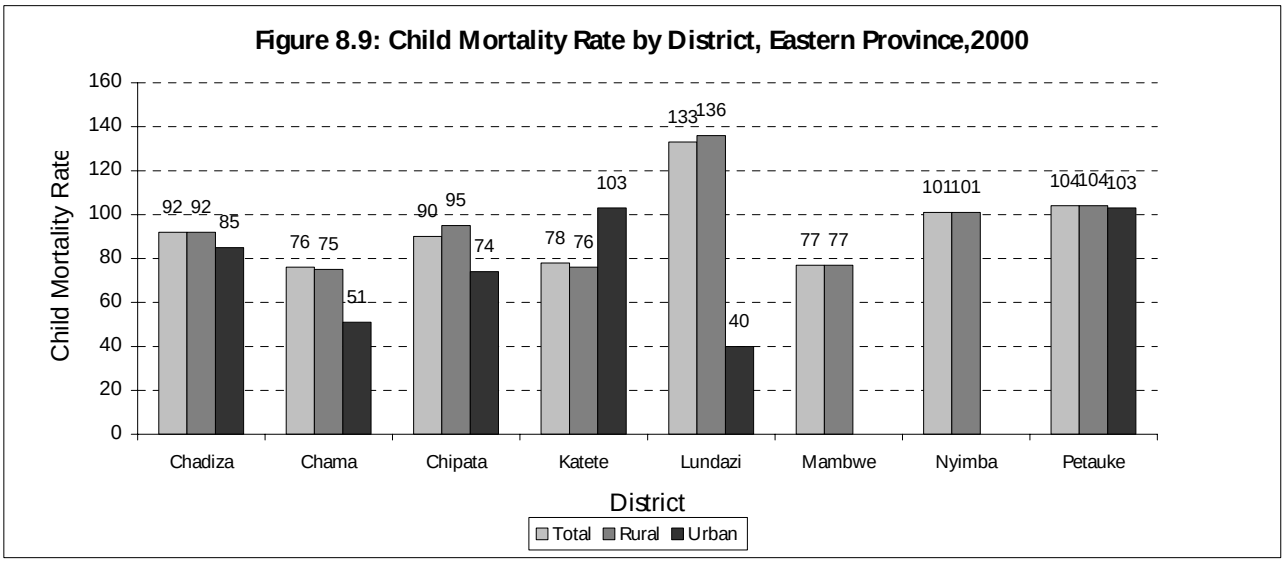
In Figure 8.8, it is observed that CMR among male children (109 deaths) is higher than that of females at 88 deaths per 1000 live births. A similar pattern is also observed in 1980 and 1990 census years. In 1980, CMR was 100 for males and 98 females, while in 1990, it was 127 for males and 114 for females.



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

8.4.3 Child Mortality Rate by District

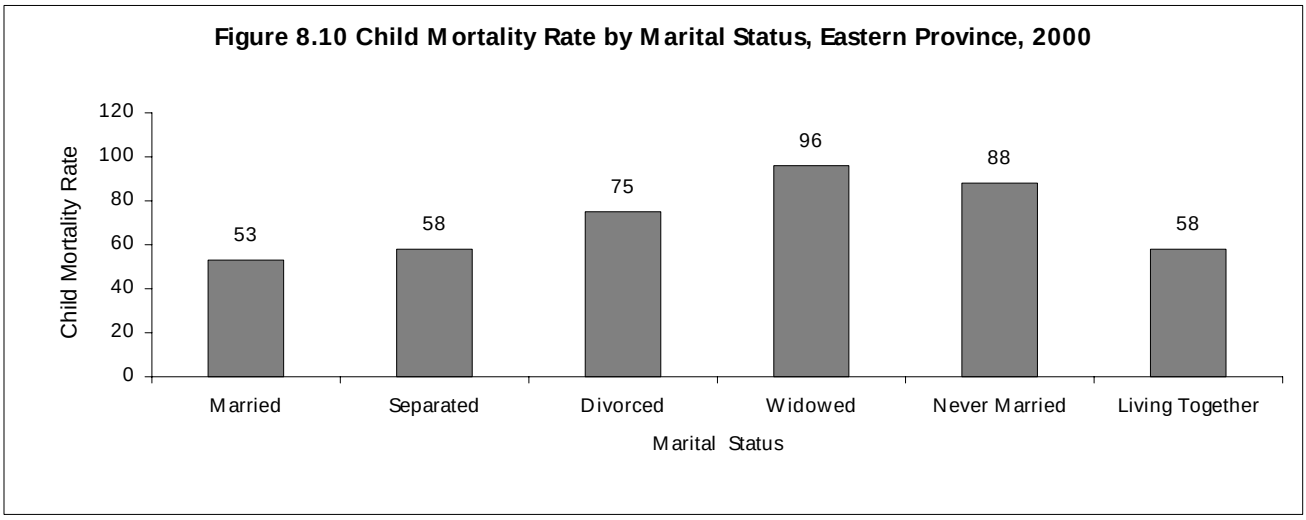
A comparison of the districts shows that CMR is very high in Lundazi (133) and Nyimba (101), and is low in Katete (78), Mambwe (77) and Chama (76). It worth noting that Katete was the only district that recorded a higher CMR in urban than rural areas. In the rest of the districts, the opposite holds true (Figure 8.9).



Source: CSO, 2000 Census of Population and Housing

8.4.4 Child Mortality Rate by Marital Status of Mother

CMR differentials by marital status of mother show that children born to widowed mothers have the highest chances of dying between age one and five (almost 1 in every 10), while children born to married mothers have the lowest chances of dying (1 in every 19).



Sources: CSO, 2000 Census of Population and Housing

In both rural and urban areas, the highest CMR is among widowed mothers. The lowest is among cohabiting and separated mothers in rural areas and among married mothers in urban areas.

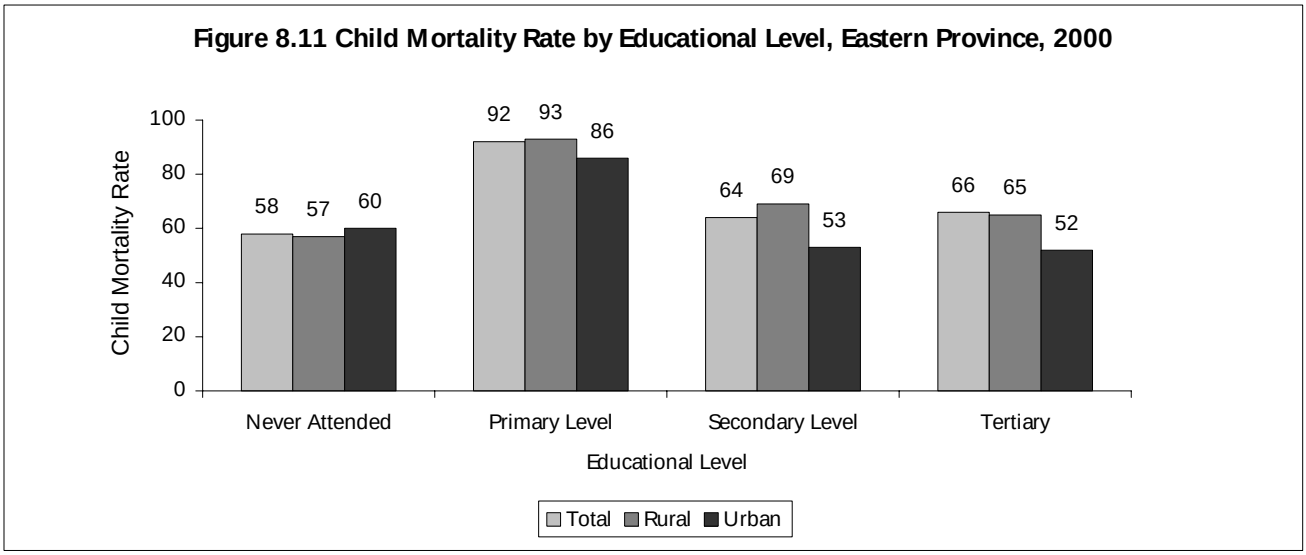
Table 8.4: Child Mortality Rate by Marital Status, Eastern Province, 2000

Marital Status	Child Mortality Rate (per '000)		
	Total	Rural	Urban
Married	53	71	53
Separated	58	57	63
Divorced	75	76	64
Widowed	96	99	68
Never Married	88	94	59
Living Together	58	57	63

Sources: CSO, 2000 Census of Population and Housing

8.4.5 Child Mortality Rate by Educational Level of Mother

Figure 8.11 shows that CMR among babies born to mothers with no education school is lower (58 deaths) than that of children of mothers who have had some form of schooling. Children born to mothers with primary education have the highest chances of dying (92 deaths) followed by those born to mothers with tertiary education (66). Children born to mothers with secondary education had a CMR of 64.

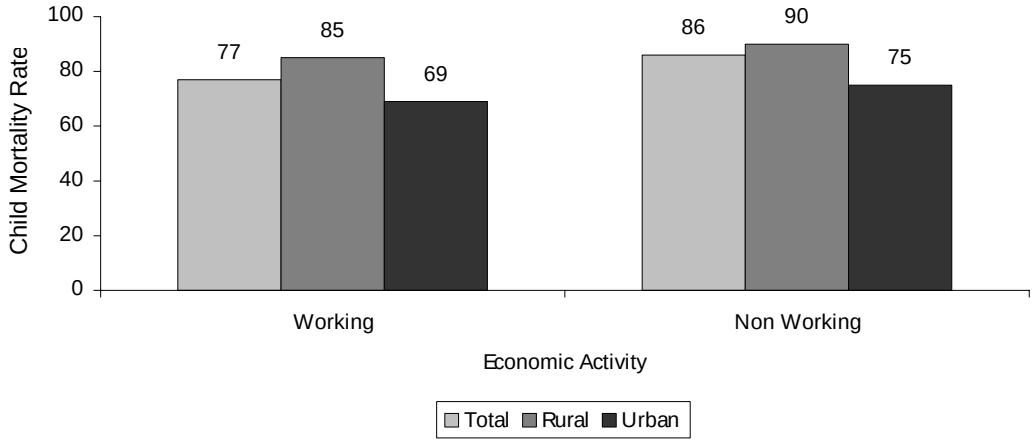


Source: CSO, 2000 Census of Population and Housing

8.4.6 Child Mortality Rate by Economic Activity of Mother

Differentials of CMR by economic activity is shown in Figure 8.12. Children born to working mothers have higher chances of surviving between age one and five than those born to non-working mothers. The differences are relatively significant (77 versus 86 deaths per 1000 children, respectively). The pattern is the same in both urban and rural areas.

