

# P R E F A C E

The Census of Population, Housing and Agriculture was conducted from 20th August to 5th September, 1990. However, an allowance of one week was allowed to cover very remote rural areas. This was the third Census since independence in 1964. The other two were carried out in 1969 and 1980. Census operations were undertaken with the use of grade 12 pupils (In some cases, Grade 11 or lower grade pupils were used) as enumerators, secondary and primary school teachers as supervisors while professional and technical staff of the Central Statistical Office undertook various technical and professional tasks.

This publication is one of the 10 in the series of analytical reports produced by the Central Statistical Office (CSO). The report contains data on Population and Housing for Copperbelt Province, while data on Agriculture is contained in separate reports.

The various census stages i.e. preparations, data collection, processing, verification, analysis and production of this report was carried out by mainly CSO local personnel. For the first time in the history of Census taking in Zambia, the 1990 Census of Population, Housing and Agriculture was processed using micro-computers.

A Census of Population is usually a massive and costly exercise involving nearly everybody in the country in one way or another. In this regard, I wish to thank the people of Zambia for cooperating in providing the valuable information asked of them. In a similar vein, thanks to the four thousand primary and secondary school teachers who supervised the enumerators during the data collection stage. My thanks are also extended to the sixteen thousand senior secondary school pupils who took leave from their studies to be census enumerators.

My sincere thanks go to donor agencies, namely UNFPA, USAID, NORAD, UNDP and the World Bank for providing financial, material and technical assistance which enabled the CSO carry out the Census.

I extend my gratitude to the Government of Zambia for funding the Census as well as providing the mandate to conduct the Census appropriately in 1990.

Thanks to all those CSO professional and technical staff who bore the blunt of carrying out all the census activities from start to finish. Special mention should be made of personnel in the Population and Demography Division of CSO who provided guidance and plans for implementing the stages of Census operations, especially for writing up this report.

Finally many thanks to all those who contributed directly or indirectly, but not mentioned above, to the success of the Census and in the production of this report.

The statistical data obtained from 1990 Census is massive and rich allowing for extensive use and applications. As such what is contained in the report is not the whole but only a very small portion. I urge all users of the Census data to feel free and request CSO for any data not found in this publication but was collected in the Census.

**David S. Diangamo**  
**DIRECTOR OF CENSUS & STATISTICS**

Lusaka, ZAMBIA  
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## EXECUTIVE SUMMARY

Copperbelt Province has a population of 1,427,545 which comprises 721,507 males and 706,038 females. The province is highly urbanised going by the big proportion of the population residing in urban areas (86 percent). Out of the 1,427,545 persons, 1,221,199 live in urban areas and 206,346 in rural areas. The population of the province is young. Almost 45 percent are below 15 years. The rate of population growth in the province has declined from 3.9 percent (1969-80) to 1.3 percent (1980-90). The decline in the annual growth rate may be attributed to a decline in the performance of the mining sector in the period which could have slowed down in-migration and triggered off out-migration to other provinces.

The major indigenous ethnic group of Copperbelt Province is Lamba. However, because of industrialisation due to the mining sector, there has been an influx of several ethnic groups in the province. As a result Lamba is mainly spoken in the rural areas of the province particularly in Ndola Rural District. Bemba is now the most spoken language in the province. It is spoken by 70.7 percent of the population while Lamba is spoken by 9.1 percent. Although English is the official language of communication it is only spoken by a few as a predominant language of communication. Only 1.3 percent of the population speak English as a predominant language of communication.

The 1990 census shows that 75.8 percent of the males and 66.9 percent of the females are literate in Copperbelt Province. Data on school attendance shows that more female pupils attend primary school than males. The situation is opposite for secondary school attendance, an indication that female pupils drop out of school at a higher rate than male pupils.

In 1990, 74.0 and 77.4 percent of males and females, respectively, 5 years and older, had completed primary education while the percent completing secondary education was favourable for males as opposed females. It was 18 percent for males compared to 13.9 percent for females. The overall situation for higher levels of education is that 42,696 males and 19,768 females have professional/vocational training. The common fields of study undertaken by males are engineering, teacher training, accountancy and business administration. In the case of females, teacher training, secretarial and nurse training are the common fields of study.

The working age population (age 12 and over) in Copperbelt Province in 1990 is 808,650. That for males is 465,043 and 443,607 females. In rural areas, the working age population is 134,751 and in urban areas it is 773,899. The urban working population increased by 38.8 percent in the period 1980 to 1990 while in rural areas it increased by a lesser percent of 6.8. It increased by 26.6 percent over the ten-year period for the whole province. The increase in 1980-1990 in the female labour force was 12.6 percent while for males it was 4.9 percent.

Of the total labour force in the province, about four-fifths was in rural areas. The female labour force in 1990 at 88,596 was double that in 1980 (44,308) although it still remains much lower than the male labour force which increased from 214,464 in 1980 to 256,844 in 1990. Of the total labour force, 84.4 percent were employed. The most common occupation among males is production and related occupation (23.1 percent). Among women "agriculture and related occupation" and "sales workers" (20.9 percent and 21.3 percent, respectively) are the most common occupations. Of the employed population 16.8 percent were in the agricultural industry, 16.9 percent in mining industry 13.8 percent in secondary industries and 34.8 percent in tertiary industries.

Marriage is near-universal in Copperbelt Province. At age group 45-49 years, only 2.9 and 2.8 percent of males and females, respectively, have never been married. Females marry at earlier ages than males. The Singulate Mean Age at Marriage (SMAM) for males is 27.0 and 21.5 years for females. In 1980 the female SMAM was 19.3 years.

The level of fertility in the province declined from 1980 to 1990. The Total Fertility Rate (TFR) in 1990 is 6.6 children while in 1980 it was 7.9 children. Fertility levels vary among women of different backgrounds. There are differences in the levels of fertility among women of different levels of education. Those with primary education have a TFR of 7.6 children which is the highest. Women without education follow with a TFR of 6.8 children and those with secondary and higher levels of education have a TFR of 5.9 children and 2.6 children, respectively. Women in rural and urban areas have the same TFR of 6.6 children.