Figure 8.12 Child Mortality Rate by Economic Activity of Mother, Eastern Province, 2000



Sources: CSO, 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 Eastern Province increased from 177 in 1980 to 206 in 1990 then decreased to 196 in 2000. In comparison to the current national rate of 162, that of the province (196) is higher.

Table 8.5: Under Five Mortality Rates by Sex of Child, Residence and District, Eastern Province, 1980, 1990 and 2000

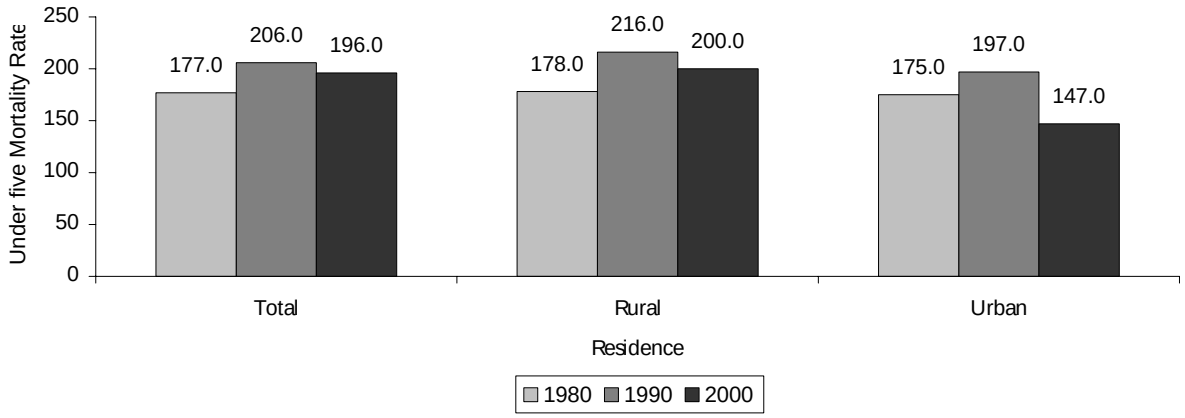
Residence and Sex	Under Five Mortality (Per '000)		
	1980	1990	2000
Zambia	**121**	**208**	**162**
Eastern Province	177	206	196
Residence			
Rural	181	211	200
Urban	139	155	147
Sex Of Child			
Male	178	216	205
Female	175	197	187
Districts (2000)	**Total (2000)**	**Rural (2000)**	**Urban (2000)**
Chadiza	188	192	74
Chama	231	234	173
Chipata	180	187	150
Katete	166	168	135
Lundazi	236	239	152
Mambwe	177	177	-
Nyimba	204	204	-
Petauke	191	193	148

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

8.5.1 Under Five Mortality Rate by Residence

In both rural and urban areas the trend in UMRs is similar as that of the whole province. In rural areas, UMR in 1980 stood at 178 and rose in 1990 to 216 in the province, then declined to 200 in 2000. In urban areas, UMR increased from 175 in 1980 to 197 in 1990, then decreased to 147 in 2000. Overall, children born to mothers residing in rural areas had higher risks of dying between birth and age five than those in urban areas.

Figure 8.13 Under-Five Mortality Rate by Residence, Eastern Province, 1980 - 2000

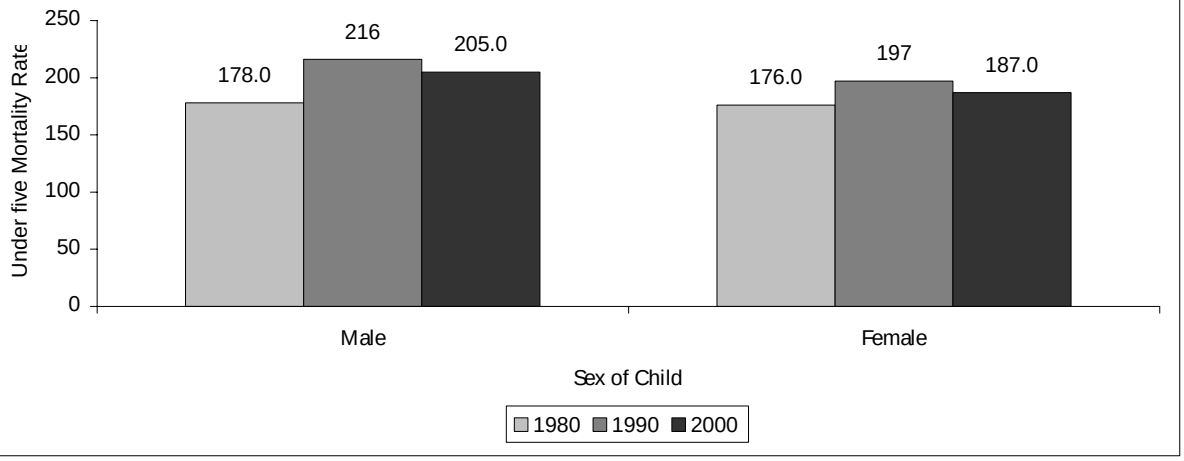


Sources: CSO, 1980, 1990 and 2000 Censuses of Population and Housing

8.5.2 Under Five Mortality Rate by Sex

Figure 8.14 shows that males have a higher UMR than females (205 vs 187). A similar pattern is also observed in 1980 and 1990. In 1980, 178 male and 176 female, and in 1990, 215.5 male and 197 female children die before reaching their fifth birthday out of every 1000 live births.

Figure 8.14 Under-Five Mortality Rate by Sex, Eastern Province, 1980 - 2000

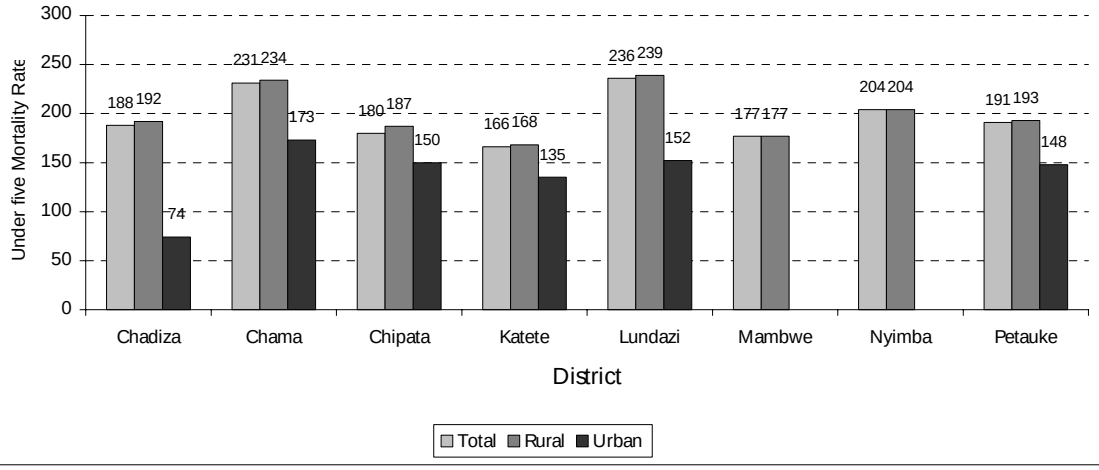


Sources: CSO, 1980, 1990 and 2000 Censuses of Population and Housing

8.5.3 Under Five Mortality Rate by District

Figure 8.15 shows that UMR is highest in Lundazi (236), closely followed by Chama (231) and Nyimba (204); and is lowest in Katete (166). Rural/urban differentials also exist within the districts. These differences are more pronounced in Chadiza and Lundazi compared to other districts.

Figure 8.15 Under-Five Mortality Rate by District, Eastern Province,2000

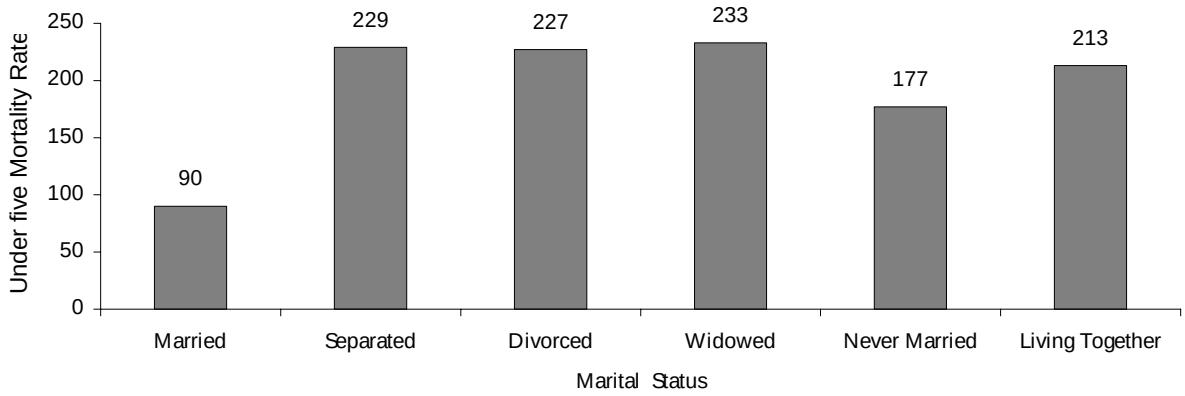


Source: CSO, 2000 Census of Population and Housing

8.5.4 Under five Mortality Rate by Marital Status of Mother

Figure 8.16 and Table 8.6 show the UMR differentials by marital status of mother. On average, in all marital categories except the married and the never married categories, almost 1 in every 4 children die before celebrating their fifth birthday. About 1 in every 11 children of married mothers dying before celebrating their fifth birthday compared to 1 in 6 of children of never married mothers.

Figure 8.16 Under-Five Mortality Rate by Marital Status, Eastern Province, 2000



Source: CSO, 2000 Census of Population and Housing

In rural areas, the highest UMR is among widowed mothers while in urban areas it is among divorced mothers. The lowest rate is among the never married in rural areas and among the married in urban areas.