In the 1980s the mortality level increased. The infant mortality rate increased from 95 in 1979 to 130 deaths per 1000 live births in 1989. Similarly, child mortality rate increased from 67 in 1979 to 101 deaths per 1000 children aged 1-4 years in 1989. A substantial increase was recorded in under-five mortality rate. The rate increased from 95 in 1979 to 130 deaths per 1000 children in 1989.

The life expectancy of both males and females declined substantially between 1980 and 1990. Overall, the expectation of life at birth declined from 54.7 years in 1980 to 49.9 years in 1990. The expectation of life at birth declined by a wider margin of 5.3 years for males compared to 3.7 years for females. The expectation of life at birth for males was 54.6 years in 1980 while it declined to 49.3 years in 1990. The expectation of life at birth for females declined from 54.8 years in 1980 to 51.1 years in 1990.

The 1990 Census recorded a total number of 10,272 persons in Copperbelt Province, which is 0.7 percent of the total population. The data shows that there are more disabled persons in urban than rural areas but the prevalence of disability is almost twice as high in rural than in urban areas. There are more male (53.8 percent) than female disabled persons (46.2 percent).

The analysis of data for households and housing characteristics for Copperbelt Province has shown that the majority of households occupy two-roomed housing units. Two-roomed housing units are occupied by 40.8 percent of the households. The average number of rooms occupied by a household is 2.8 while the average number of persons per room is 2.1. About half of the housing units in the province are owned by individuals. The proportion of housing units owned by individuals is over 90 percent in rural areas and about 40 percent in urban areas. The majority of households in rented housing units in the province occupy housing units rented from the District Councils (33.8 percent) and Parastatal Organisations (36.3 percent).



# CHAPTER 1

## BACKGROUND

### 1.1 GEOGRAPHY

Copperbelt Province has a total land area of 31,014 square kilometres, which is about 4.2 percent of the total land area of Zambia. The province has eight administrative districts, namely: Chililabombwe, Chingola, Kalulushi, Kitwe, Luanshya, Mufulira, Ndola Rural and Ndola Urban.

Generally, most of the soils are highly leached and acidic. The physical structure of the soils is rather weak. However, Chililabombwe District and some parts of Ndola Rural (Mpongwe) have fertile soils suitable for cultivation. The climate of Copperbelt Province is characterised by a long dry season from April to late October. The period from May to August is a cool season while the period between October and March is characterised by warm and wet season weather. The average annual rainfall in the province is 1200mm and the average temperatures range between 15°C in July and 37°C in October.

### 1.2 PEOPLE

The population of Copperbelt Province has grown from 0.8 million in 1969, and 1.3 million in 1980 to 1.4 million in 1990. The annual population growth rate has decreased from 4.0 percent in 1969-1980 to 1.3 percent in 1980-1990 intercensal periods. The density has increased from 26.1 in 1969, 39.9 in 1980 to 45.6 persons per square kilometre in 1990. Out of the enumerated 1,427,545 persons in 1990, 49 percent were males and 51 percent were females.

Although Copperbelt Province has the smallest land area after Lusaka Province, it has the highest concentration of people. The share of its population increased from 20 percent in 1969 to 22 percent in 1980 but declined to 19 percent in 1990. 42 percent of the population in urban, making Copperbelt Province the most highly urbanised province. Table 1.1 presents changes on population and density over years.

The district with the highest population in the province is Kitwe. It also has the highest population density in the province. Chililabombwe has the lowest population in the province which is 4.4 percent of the total population of the province. The growth rate for Ndola Rural for the 1980-1990 intercensal period was 4.9 percent and this was the highest. The growth rate for Mufulira during the same period was -0.2 percent and this was the lowest.

Table 1.1

Population, Area, Density, Percent Distribution and Annual Growth Rate by Province, 1969, 1980 and 1990

Province <sup>1</sup>	Population			Area (Sq.Km)	Density			Percentage Distribution			Growth Rate (%)	
	1969	1980	1990		1969	1980	1990	1969	1980	1990	1969-80	1980-90
Chililabombwe	44,862	62,131	62,578	1,026	43.7	60.5	61.0	5.5	5.0	4.4	3.0	0.1
Chingola	103,292	145,993	161,062	1,676	61.6	87.0	96.1	12.7	11.7	11.3	3.2	1.0
Kalulushi	32,272	59,267	68,223	725	44.5	81.7	94.1	4.0	4.7	4.8	5.7	1.4
Kitwe	199,798	320,320	347,769	777	257.1	412.2	447.6	24.5	25.6	24.4	4.4	0.8
Luanshya	96,242	129,589	141,927	811	118.7	159.8	175.0	11.8	10.4	9.9	2.7	0.9
Mufulira	107,802	150,069	146,451	1,637	65.8	91.7	89.5	13.2	12.0	10.3	3.1	-0.2
Ndola Rural	72,215	102,494	165,004	23,571	3.1	4.3	7.0	8.8	8.2	11.6	3.2	4.9
Ndola Urban	159,786	281,315	334,531	1,103	144.9	255.1	303.3	19.6	22.5	23.4	5.3	1.7
Total	816,309	1,251,178	1,427,545	31,328	26.1	39.9	45.6	100.0	100.0	100.0	4.0	1.3

Source: CSO (1973): 1969 Census of population and housing, CSO (1985): 1980 Census of Population and housing, Final report Volume II; CSO (1985): 1980 Census of Population and Housing, General Population and Migration Tables, Volume I.

### 1.3 ECONOMY

Copperbelt Province is the most economically developed region in the country. The main economic activity in the province is the mining of copper, which is also the mainstay of the Zambian economy. Apart from copper, the province is also endowed with non-ferrous metals such as cobalt, silver, gold, and precious and semi precious stones.

There are a number of manufacturing industries ranging from heavy duty engineering to textiles. The province is the most industrialised in the country. Most of these industries are located in Ndola Urban and Kitwe districts. The mining industry in the province has laid a solid basis for the industrialisation in the area.