Table 8.6: Under-Five Mortality Rate by Marital Status, Eastern Province, 2000

Marital Status	Under-five mortality Rate (per '000)

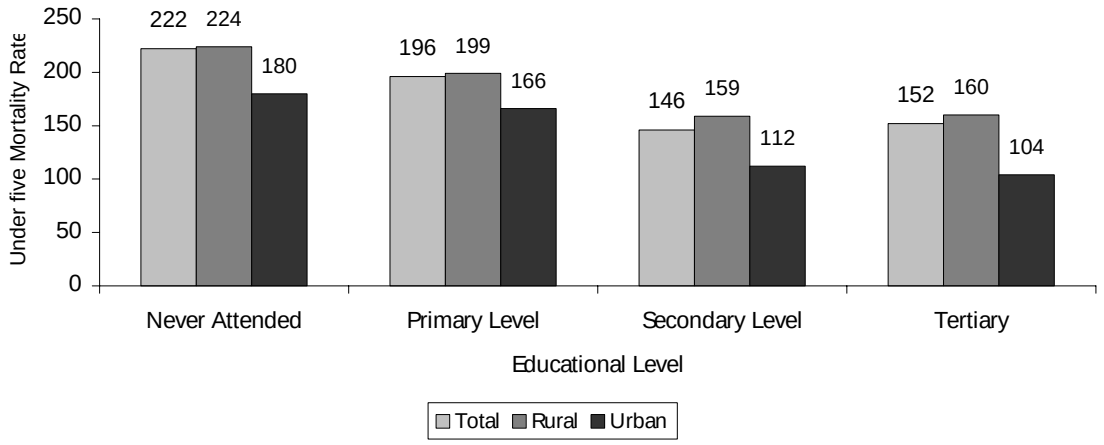
	Total	Rural	Urban
Married	146	203	146
Separated	229	240	169
Divorced	227	228	219
Widowed	233	241	170
Never Married	177	137	170
Living Together	229	224	169

Source: CSO, 2000 Census of Population and Housing

8.5.5 Under five Mortality Rate by Educational Level Of Mother

Under five Mortality Rates varies with the level of education of the mother. Generally, UMR decreases with increasing level of education of mother. However, it is interesting to note that children born to mothers with secondary education have a higher chance of surviving than those born to mothers with a tertiary level of education (Figure 8.17).

Figure 8.17 Under-Five Mortality Rate by Educational Level, Eastern Province, 2000

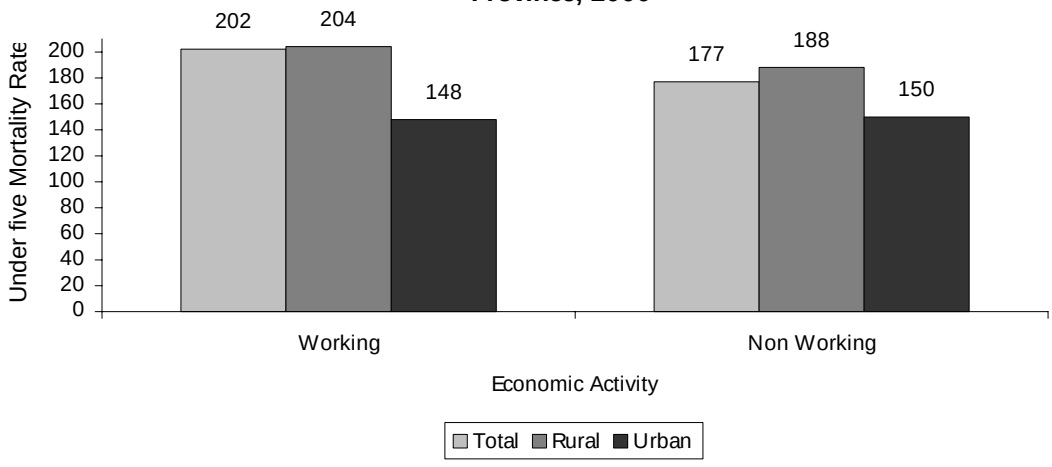


Source: CSO, 2000 Census of Population and Housing

8.5.6 Under five Mortality Rate by Economic Activity of Mother

Figure 8.18 shows that children born to working mothers are at greater risk of dying before age five than those born to non-working mothers. The difference is relatively significant (202 versus 177 deaths per 1000 children, respectively). In rural areas, as in the whole province, UMR is higher among the working than non working mothers while in urban areas, the opposite holds true.

Figure 8.18 Under-Five Mortality Rate by Economic Activity of Mother, Eastern Province, 2000



Source: CSO, 2000 Census of Population and Housing

8.6 LIFE EXPECTANCY AT BIRTH: LEVELS, TRENDS AND DIFFERENTIALS

Table 8.7 shows that Life Expectancy at Birth decreased from 45.9 in 1980 to 42 in 1990. There has been an increase in life expectancy between 1990 and 2000 to 45.7 years. When disaggregated by sex, the same trend is observed. It is also observed that female babies experience higher expectation of life at birth at 46.2, 43.1 and 49.2 years than male babies whose life expectancies were 45.8, 40.8 and 44.1 years in 1980, 1990 and 2000 respectively. In comparison with the national average, life expectancy for Zambia has been higher than that of the provincial average for all census years.

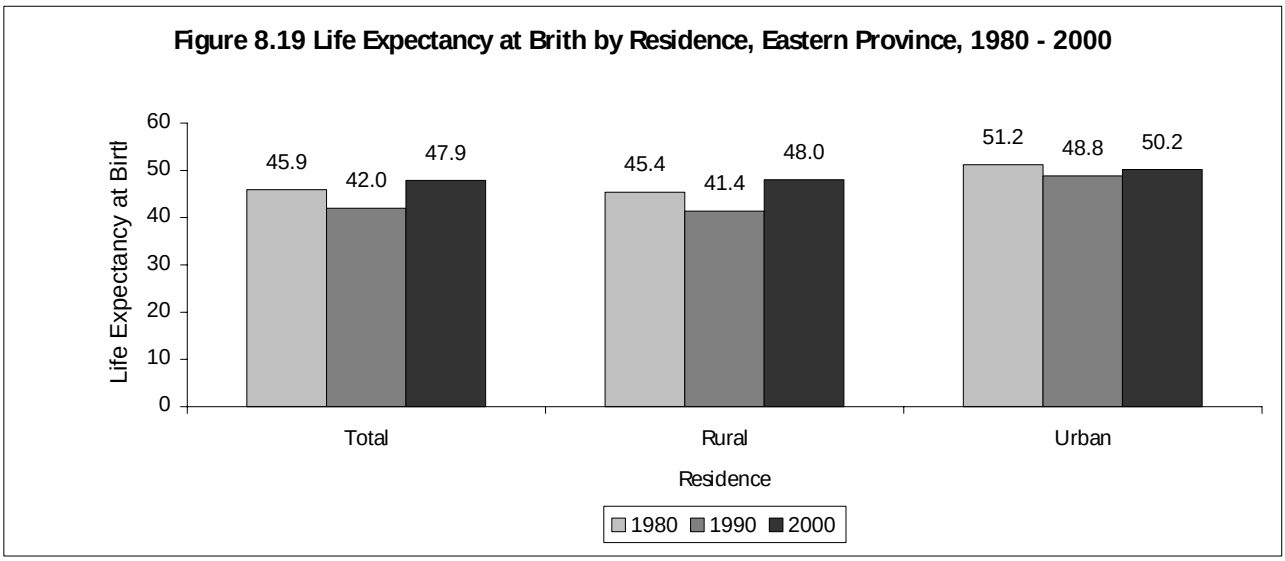
Table 8.7: Life Expectancy at Birth by Sex of Child, Residence and District, Eastern Province, 1980, 1990 and 2000

Residence and Sex	Life Expectancy at Birth (Years)		
	1980	1990	2000
Zambia	**52**	**47**	**50**
Eastern Province	45.9	42.0	45.7
Residence			
Rural	45.4	41.4	45.6
Urban	51.2	48.8	51.4
Sex of Child			
Male	45.8	40.8	44.1
Female	46.2	43.1	48.1
Districts (2000)	**Total (2000)**	**Rural (2000)**	**Urban (2000)**
Chadiza	47.7	47.7	48.9
Chama	46.3	46.0	51.3
Chipata	49.5	49.5	50.4
Katete	52.1	52.2	51.4
Lundazi	51.4	44.2	58.5
Mambwe	51.9	51.9	-
Nyimba	51.4	51.4	-
Petauke	47.4	47.4	48.5

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

8.6.1 Life Expectancy at Birth by Residence

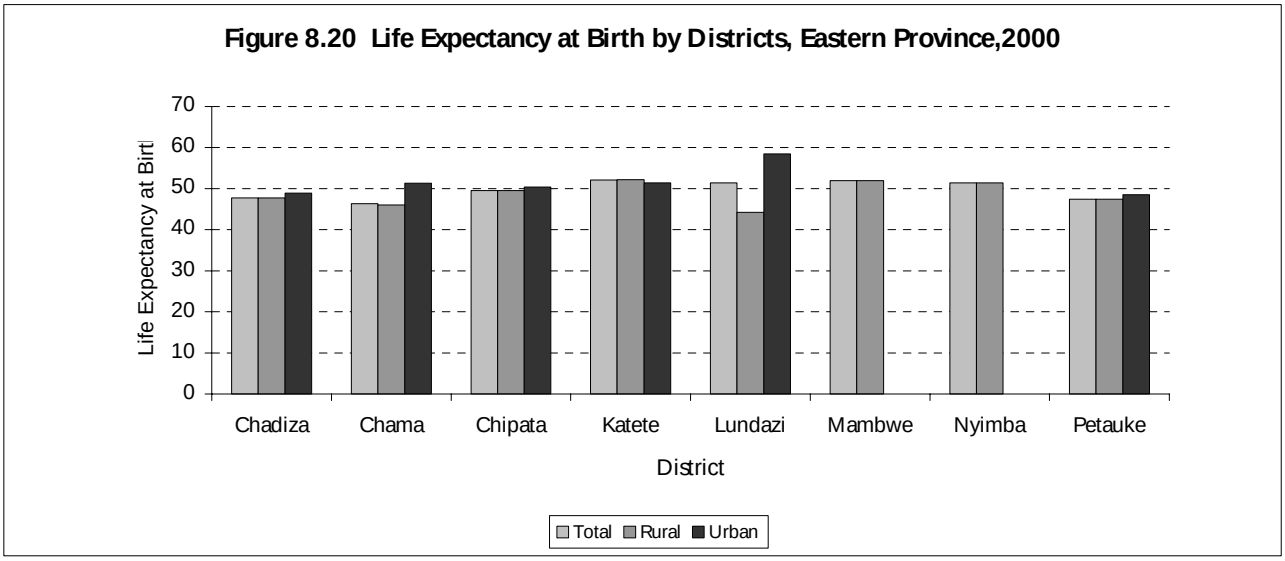
Figure 8.19 shows that the life expectancy is higher in urban than rural areas (in the urban areas life expectancy was 51.2, 48.8 and 51.4 while in the rural areas it was 45.4, 41.4 and 45.6 in 1980, 1990 and 2000, respectively). In both rural and urban areas, life expectancy decreased between 1980 and 1990, then increased in 2000.



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

8.6.2 Life Expectancy at Birth by District

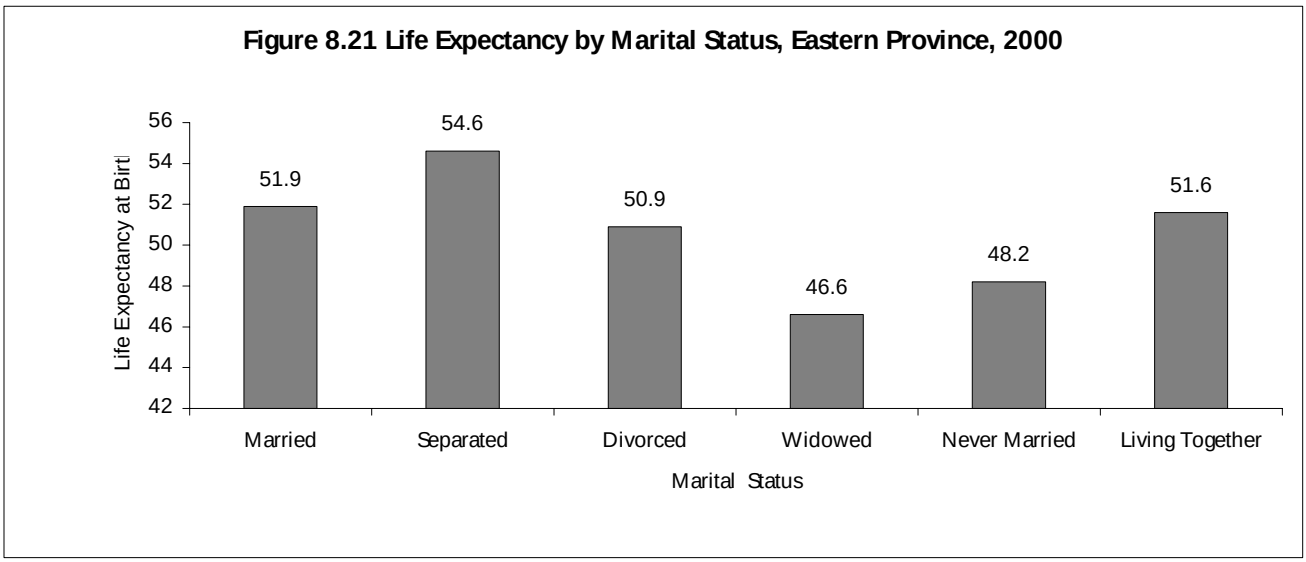
Figure 8.20 shows that at the district level, Life Expectancy at Birth is lowest in Chama (46.3) and highest in Katete (52.1). In all districts, urban areas have a higher life expectancy than rural areas except Katete.



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, divorced, cohabiting and currently married have higher life expectancies (above 50 years), than those born to widowed and never married mothers.



Source: CSO, 2000 Census of Population and Housing

In rural areas the highest life expectancy is among the separated mothers (54.6) and lowest among the widowed (46.6). In urban areas on the other hand, the highest life expectancy is among cohabiting mothers (58.6) and lowest among the widowed (52.4).

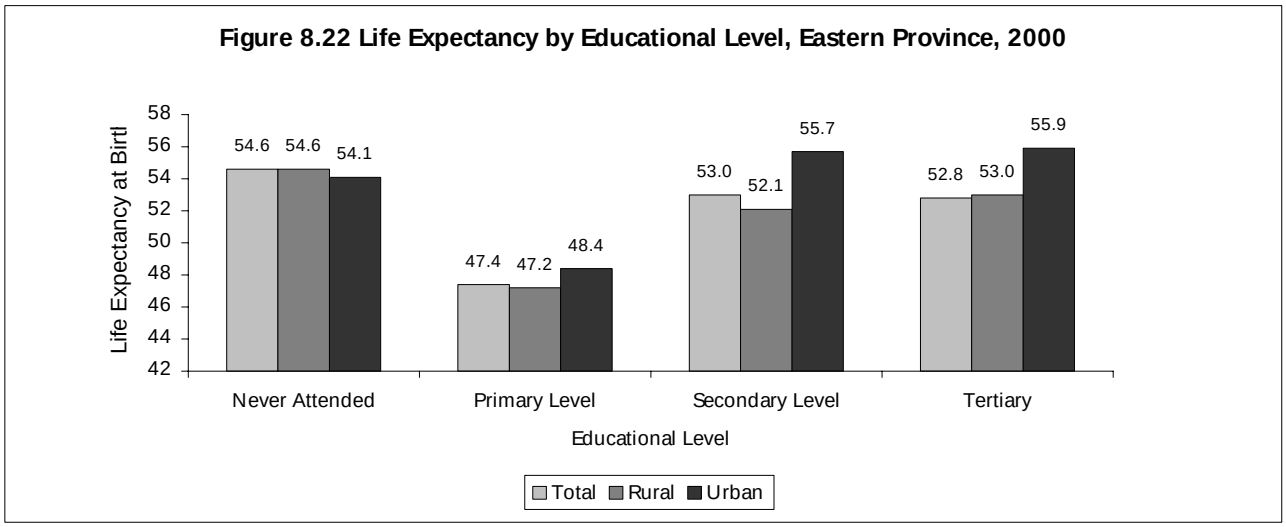
Table 8.8: Life Expectancy by Marital Status, Eastern Province, 2000

Marital Status	Life Expectancy at Birth (Years)		
	Total	Rural	Urban
Married	51.9	51.7	55.7
Separated	54.6	54.8	53.4
Divorced	50.9	50.6	53.2
Widowed	46.6	46.0	52.4
Never Married	48.2	47.0	54.8
Living Together	51.5	50.9	58.6

Source: CSO, 2000 Census of Population and Housing

8.6.4 Life Expectancy at Birth by Education Level of Mother

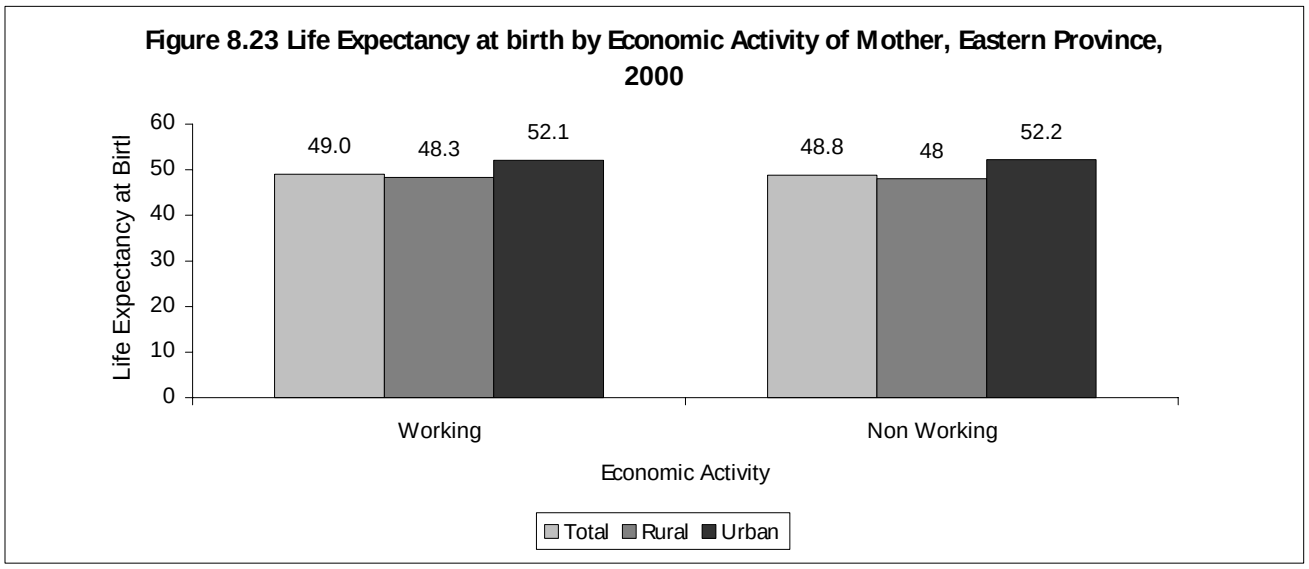
Figure 8.22 shows the life expectancy differentials by education. The highest life expectancy is among babies born to mothers who have never had any schooling (55). Babies born to women with primary education have a life expectancy of 47 while those born to women with secondary or tertiary education have a life expectancy of 53.



Source: CSO, 2000 Census of Population and Housing

8.6.5 Life Expectancy at Birth by Economic Activity of Mother

Children born to working mothers have a slightly higher expectation of life at birth than those born to non-working mothers (49 years versus 48.8 years, respectively).

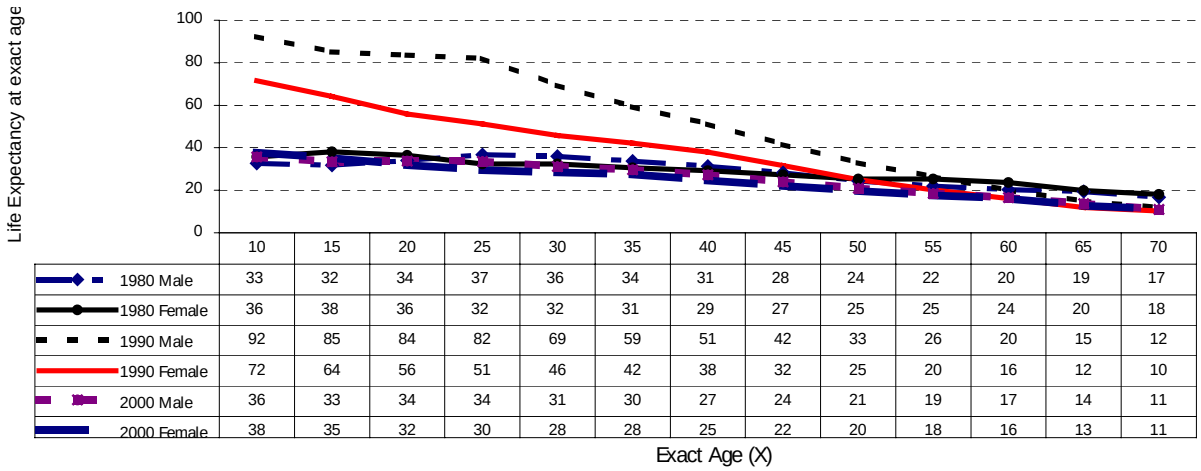


Source: CSO, 2000 Census of Population and Housing

8.7 Adult Mortality : Life Expectancy Levels, Trends and Differentials

Results in Figure 8.24 show that adult life expectancy levels in Eastern Province increased between 1980 and 1990 for males at exact ages 10 to 55 and for females at ages 10 to 45. At the older age groups, adult life expectancy decreased for both males and females. Between 1990 and 2000, however, life expectancy deteriorated at all adult ages for males and between 10 to 55 years for females. The steep decrease may be attributed to the HIV/AIDS pandemic. The decline in life expectancy was much steeper at exact ages 10-55, for males and at ages 10 to 50 for females.