The trends in copper and cobalt production in Zambia are shown in Table 1.2. Nearly all the copper and cobalt produced in Zambia is from the Copperbelt Province. Since 1985 copper production has fluctuated from year to year. The production increased from 477.4 in 1985 to 483.0 metric tonnes in 1987. Thereafter, copper production declined to 426.2 metric tonnes in 1990. Cobalt production showed an upward trend from 4.2 in 1985 to 4.6 metric tonnes in 1990. The values at current prices in Kwacha are also shown in Table 1.2. The huge yearly increase in the value of metals produced reflects the general trend in the economy, of currency devaluation and its inflationary tendency.

Table 1.2

Production of Copper and Cobalt, Copperbelt Province, 1985 - 1990

Year	Copper			Cobalt	
	Metric Tonnes ('000)	Price per Tonne (Kwacha)	Amount (K'Million)	Metric Tonnes ('000)	Price per Tonne (Kwacha)
1985	477.4	4,471	2,095	4.2	-
1986	460.4	10,696	4,836	4.3	455
1987	483.0	16,173	6,870	4.5	488
1988	422.2	21,559	7,617	5.0	586
1989	450.7	38,749	12,438	4.5	957
1990	426.2	82,314	34,885	4.6	2,316

Source: Mineral and Electricity production statistics Quarterly bulletin C.S.O. 1994

#### *Agriculture*

According to the Fourth National Development Plan, the regional development objectives for the provincial programmes were aimed at reducing the province's dependence on copper mining by increasing the utilisation of the available resources for agricultural development. Copperbelt Province has not yet fully exploited its agricultural potential. As a result agricultural production is still very low as compared to most other provinces in the country. The major crops grown and marketed are maize, tobacco, cotton, sunflower, soyabeans, groundnuts and wheat.

Information on crops grown in this province for the period 1988 to 1990 is provided in Table 1.3. Despite the intention to boost agricultural development in the Fourth National Development Plan, agricultural production of major crops in the province continued to decline, especially for marketed crops.

Table 1.3

## Major Crops Grown, Copperbelt Province, 1988-90

Crops	Unit	Produced and Marketed (90kg Bags)					
		1988		1989		1990	
		Produced	Marketed	Produced	Marketed	Produced	Marketed
Maine	90kg Bags	792,833	599,555	666,951	483,947	557,186	293,330
Tobacco	Kgs	-	-	36,346	32,242	195,935	76,098
Cotton	Kgs	105,234	105,234	61,687	61,687	130,000	93,222
Sunflower	50Kg Bags	1,281	480	1,196	667	1,184	498
Soyabean	90Kg Bags	62,842	61,698	66,463	110	64,790	11,164
Groundnut	80Kg Bags	12,379	0	5,466	0	11,072	12
Wheat	90Kg Bags	54,000	45,116	80,422	79,214	163,000	156,000

Source: 1989/90 Agricultural Statistics Bulletin.

The province also raises livestock. The major ones are cattle, sheep, goats and pigs. Information on livestock is provided in Table 1.4. Both the traditional and commercial livestock are reared in the province. In 1989, commercial livestock far exceeded traditional ones. It is observed from Figure 1.1 that in both traditional and commercial sectors, rearing of cattle is more prominent as compared to that of sheep, goats and pigs. Production of traditional livestock has been on the decline since 1987.

Table 1.4

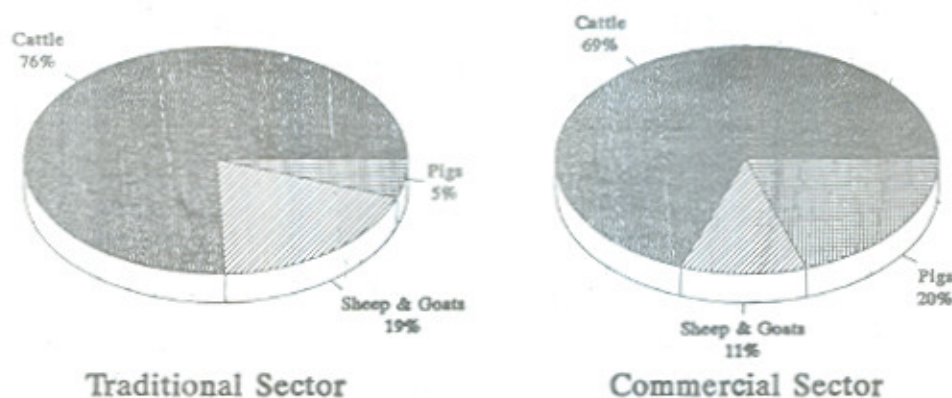
## Livestock Population by Sector, Copperbelt Province, 1980-89

Sector	Year					
	1980	1985	1986	1987	1988	1989
Traditional						
Cattle	8,185	20,888	20,539	21,052	18,012	17,210
Sheep & Goats	1,714	5,850	6,289	6,761	7,268	4,303
Pigs	766	2,225	2,336	2,453	2,576	1,219
Commercial						
Cattle	-	-	-	-	44,240	47,793
Sheep & Goats	-	-	-	-	-	7,328
Pigs	-	-	-	-	-	13,737

Note: (-) Figures not Available.

Source: 1989/90 Agricultural Statistics Bulletin, pp. 23 and 24.

### Livestock by Sector, Copperbelt Province, 1989



#### Communication

Copperbelt Province as a whole has the most developed transport and communication network in the country. All towns are linked by tarred roads. There are two government owned airports servicing the province. A rail network links the province with the southern parts of Zambia and with the neighbouring countries of Zimbabwe, Angola and Zaire.

The urban areas in the province are also adequately serviced by postal and telecommunications services. Unlike urban areas the rural areas are not adequately serviced. Furthermore, all urban areas in the province have sufficient access to the major mass and print media in the country.

#### 1.4 EDUCATION

Enrolment in primary schools has increased from 229,000 in 1980 to 310,000 in 1986. The absolute enrolment in secondary schools also increased over the years. Generally, for both primary and secondary schools there are more boys than girls. The enrolment trends for both primary and secondary schools are shown in Table 1.5.

Table 1.5

## Schools, Teachers and Enrolment, Copperbelt Province 1980 - 1986

Schools, Teachers and Enrolment	Year		
	1980	1983	1986
<b>Schools</b>			
-Primary	248	257	265
-Secondary	-	44	-
<b>Teachers</b>			
-Primary	4,601	5,354	6,479
-Secondary	1,163	1,363	1,601
<b>Enrolment</b>			
Primary - Total	229,390	260,935	309,857
- Boys	116,889	132,502	156,954
- Girls	112,501	128,433	152,903
Secondary - Total	26,179	31,357	42,311
- Boys	16,230	19,183	25,293
- Girls	9,949	12,174	17,018

Source: Educational Statistics Reports for 1980, 1983 and 1986 - Ministry of Education

Note: (-) Figures not available

Table 1.6 shows an increasing trend for both sexes in the enrolment ratios between 1980 and 1986. The increase has been more dramatic for girls rising from nearly 70 percent in 1980 to slightly over 100 percent in 1987, see Table 1.6.

Table 1.6

## Enrolment Ratios of Primary Schools, Copperbelt Province 1980 - 1987

	1980	1983	1986	1987
Primary				
- Totals	70.6	86.9	91.6	100.0
- Boys	71.3	89.4	93.5	98.3
- Girls	69.9	84.4	89.8	101.7

Source: CSO (1984, 1992): Educational Statistics (1982, 1987)

**1.5 HEALTH**

There are a number of health facilities in Copperbelt Province. Overall, Copperbelt Province has 17 hospitals and 172 health centres with 5,223 beds/cots. The Government is the major supplier of health services in the province. Industry, particularly mining, also offer some health services in the province. Like in the rest of the country, missionaries have also played an important role in the area of health.

The number of hospitals in the province has remained static at 17 since the early 1980s. On the contrary, the number of health centres has been increasing and by 1990 there were 172 health centres in the province compared to 147 in 1986. Ndola Urban District had 1,215 beds and cots of which 1,196 were located in the two major hospitals. Ndola Urban hospitals account for 23 percent of the beds and cots in the province, followed by the Kitwe hospitals with 18 percent. Table 1.7 presents data pertaining to health facilities in Copperbelt Province.

Table 1.7

Number of Health Institutions, Beds and Cots by Type of Health Institution, District and Year, 1986, 1988 and 1990

	Hospitals		Health Centres		Total	
	Number	Beds/Cots	Number	Beds/Cots	Number	Beds/Cots
<b>Year</b>						
1986	17	3,932	147	603	164	4,535
1988	17	4,520	159	665	176	5,185
1990	17	4,520	172	703	189	5,223
<b>Districts -</b>						
Chililabombwe	1	160	7	15	8	175
Chingola	2	365	9	27	11	392
Kalulushi	1	158	7	37	8	195
Kitwe	3	963	23	103	26	1,066
Luanshya	3	551	23	27	26	578
Mufulira	3	825	19	106	22	931
Ndola Rural	2	302	34	369	36	671
Ndola Urban	2	1,196	50	19	52	1,215

Source: Ministry of Health (Bulletin of Health Statistics, 1985-86 and 1987-88 and Health facilities in Zambia, 1990).

### Diseases

Major diseases that affect the population in Zambia and the Copperbelt Province in particular, have not changed over time. However, AIDS has also become a major disease that has affected the population. Respiratory diseases, diarrhoea, malaria, injuries and accidents, eye diseases, diseases of skin, ear disorders and malnutrition affect more than 70 percent of children below 14 years in Copperbelt Province. Similarly, the same diseases affect between 50 and 60 percent of the adults in the province. Malnutrition and diarrhoeal diseases usually trigger off other diseases in children and are the major causes of deaths among children below 5 years. The preventable diseases such as polio, tuberculosis, diphtheria, measles, pertussis and tetanus also contribute to the high mortality rates of children below 5 years in Copperbelt Province. Information on immunization against some of these diseases is provided in Table 1.8.

Table 1.8

Immunisations of Children Below 1 Year, Copperbelt Province, 1985-1988

Year	BCG	Polio Third Dose	DPT Third Dose	Measles
1985	45,182	35,195	34,623	28,569
1986	47,887	33,814	37,313	37,867
1987	43,779	37,124	38,028	31,916
1988	40,873	38,378	37,299	35,824

Source: Ministry of Health 1985-86, 1987-88 Bulletin of Health Statistics.

## CHAPTER 2

# EVALUATION OF COVERAGE AND CONTENT ERRORS

### 2.1 INTRODUCTION

Data evaluation ensures that the data are of acceptable standard and provides for possible adjustment. Information that is used in evaluating the quality of data is derived from the following questions that were included in the Census questionnaire:

- 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 DEFINITION OF CONCEPTS

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 1000 women aged 15-49 years in the same population.

#### *Content Error*

Error made when the characteristics of a person such as; age, sex, marital status, fertility, mortality, economic activity, etc collected during the census are incorrectly reported or recorded.

#### *Coverage Error*

Under or over-enumeration in a population census due to either omission or enumeration of persons more than once.

#### *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.

#### *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 METHODS OF EVALUATION**

Despite the checks and controls instituted during the enumeration, 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, there are two approaches used to evaluate the quality of data, direct and indirect methods.

The direct method basically involves the carrying out of what is referred to as a Post Enumeration survey (PES). In a PES, a sample of households is revisited after the census and data are again collected but on a smaller scale and later compared with that collected during the actual census. The matching process of the two sets of data can then be used to evaluate the quality of the census data. With regard to the 1990 Census, the PES was undertaken in December 1990. 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.

#### *Age Composition*

Table 2.1 shows the age composition of the population of the province for 1980 and 1990 Censuses.