Figure 8.24: Adult Life Expectancy Levels (at exact ages 10 -70 years) by Sex, Eastern Province, 1980-2000

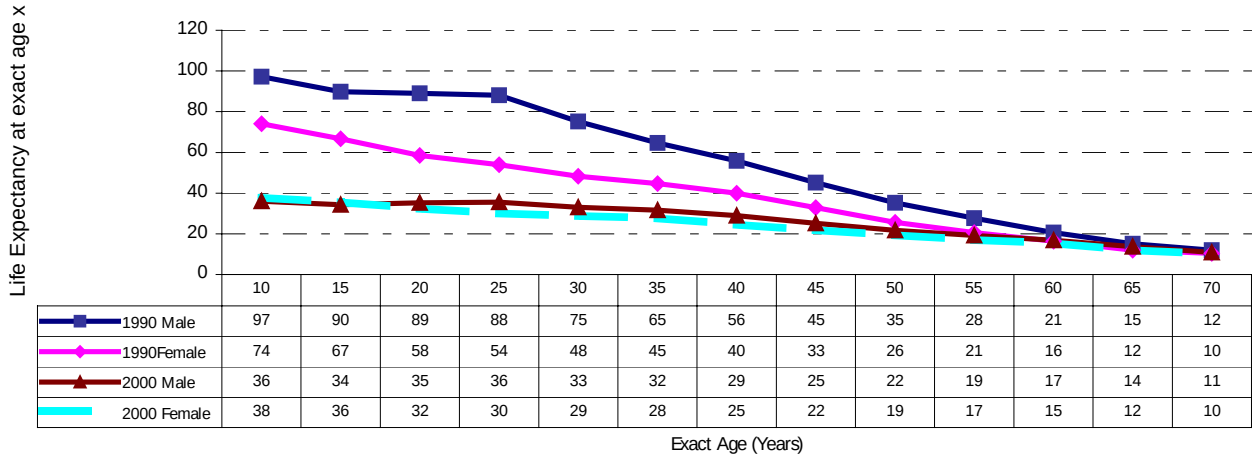


	10	15	20	25	30	35	40	45	50	55	60	65	70
1980 Male	33	32	34	37	36	34	31	28	24	22	20	19	17
1980 Female	36	38	36	32	32	31	29	27	25	25	24	20	18
1990 Male	92	85	84	82	69	59	51	42	33	26	20	15	12
1990 Female	72	64	56	51	46	42	38	32	25	20	16	12	10
2000 Male	36	33	34	34	31	30	27	24	21	19	17	14	11
2000 Female	38	35	32	30	28	28	25	22	20	18	16	13	11

Source: CSO, 2000 Census of Population and Housing

Differentials by residence in Figures 8.25 and 8.26 indicate that adults in rural areas have higher chances of surviving to older ages than in urban areas. In rural areas, life expectancy is much higher between ages 15 and 60 for men and between 15 and 45 for females. In rural areas, males live longer than females at all ages (10-70) in 1990 and at ages 20 to 70 in 2000. In urban areas, on the contrary, males have a higher life expectancy at ages 10 to 50 in 1990 and 20 to 25 in 2000. At most ages in 2000, females have higher life expectancies than male adults.

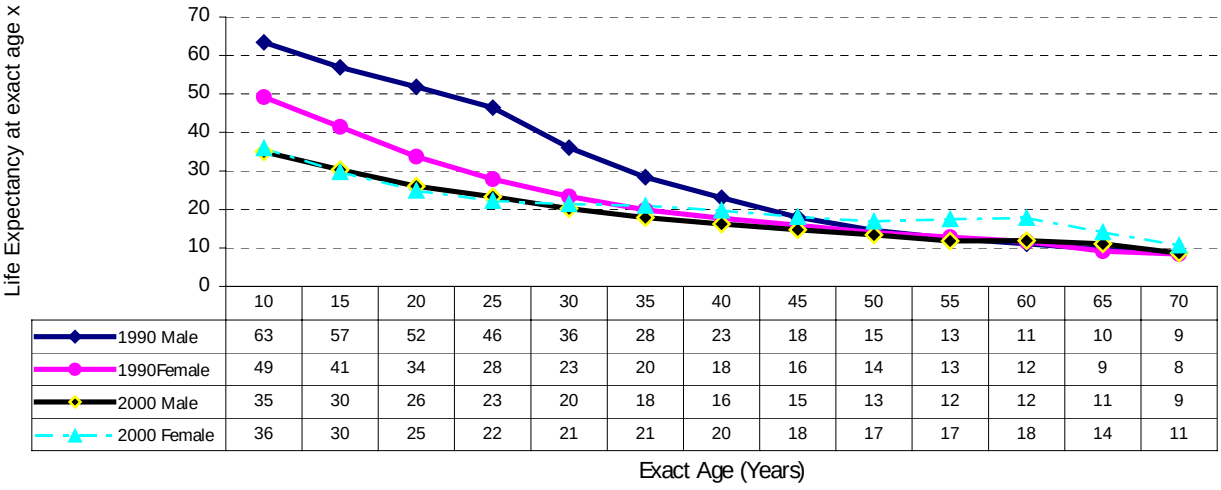
Figure 8.25: Adult Life expectancy Levels by (at exact ages 10-70 years) by Sex, Eastern Province,Rural , 1990-2000



	10	15	20	25	30	35	40	45	50	55	60	65	70
1990 Male	97	90	89	88	75	65	56	45	35	28	21	15	12
1990Female	74	67	58	54	48	45	40	33	26	21	16	12	10
2000 Male	36	34	35	36	33	32	29	25	22	19	17	14	11
2000 Female	38	36	32	30	29	28	25	22	19	17	15	12	10

Source: CSO, 2000 Census of Population and Housing

Figure 8.26: Adult Life Expectancy Levels (at exact ages 10-70 years), by Sex Eastern Province Urban , 1990-2000



	10	15	20	25	30	35	40	45	50	55	60	65	70
1990 Male	63	57	52	46	36	28	23	18	15	13	11	10	9
1990Female	49	41	34	28	23	20	18	16	14	13	12	9	8
2000 Male	35	30	26	23	20	18	16	15	13	12	12	11	9
2000 Female	36	30	25	22	21	21	20	18	17	17	18	14	11

Source: CSO, 2000 Census of Population and Housing

The figures also show that there has been a larger decline in life expectancy in rural areas compared to urban areas for both males and females. In rural areas, life expectancy declined by over 50 years at ages 10 –25 years and about 30 years at ages 30-40 for males, by at least 20 years at ages 10 –25 for females. In urban areas, the decrease has been by at least 20 years at ages 10-25 and at least 8 years at ages 30-40 years for males. For females, the decrease has been by about 10 years at ages 10 –20 and much less between 25 and 35 years. At older ages, life expectancy increased by 1 to 3 years.

8.8 Summary

Infant mortality Rate has declined in Eastern Province by about 20 percent between 1990 and 2000. Despite this decline, the current IMR is still about the same as that of 1980 (129 vs 128 respectively). At district level, Lundazi registered the highest IMR and Chama least. IMR in Lundazi was 162 while that of Chama district 1 in 7 infants do not survive to their first birthday compared to 1 in 10 in Katete and Mambwe district. Higher Infant mortality risks are associated with mothers who live in a rural area, has less education, widowed and never married, and not working.

There was a 17 percent decline in Child Mortality Rate (CMR) between 1990 and 2000, from 120 to 100. At the district level CMR was highest in Lundazi district (133) and lowest in Mambwe district (77). Higher incidents of dying among children aged between exact age 1 and 5 were observed in those born to rural mothers, never married mothers, mothers with a lower level of education (primary) and non-working.

The Under five Mortality Rate has declined in Eastern Province between 1990 and 2000 by about 5 percent. Currently, 1 in 5 under-five children die before their fifth birthday. At district level, Katete district recorded the least under-five deaths and Lundazi district recorded the highest.

About one in four under-five children in Lundazi district die before reaching age five compared to one in six in Katete. Higher UMRs were associated with mothers from rural areas, previously married mothers (either widowed, separated, or divorced) working mothers and mothers with primary education or less.

The life expectancy at birth in Eastern Province improved by about 4 years in 2000 compared to 1990, which rose from about 42.0 to 45.7 years. At district level, Lundazi registered the lowest life expectancy at birth of 44.4 years, compared with the highest, Katete at 52.1 years. Lower Life Expectancy at Birth is also associated with babies born to rural mothers, widowed mothers, mothers with a low level of education and mothers in working group.

Adult survivorship levels have significantly deteriorated between 1990-2000 compared to the period 1980-1990 Male adults have higher chances of surviving than females.

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

Source: 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.

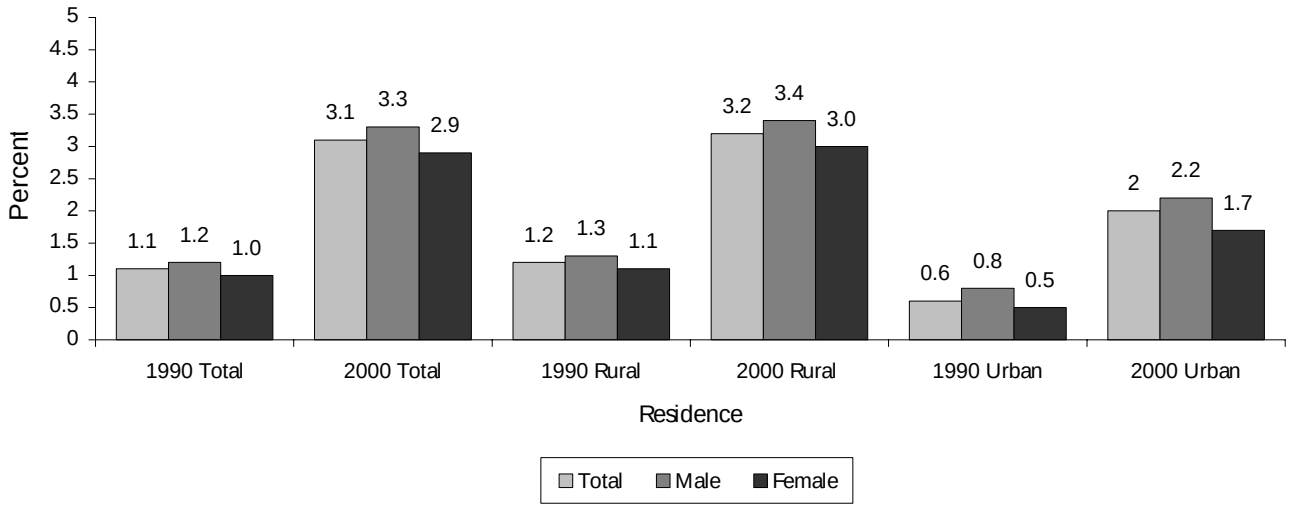
The categories employed in the current census, however, do not take into account the international definitions of disabilities, which include variations in the intensity of disability, such as the loss of feelings in fingers (UN, 1996).

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 1,226,767**,** 37,691 reported to be disabled; a proportion of 3.1 percent of the total population. This proportion was an increase over 1990 census when only 1.1 percent of the total population reported to be disabled. 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 may be largely caused by the increase in the categories of the disabled.

Figure 9.1: Proportion of Disabled Persons by Sex, Eastern Province, 1990 and 2000



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

Table 9.2: Proportion of the disabled by Province and Residence, Eastern Province, 1990 and 2000

Sex and year	Total Population			Proportions Of The Disabled		
	Total	**Rural**	**Urban**	Total	**Rural**	**Urban**
1990						
Zambia	7,383,097	4,477,814	2,905,283	0.9	1.1	0.7
Total	965,967	877,552	88,415	1.1	1.2	0.6
Male	466,264	422,305	43,959	1.2	1.3	0.8
Female	499,703	455,247	44,456	1.0	1.1	0.5
2000						
Total	1,226,767	1,118,004	108,763	3.1	3.2	2.0
Male	597,526	544,503	53,023	3.3	3.4	2.2
Female	629,241	573,501	55,740	2.9	3.0	1.7

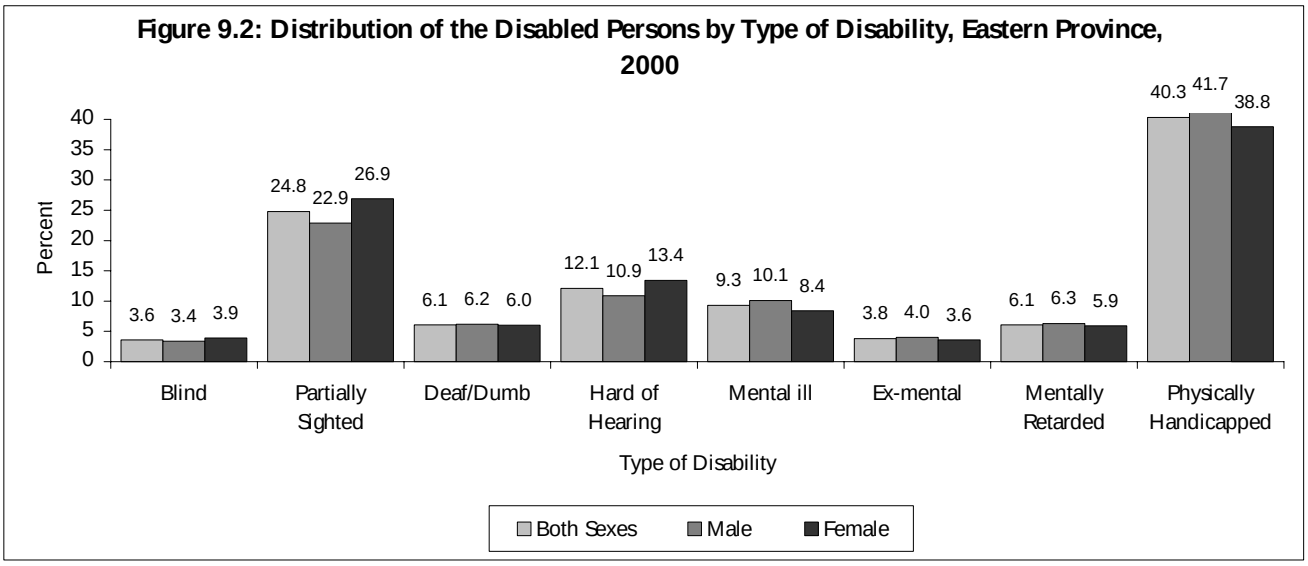
Source: CSO, 1990 and 2000 Censuses of Population and Housing

Rural-urban differentials exist in terms of proportions of persons with disabilities. Of the total rural population, 3.2 percent is disabled compared to 2.0 in urban areas.

9.5 Types of Disability

The distribution of disabled persons by type of disability in Eastern province shows that out of a total of 37,691 disabled persons, 52 percent are male and 48 percent are female.

As mentioned earlier, the types of disability include the blind, partially sighted, deaf/dumb, hard of hearing, mentally ill, ex-mental 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 40.3 percent of the disabled persons. And in comparison to the National, the provincial is higher; (38.8 percent versus 40.8 percent). The second most common disability is partial sight, which was reported by 24.8 percent. Some disability categories such as blindness (3.6 percent), ex-mental (3.8 percent), mental retardation (6.1 percent) and deaf/dumbness (6.1 percent) are less common.



Source: CSO, Census of Population and Housing

The table also shows that there were more male than female persons who reported a disability; (19,707 against 17,984). The pattern of the disabled regarding the more common and less common disabilities for the male and female is similar to that of the total disabled persons.

However, for the females, the difference in proportion between the partially sighted and physically handicapped is minimal. The pattern is also similar across districts although proportions vary slightly. For instance, Chadiza (2.5 percent), Katete (2.7 percent) and Chipata (2.8 percent) have lower proportions of the blind compared to districts such as Chama (4.8 percent) and Mambwe (4.9 percent). Partial sightedness is most common in Chama (31.0 percent) and least in Chadiza (16.41 percent). The proportion of the deaf and dumb ranges from 4.8 percent in Nyimba to 8.1 percent in Mambwe while that of the hard of hearing ranges from 10.2 percent in Mambwe to 14.3 percent in Chama. A comparison of the districts as regards the

physically disabled shows that it is most common in Mambwe (45.2 percent) and least in Chama with 35.2 percent.

Table 9.3: Percent Distribution of the disabled by type of disability and residence, Eastern Province, 2000

Type of Disability	Zambia	Eastern	Chadiza	Chama	Chipata	Katete	Lundazi	Mambwe	Nyimba	Petauke
Total Disabilities	256,690	37,691	2,826	1,910	10,756	5,170	5,987	1,510	2,716	6,816
Blind	5.3	3.6	2.5	4.8	2.8	2.7	4.7	4.9	3.5	4.6
Partially sighted	30.2	24.8	16.4	31.0	24.1	24.0	25.8	25.8	28.2	25.7
Deaf/dumb	6.2	6.1	5.1	5.8	4.9	7.3	6.7	8.1	4.8	7.1
Hard of hearing	12.4	12.1	10.8	14.3	12.7	12.6	11.3	10.2	12.1	11.6
Mentally ill	8.1	9.3	12.2	7.4	10.0	11.4	9.0	7.5	6.1	7.7
Ex-mental	3.6	3.8	6.4	1.9	4.2	4.0	3.5	4.3	2.3	3.4
Mentally retarded	5.4	6.1	10.7	4.3	6.1	5.6	5.9	5.6	4.6	6.0
Physically handicapped	38.8	40.3	42.4	35.2	39.7	37.4	38.1	45.2	45.2	42.8
Male	135,613	19,707	1,507	991	5,654	2,729	3,182	816	1,383	3,445
Blind.	5	3.4	1.7	4.8	2.9	2.4	4.2	2.3	1.8	2.1
Partially sighted	27.7	22.9	15.6	28.1	21.8	22.7	24.4	12.8	13.4	11.9
Deaf/dumb	6.2	6.2	5.1	5.9	4.9	7.3	6.8	4.1	2.7	3.7
Hard of hearing	11.5	10.9	8.9	13.9	11.2	11.7	10.7	4.8	5.6	5.2
Mentally ill	8.8	10.1	12.2	6.9	11.0	11.7	9.9	4.8	3.6	4.5
Ex-mental	3.7	4.0	6.4	1.9	4.7	3.9	3.4	2.5	1.5	1.7
Mentally retarded	5.6	6.3	10.4	4.3	6.1	6.3	6.3	3.4	2.3	3.0
Physically handicapped	40.7	41.7	44.2	38.0	41.4	38.5	38.8	25.2	23.6	22.3
Female	121,077	17,984	1,319	919	5,102	2,441	2,805	694	1,333	3,371
Blind	5.6	3.9	3.4	4.7	2.8	3.0	5.1	2.6	1.7	2.5
Partially sighted	33	26.9	17.4	34.3	26.7	25.4	27.3	12.9	14.8	13.9
Deaf/dumb	6.2	6.0	5.2	5.8	5.0	7.2	6.7	4.0	2.2	3.4
Hard of hearing	13.3	13.4	12.9	14.8	14.2	13.6	12.0	5.4	6.5	6.5
Mentally ill	7.3	8.4	12.2	8.1	8.8	11.1	8.1	2.8	2.5	3.2
Ex-mental	3.6	3.6	6.3	2.0	3.6	4.1	3.6	1.8	0.8	1.7
Mentally retarded	5.3	5.9	11.0	4.4	6.2	4.8	5.4	2.3	2.3	3.0
Physically handicapped	36.7	38.8	40.4	32.1	37.8	36.1	37.4	19.9	21.6	20.6

Source: CSO, 2000 Censuses 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 shows that the number of the disabled increases until age group 5-9 at which it reaches the peak and then thereafter the numbers fluctuate. Across age groups 0-4 to 65-69, 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, Eastern province, 2000