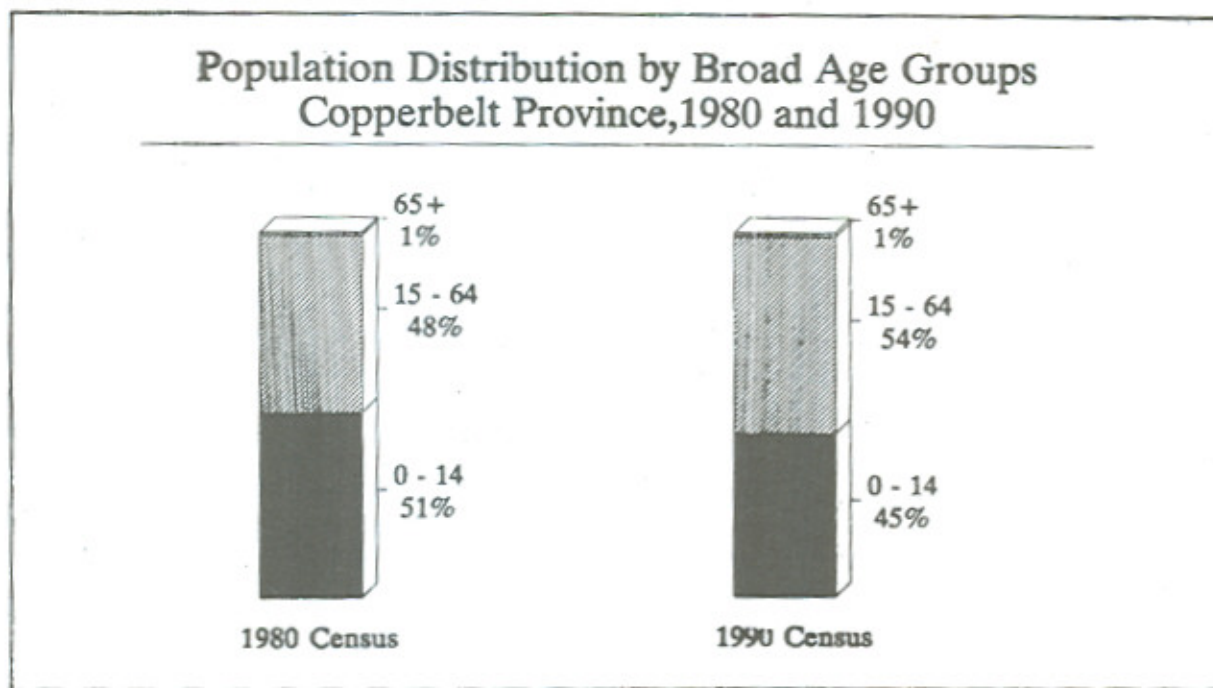
Table 2.1

Population Distribution by Broad Age Groups, Copperbelt Province, 1980 and 1990

Age Group	Population Distribution			
	1980 Population	1980 Percent	1990 Population	1990 Percent
0 - 14	623,958	49.9	640,448	44.9
15 - 64	597,490	47.8	768,334	53.8
65+	11,041	0.9	17,185	1.2
Age Not Stated	18,689	1.4	1,578	0.1
Total	1,251,178	100.0	1,427,545	100.0

The proportion of children 0-14 years is less in 1990 than in 1980, which is in agreement with the observed decline in fertility in the province as well as the observed general increase in child mortality. The proportion of those who did not state their ages in 1980 constituted 1.5 percent of the total population compared to only 0.1 percent in 1990. Generally, there is a shift in the population from age group 0-14 to older age groups. The population distribution shows that the quality of age data by broad age groups is acceptable.

Figure 2.1



#### *Child-Woman Ratio*

The child-woman ratio declined from 876.1 in 1980 to 632.4 per 1000 women aged 15-49 years in 1990. This is in line with the decline in the percentage of the population in the 0-14 year age group. The decline in the proportion of the population 0-14 years and the decline in child-woman ratio (see Table 2.2), appears to have been caused by the increase in child mortality and a decline in fertility. It does not appear to have been caused by widespread under-reporting of the population aged 0 - 4 years.

### *Dependency Ratio*

The overall dependency ratio for the population of Copperbelt Province for 1980 and 1990 Censuses were 106.3 and 85.6 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 85.6 persons in the age groups 0-14 and 65 years or over. The proportion of population 65 years and older has increased slightly from 0.9 percent in 1980 to 1.2 percent in 1990. The age dependency ratio for the population aged 65 years and over to that of 15-64 years (Old Age Dependency Ratio) is 1.8 for 1980 and 2.2 in 1990 while that of children declined from 104.4 in 1980 to 83.4 in 1990. The decline in dependency ratios could be attributed to an increase in the proportion of population aged 15-64 years.

**Table 2.2**

**Dependency Ratios and Child-Woman ratio for Copperbelt Province, 1980 and 1990**

Ratios	1980	1990
<b>Copperbelt Province</b>		
- Overall Dependency Ratio	106.3	85.6
- Child Dependency Ratio	104.4	83.4
- Old Age Dependency Ratio	1.8	2.2
- Child-Woman Ratio	876.1	632.4

### *Under-enumeration of Children*

In order to determine under-enumeration of children in age-group 0-4, the crude birth rate has been computed for age-groups 0-4 and 5-9 years using the Reverse Survival Method. The rationale behind the method is that persons aged 0-4, in time  $t$ , are survivors of births in the five years preceding the census. Similarly, persons aged 5-9 are the survivors of births during  $(t-10)$  and  $(t-5)$  years. Persons in given age groups are projected backwards in time. Survival ratios from mortality levels of suitable life tables are used to reverse-project the female population. The computed crude birth rate for the 0-4 year age group is markedly lower than that of the 5-9 year age group (refer to Table 2.3). This could be due to either under-enumeration of children aged 0-4 years in the 1990 Census, increase in child mortality or a decline in fertility.

**Table 2.3****Crude Birth Rate By Reverse Survival Method, Copperbelt Province, 1990**

Average Crude Birth Rate	1980 Female Population	Survival Ratios 1980-85 North Model level 12	1985 Female Population	Survival Ratios 1985-90 North Model level 13	1990 Female Population	Age Group
	112,935	-	119,281	-	-	Births
35.1 (1985-90)	110,447	.91799	112,853	.92878	110,786	0 - 4
39.0 (1980-85)		.96715	106,819	.97125	109,608	5 - 9
				.97860	104,533	10 - 14
Total					706,038	

***Content Error***

Content errors are caused by either a respondent giving a wrong response or by the enumerator recording an incorrect response. It 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. For instance, a question about age in a census can be solicited by asking either "date of birth" or "completed number of years". These two questions may yield different ages. During the 1990 Census, age was recorded in completed years. Some content errors are being estimated by the use of the Myers' Index, Sex Ratios, Age and Survival Ratios.

***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 the 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 all contribute to heaping (Shryock, et.al. 1976).

Investigation of age heaping in the Copperbelt Province is done through the calculation of Myers' Index. This index has been calculated for 1980 and 1990 Censuses data and is presented in Table 2.5. 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.

Table 2.4

Summary of Myers' Index for Digit Preference in Age Data by Residence, Copperbelt Province, 1980 and 1990

Copperbelt Province		1980	1990
Total	Male	5.8	6.0
	Female	5.2	5.9
Rural	Male	7.2	7.9
	Female	6.4	6.8
Urban	Male	5.7	6.0
	Female	5.0	5.6

Tables 2.4 and 2.5 show the results of digit preference in age data for Copperbelt Province using Myers' Index. Table 2.5 shows the percentage distribution of the blended population and deviation from 10 percent. The table further shows how the index is calculated. Myers' Index is calculated by summing up the deviations from 10 percent, irrespective of sign, and divide the total by 2. The digits which are picked as most preferred are those starting from 11 percent and above. From Table 2.4, Myers' Index shows that the index for males is higher than that of females in both 1980 and 1990. Myers' Index for males rose from 5.8 in 1980 to 6.0 in 1990 and that of females rose from 5.2 in 1980 to 5.9 in 1990. Myers' Index for both males and females for 1990 is higher than that of 1980. Although the increase in Myers' Index between 1980 and 1990 is marginal, this increase indicates the deterioration of the quality of the age data. Generally, however, the Index shows that age was more accurately reported for males than for females in 1980 and 1990.

Table 2.5

Myers' Index for Digit Preference in Age Data, Copperbelt Province, 1980 and 1990

Digit	Male				Female			
	1980		1990		1980		1990	
	Percent	Deviation From 10%	Percent	Deviation From 10%	Percent	Deviation From 10%	Percent	Deviation From 10%
0	12.59	2.5	12.5	2.5	12.2	2.2	12.1	2.1
1	9.1	-0.9	9.0	-1.0	9.5	-0.5	9.1	-0.9
2	11.1	1.1	11.0	1.0	11.4	1.4	11.1	1.1
3	9.1	-0.9	8.9	-1.1	9.1	-0.9	8.5	-1.5
4	9.3	-0.7	9.1	-0.9	9.8	-0.2	9.5	-0.5
5	10.5	0.5	10.5	0.5	10.0	0.0	10.3	0.3
6	9.9	-0.1	10.5	0.5	10.1	0.1	10.8	0.8
7	8.3	-1.7	8.9	-1.1	8.2	-1.8	8.9	-1.1
8	11.7	1.7	11.6	1.6	11.5	1.5	11.6	1.6
9	8.5	-1.5	8.1	-1.9	8.3	-1.7	8.1	-1.9
Myers' Index		5.8		6.0		5.2		5.9

Table 2.6 shows that there was age heaping in Copperbelt Province. The table further shows the most preferred digits in decreasing order of preference for the two censuses. Preference for digits 0, 8, and 2 among males and females is observed in both 1980 and 1990. 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 subjected to rounding.

Table 2.6

**Most Preferred Digits, Copperbelt Province, 1980 and 1990**

Sex/Year		Myers
<b>Copperbelt Province</b>		
Male	- 1980	0, 8, 2
	- 1990	0, 8, 2
Female	- 1980	0, 8, 2
	- 1990	0, 8, 2
<b>Rural</b>		
Male	- 1980	0, 8, 2
	- 1990	0, 8, 2
Female	- 1980	0, 8, 2
	- 1990	0, 8
<b>Urban</b>		
Male	- 1980	0, 8, 2
	- 1990	0, 8
Female	- 1980	0, 8 & 2
	- 1990	0, 8, 2

Note: & indicates same degree of preference.

Age misreporting errors are also presented in Figures 2.2 to 2.5. The peaks on the curves indicate the most preferred ages in reporting while the troughs indicate the under reported ages. A comparison of Figures 2.2 and 2.3 shows that the peaks and troughs are lower for ages reported below 60 years in 1980 than in 1990. There is no noticeable difference in the height of the peaks and troughs for ages reported after 60 years in both 1980 and 1990 Censuses. The smoothness of the curves in Figures 2.4 and 2.5 show that grouping single year age data into five year age groups improves irregularities in age data arising from age misreporting.