Age group	Type Of Disability								
	Total Number	Blind	Partially Sighted	Deaf/Dumb	Hard of Hearing	Mentally ill	Ex Mental	Mentally Retarded	Physically Handicapped
0 - 4	1,962	3.0	14.2	9.6	9.3	12.3	7.0	8.8	42.3
5-9	3,133	1.8	13.3	11.3	14.9	12.8	7.1	8.6	34.5
10-14	2,965	2.0	14.3	10.8	14.4	13.1	5.7	9.7	35.5
15 - 19	2,851	1.8	15.1	8.6	11.4	13.5	4.1	10.3	37.8
20 - 24	2,566	2.1	15.6	6.6	10.3	13.4	4.8	9.2	43.1
25 - 29	2,711	2.1	15.8	5.2	9.1	13.9	4.7	8.6	44.0
30 - 34	2,473	2.5	16.6	5.7	7.8	10.5	4.4	7.4	47.6
35 - 39	2,296	2.1	20.8	4.4	8.5	9.4	4.7	6.4	45.9
40 - 44	2,066	2.7	24.3	4.4	9.9	7.6	3.0	4.8	46.0
45 - 49	1,916	2.9	28.9	4.9	10.0	8.0	3.4	3.4	42.2
50 - 54	2,057	3.6	33.6	3.2	9.9	6.7	2.2	3.6	42.4
55 - 59	1,713	3.7	34.6	3.6	10.3	5.3	2.1	3.8	41.8
60 - 64	2,029	5.2	35.7	3.3	12.0	4.3	1.2	2.2	41.8
65 - 69	1,949	5.9	38.4	3.1	13.5	5.0	1.8	2.6	39.1
70 - 74	1,762	6.9	42.8	3.2	15.3	4.0	1.8	1.9	36.2
75+	3,242	10.1	46.6	4.4	21.4	2.7	0.9	1.6	31.5
Total	37,691	3.6	24.8	6.1	12.1	9.3	3.8	6.1	40.3

Source: CSO, 2000 Censuses of Population and Housing

9.7 Causes Of Disability

The various causes of disability were categorized as congenital/prenatal, disease/illness, injury/trauma, other and unknown. Of these, the most common cause is disease, which was reported by 40.6 percent of the disabled population. The national figure however is lower than the provincial at 38.9 percent. Prenatal causes were reported by 3.8 percent, injury by 7.7 percent, and other causes by 8.5 percent while 19.4 percent reported that they did not know the causes of their disability.

Some causes of disability affect females more than they do males. These include disease and other causes. Injuries are more common among males than females while proportions of males and females reporting prenatal causes are almost the same. This pattern holds true for the districts as well. Among the districts, Chadiza has the largest proportion of 43.4 percent while Chipata has the least proportion with 39.5 percent 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 province and cause, Eastern Province, 2000

Cause of Disability	Zambia	Eastern	Chadiza	Chama	Chipata	Katete	Lundazi	Mambwe	Nyimba	Petauke
Total	256,690	37,691	2,826	1,910	10,756	5,170	5,987	1,510	2,716	6,816
Congenital/pre-natal	13.7	13.8	13.3	19.1	14.3	10.9	15.2	17.3	12.4	12.8
Disease/illness	38.9	40.6	43.4	39.8	39.5	41.8	41	40.2	40.6	40.4
Injury/accident/trauma	17.2	17.7	16.1	16.2	18.3	16.9	15.7	20	20	18.7
Other	9.3	8.5	7	9	8.7	9	7.9	7.2	9.2	8.4
Unknown	20.2	19.4	20.2	15.9	19.2	21.4	20.2	15.3	17.8	19.7
Male	135,613	19,707	1,507	991	5,654	2,729	3,182	816	1,383	3,445
Congenital/pre-natal	13.7	13.9	13.2	19.6	14.3	10.8	15.1	9.9	12.6	12.4
Disease/illness	36.3	38.1	40.7	36.3	37.2	39.6	39.1	19.4	37.5	37.8
Injury/accident/trauma	21	21.4	19.6	20.4	21.8	20.7	18.7	13.6	24.5	22.9
Other	8.9	7.7	6.8	8.3	8.1	8.6	7.1	3.8	7.9	7.3
Unknown	19.4	18.9	19.7	15.4	18.5	20.5	20.2	7.5	17.5	19.7
Female	121,077	17,984	1,319	919	5,102	2,441	2,805	694	1,333	3,371
Congenital/pre-natal	13.7	13.8	13.4	18.6	14.2	11	15.4	7.4	12.1	13.1
Disease/illness	41.9	43.3	46.5	43.6	41.9	44.2	43.3	20.8	43.8	43.1
Injury/accident/trauma	13.2	13.7	12.2	11.6	14.5	12.8	12.3	6.4	15.5	14.5
Other	9.7	9.3	7.1	9.8	9.4	9.5	8.9	3.5	10.4	9.6
Unknown	21.0	19.9	20.9	16.4	19.9	22.5	20.2	7.8	18.2	19.7

Source: CSO, 2000 Censuses 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

Education Levels Of The Disabled

mpleted level of education for the disabled is shown in Table 9.6 and Figure 9.3. More than half of the disabled persons age 5 and above have had no education in Eastern province. The proportion of those who have never attended school is highest among the deaf/dumb (75.6 percent). The proportions of completed levels of education decrease with increasing level among the disabled. About three out of five have had no education and another three out of five have only completed primary education. Only 1.4 percent have completed post secondary education. The highest proportion of those who completed higher education was among the partially sighted.

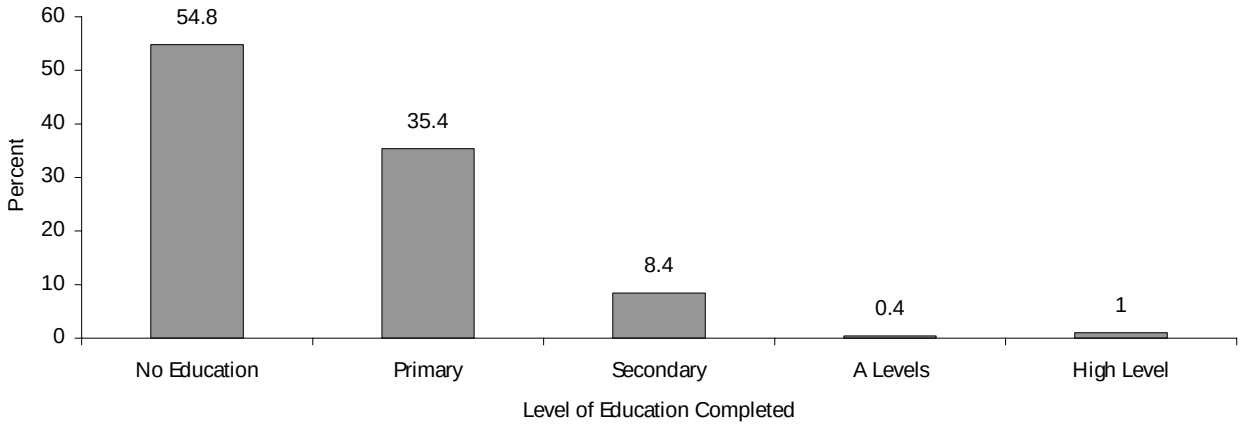
Table 9.6: Percent Distribution of the Disabled Persons 5 Years and Over, by Type of Disability and Level of Education, Eastern Province, 2000

	Level of Education Completed						
Type of Disability	Total Number	Percentage Total	No Education	Primary	Secondary	A Levels	Higher Level
Blind	1,310	100	71.0	21.9	5.6	0.5	1.0
Partially Sighted	9,067	100	51.5	38.4	8.3	0.6	1.2
Deaf/Dumb	2,111	100	75.6	20.4	3.0	0.1	0.8
Hard of Hearing	4,363	100	60.7	33.6	5.0	0.1	0.6
Mentally ill	3,254	100	66.2	25.8	6.9	0.2	0.9

Ex-mental	1,305	100	58.3	31.1	9.3	0.1	1.1
Mentally Retarded	2,131	100	66.3	27.0	5.5	0.1	1.1
Physically Handicapped	14.358	100	49.1	39.3	10.1	0.5	1.1
Total	35,729	100	54.8	35.4	8.4	0.4	1.0

Source: CSO, Census of Population and Housing

Figure 9.3: Distribution of the Disabled Population, 5 years and Older by Level of Education, Eastern Province, 2000



Source: CSO, 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. About two thirds of the disabled persons are working and more than a quarter are 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.

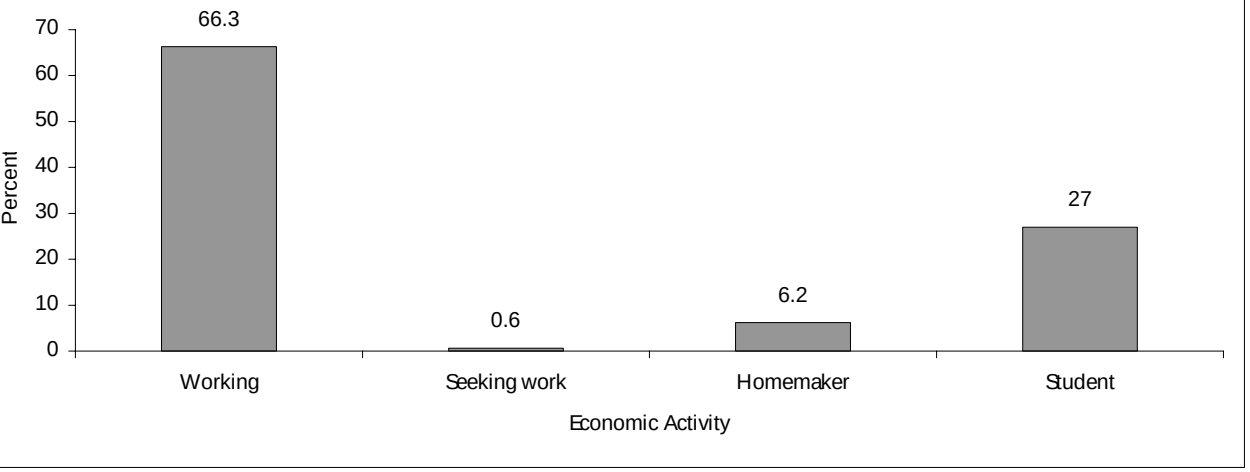
ong the blind and mentally ill, the majority are students while in the rest of the disability categories, the majority are working followed by students.

Table 9.7: Percent Distribution of the Disabled Persons 12 Years and Over, by Type of Disability and Economic Activity, Eastern Province 2000

	Type of Disability								
Economic activity	**Total**	**Blind**	**Partially Sighted**	**Deaf/ Dumb**	**Hard of Hearing**	**Mentally ill**	**Ex-mental**	**Mental Retarded**	**Physically Handicapped**
Working	66.3	32.9	72.3	64.2	68.9	44.3	64.2	52.4	67.7
Seeking	0.6	0.3	0.6	0.7	0.5	0.5	0.3	0.8	0.7
Homemaker	6.2	3.2	4.8	6.9	6.8	5.0	7.5	7.5	6.4
Student	27.0	63.6	22.3	28.2	23.8	50.2	28.0	39.2	25.3
Percent total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total	30,083	1,199	8,111	1,542	3,537	2,609	949	1,659	12356

Source: CSO, Census of Population and Housing

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



Source: CSO, Census of Population and Housing

0 Occupation Of The Disabled

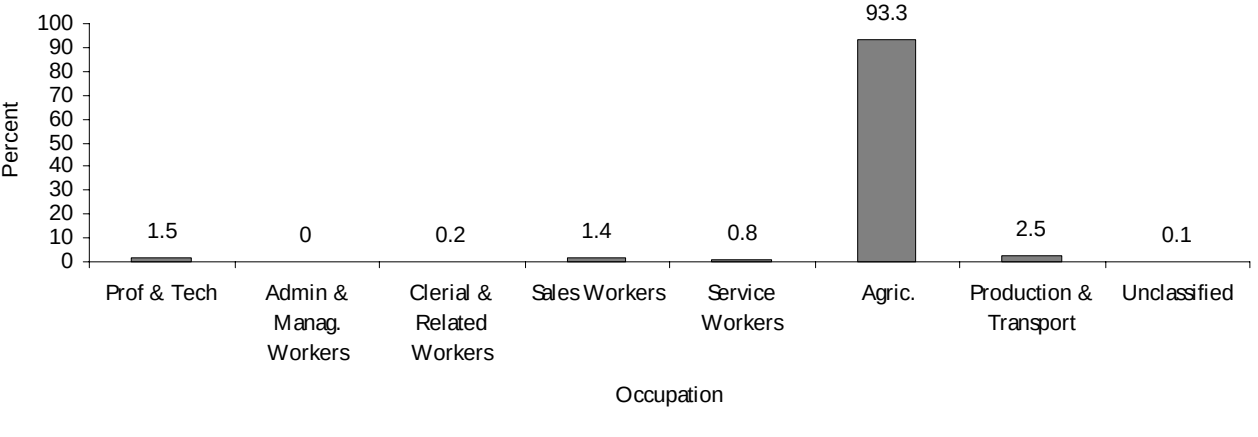
a on occupation of the disabled persons was also collected during the 2000 census. Table 9.8 and Figure 9.5 show that the most common occupation among the disabled is agriculture (93.3 percent). Clerical, sales and professional/technical are also fairly common occupations.

Table 9.8: Percent Distribution of the usually working disabled by type of disability and occupation, Eastern Province, 2000

Type of Disability	Occupation									
	Total Number	Percent Total	Prof & Tech	Admin & manag. Workers	Clerical & Related Workers	Sales Workers	Service Workers	Agric.	Production and Transport	Unclass.
Blind	373	100.0	1.9	0.0	1.1	1.1	0.8	94.4	0.8	0.0
Partially Sighted	5,727	100.0	2.0	0.0	0.3	1.5	0.8	93.3	2.1	0.0
Deaf/Dumb	959	100.0	0.4	0.0	0.0	0.6	0.7	96.1	2.1	0.0
Hard Hearing	2,370	100.0	0.7	0.0	0.0	0.8	0.5	96.1	1.8	0.1
Mentally ill	1,109	100.0	0.7	0.0	0.1	1.3	0.5	95.7	1.6	0.2
Ex Mental	590	100.0	1.7	0.0	0.0	1.5	0.3	94.9	1.4	0.2
Mentally Retarded	831	100.0	0.4	0.0	0.1	0.6	1.0	95.5	2.3	0.1
Physically Handicapped	8,115	100.0	1.8	0.0	0.3	1.8	1.0	91.5	3.5	0.1
Total	20,074	100.0	1.5	0.0	0.2	1.4	0.8	93.3	2.5	0.1

Source: CSO, Census of Population and Housing

Figure 9.5: Distribution of the Usually Working Disabled Persons by Occupation, Eastern Province, 2000



Source: CSO, Census of Population and Housing

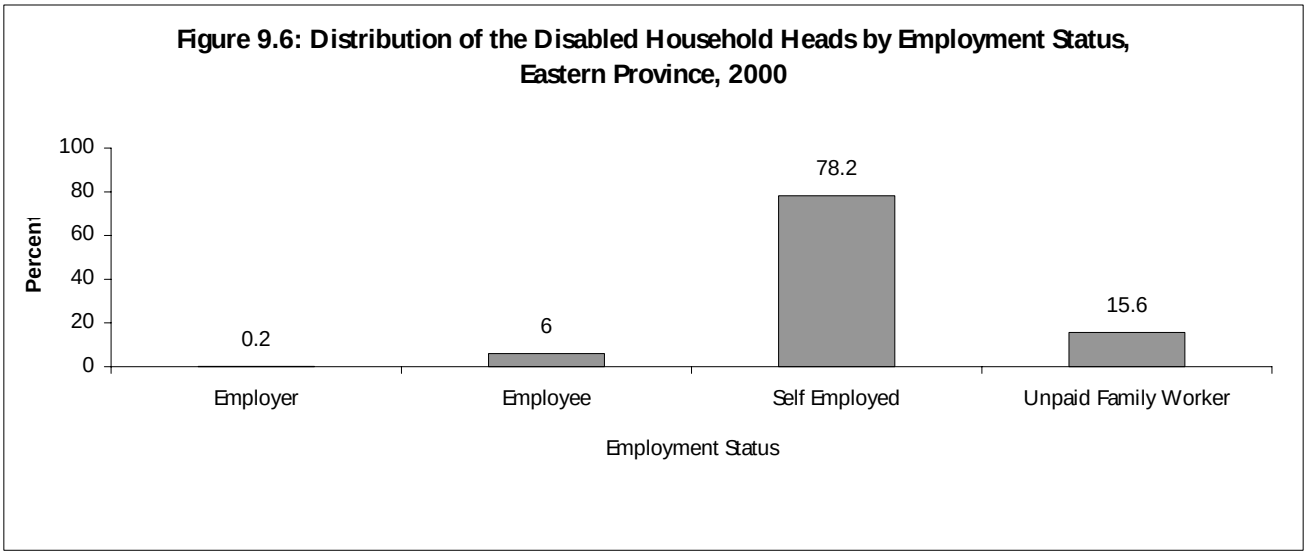
9.11 Employment Status of the Disabled Household Heads

The employment status of disabled household heads is shown in Table 9.9 and Figure 9.6. The largest proportions of the disabled are self-employed (78.2 percent) while the least is among the employers (0.2 percent). This pattern holds true for all disability categories. There are however, some variations between the different disability categories.

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

Type of Disability	Total Number	Percentage Total	Employer	Employee	Self Employed	Family Worker
Blind	236	100	0.0	5.9	77.1	16.9
Partially Sighted	3,686	100	0.2	5.9	79.3	14.6
Deaf/Dumb	387	100	0.0	3.4	79.1	17.6
Hard of Hearing	1,065	100	0.2	3.8	79.2	16.7
Mentally ill	367	100	0.0	3.8	79.3	16.9
Ex-mental	394	100	0.5	3.0	78.9	17.5
Mentally Retarded	371	100	0.0	4.3	79.0	16.7
Physically Handicapped	4,466	100	0.2	7.4	76.8	15.5
Total	10,994	100	0.2	6.0	78.2	15.6

Source: CSO, Census of Population and Housing



Source: CSO, Census of Population and Housing

9.12 Summary

Out of the total population of Eastern Province, 3.1 percent is disabled. The proportion of the disabled is higher in rural than urban areas. There are more disabled male (52 percent) than female (48 percent).

Physical disability is the most common type of disability affecting about 40.3 percent of the disabled population while the blind form the smallest proportion of 3.6 percent.

ease is the most common cause of disability reported by about 40.6 percent of the disabled population while the least was 'other' causes, reported by 8.5 percent.

htly over half of the disabled have never been to school and a third have completed primary education. Amongst all categories of disability, the largest proportions of the disabled are self-employed (78 percent) while the least proportion is among the employers (0.2 percent). The most common occupation among the disabled is agriculture, which takes up about 93 percent.

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Appendix A

KEY PERSONS INVOLVED IN THE ANALYSIS

Analysts

- **Margaret Tembo Mwanamwenge**
- **Chibwe Lwamba**
- **Iven Sikanyiti**
- **Patrick Mumba Chewe**
- **Sheila Shimwambwa Mudenda**
- **Christine S. Chikolwa**
- **Stanely Kamocha**
- **Besa Muwele**
- **Solomon Tembo**
- **Mushota Kabaso**
- **Richard Banda**
- **Goodson Sinyenga**

Assistant Analysts

- **Litia Simbangala**
- **Alfeyo Chimpunga**
- **Josephine Chewe**
- **Chola Nakazwe**
- **Gerson Banda**
- **Musumali Shindano**
- **Palver Sikanyiti**
- **Linda Chonya**
- **Chilelu Kakanwa**

Internal Editors

- **Dr. Buleti G. Nsemukila**
- **William C. Mayaka**
- **Modesto F. C. Banda**
- **Peter Mukuka**
- **John Kalumbi**
- **Margaret Tembo Mwanamwenge**
- **Chibwe Lwamba**

- **Patrick Mumba Chewe**
- **Dorothy Kaemba**
- **Chola Nakazwe**
- **Palver Sikanyiti**
- **Josephine Chewe**

External Editors

- **Dr. Greater Banda**
- **Dr. Jacob R. S. Malungo**
- **Dr. Rosemary Musonda**
- **Dr. Alex Simwanza**
- **Bwendo Mulengela**
- **Raymond Chipoma**
- **Sapriano Banda**
- **Linda Bangweta**
- **Edward C. Simukoko**
- **Bupe Musonda**
- **Keizia Mbita Katyamba**
- **Solomon Kagulula**
- **Doris Mutunwa**

Programmers

- **Joseph V. Chanda**
- **George Namasiku**
- **Elijah Kashona**
- **Gift Himuhya**

- **Anthony Nkole**
- **Perry Musenge**
- **Webster S. Chileshe**
- **Makoselo C. Bowa**

Support Staff

- Margaret M. Ndakala
- Chilekwa Munkonge
- Alice Mbewe
- Micheal Kunda
- Akayombokwa Ngubai