Figure 2.2

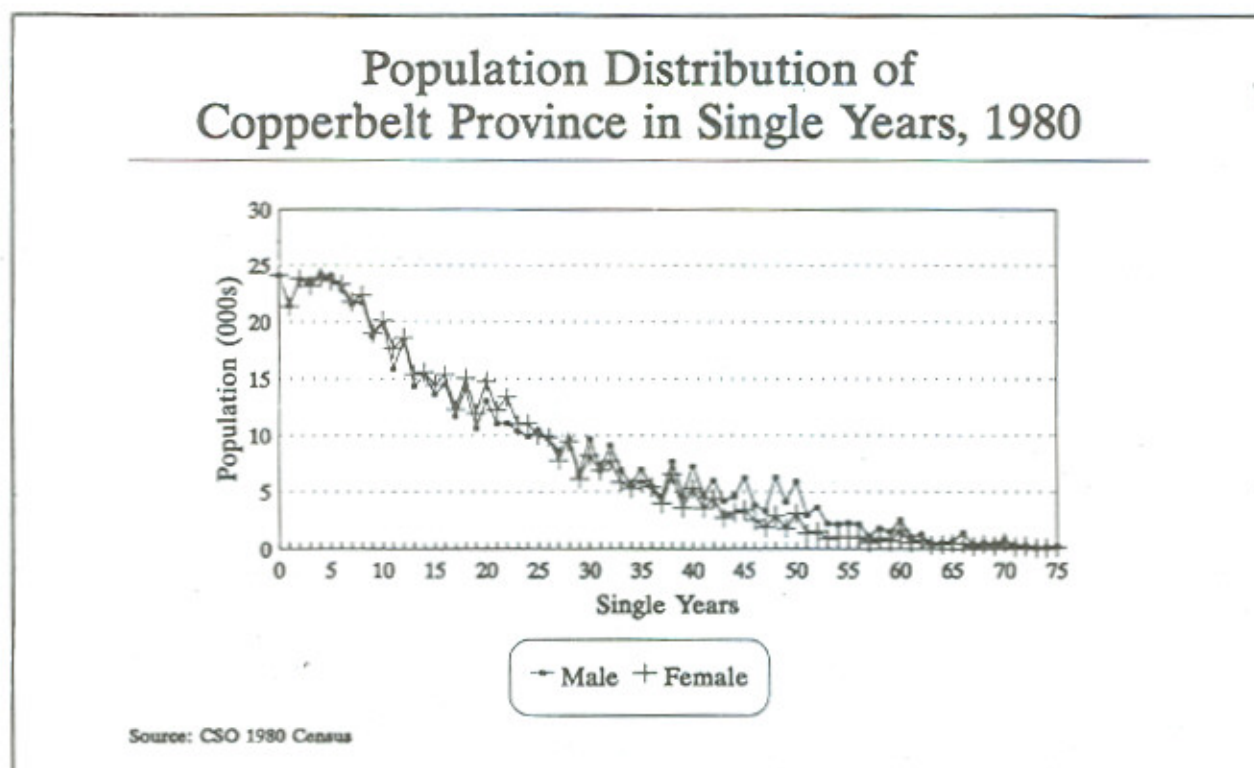


Figure 2.3

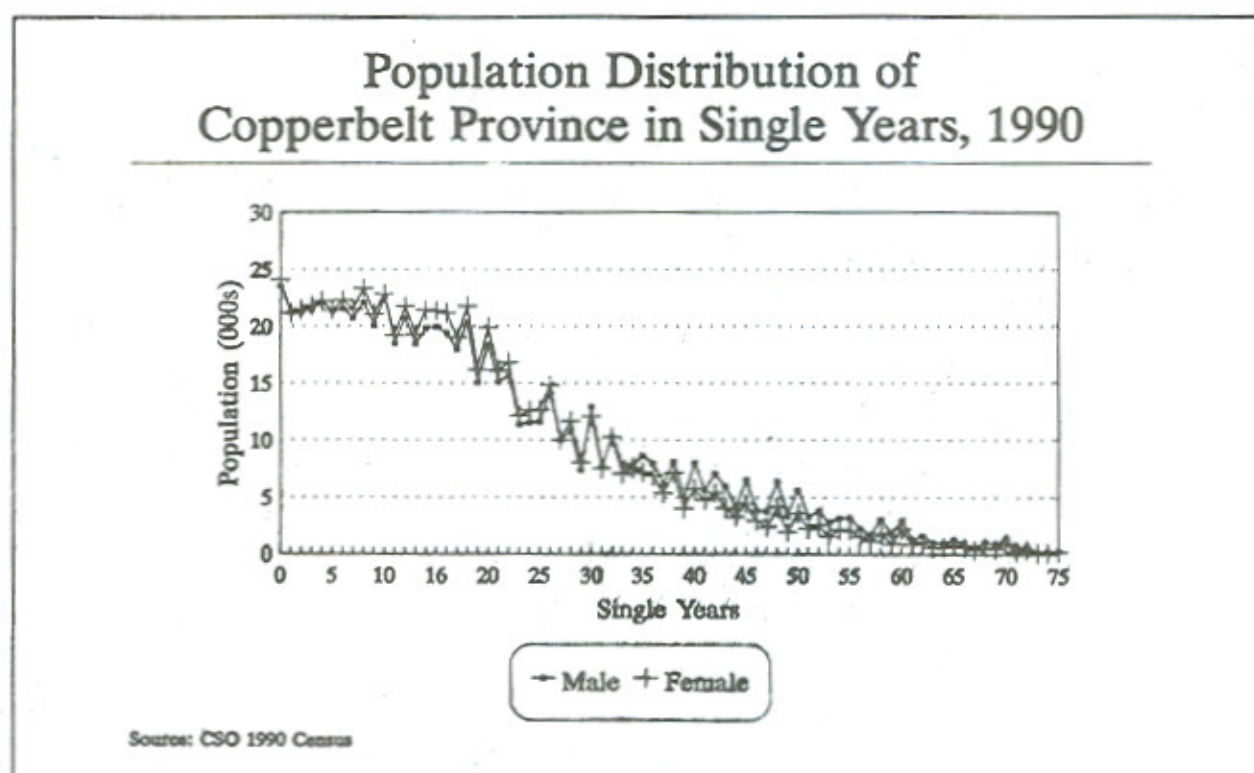


Figure 2.4

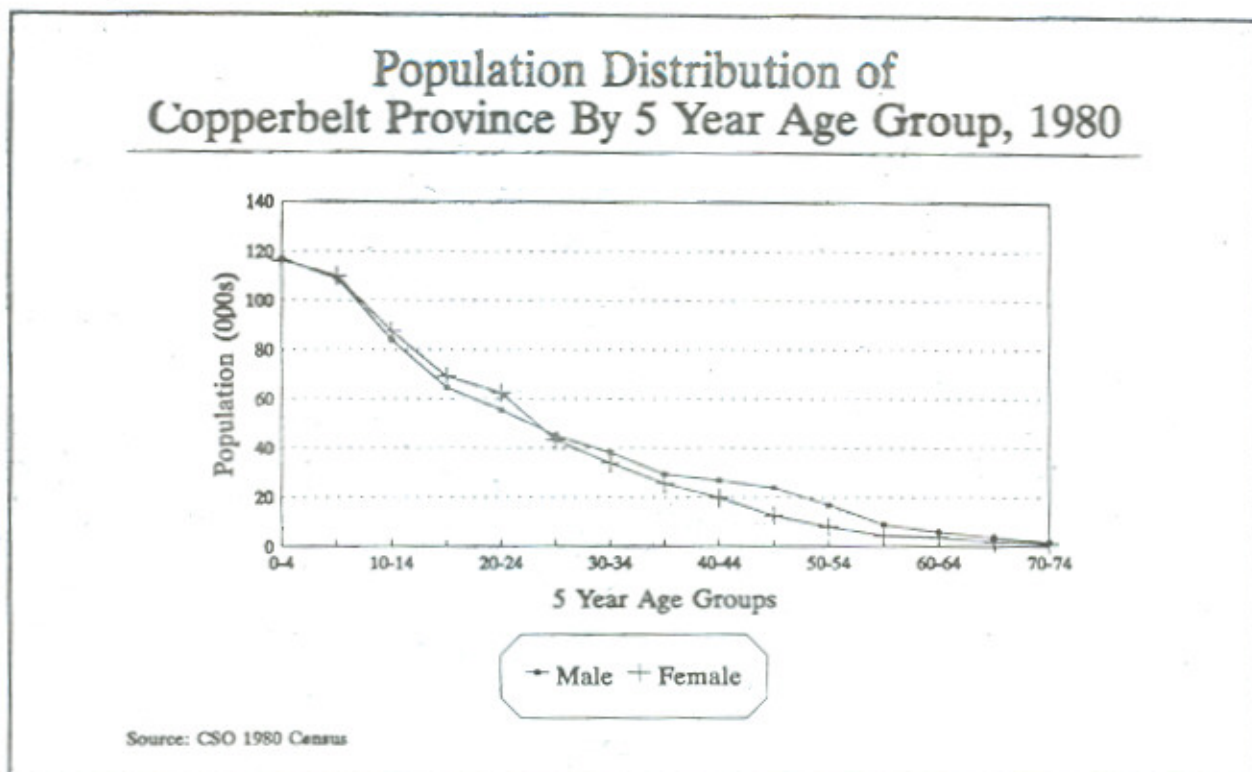
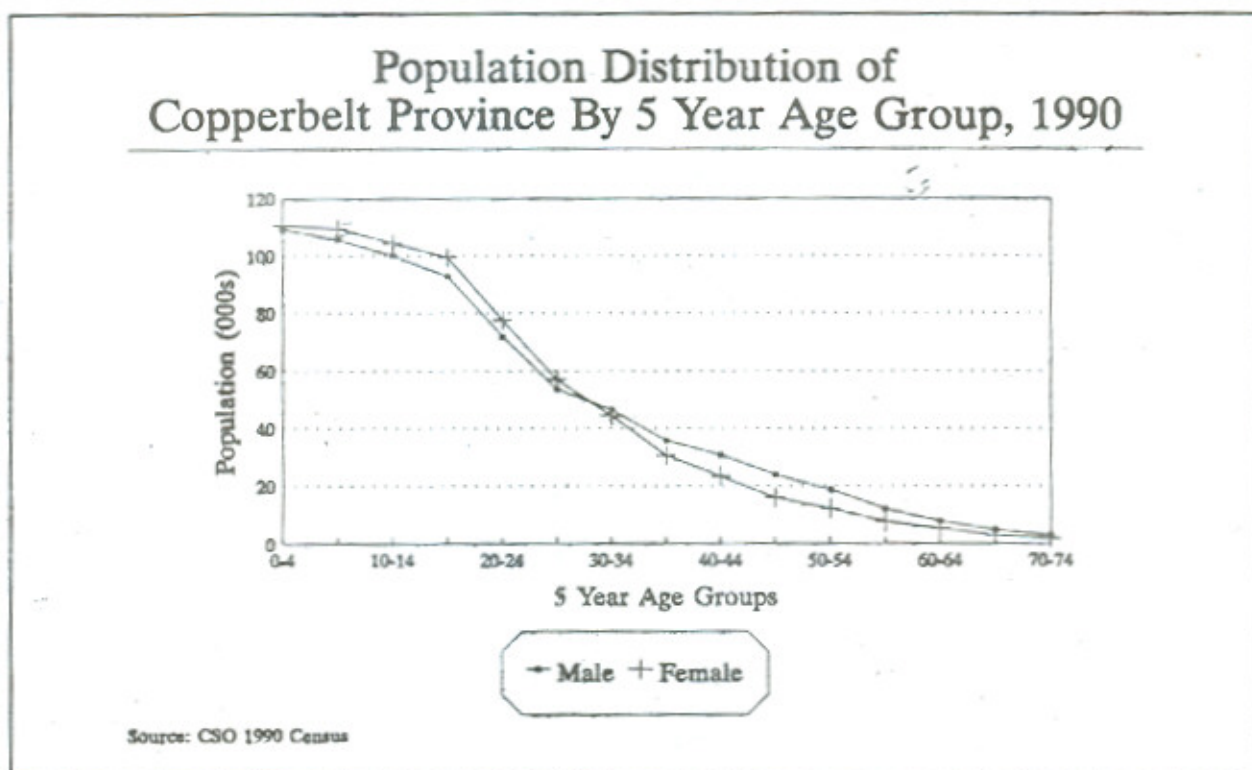


Figure 2.5



### *Sex Ratios*

Manifestation of errors of omission and age misreporting and migration are assessed by looking at the pattern of sex ratios. A sex ratio is the number of males per 100 females. A sex ratio of more than 100 shows an excess of males, 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. The overall sex ratio for Copperbelt Province using 1980 and 1990 Census data shows a decline from 105.5 to 102.2 males per 100 females. Copperbelt Province still remains an area of excess males over females in 1990 as in 1980. The 1990 Census sex ratios for both rural and urban areas is 102.2. Tables 2.7, 2.8, 2.9 and Figure 2.6 show information on sex ratios. The pattern of sex ratios can not only be attributed to errors in the data. Sex ratios are influenced by sex selective migration too. The 1990 Census data shows that the Copperbelt Province lost some of its population due to out-migration during the intercensal period. Most of the out-migrants were males. This could have reduced the overall sex ratios.

Table 2.7

Sex Ratios for Copperbelt Province, 1980 and 1990

Copperbelt Province	1980	1990
Total	105.5	102.2
Rural	105.0	102.2
Urban	105.6	102.2

An analysis of age-specific sex ratios for 1980 reveals a deficit of males in age groups 5-24 years whereas that for 1990 reveals a deficit of males in age groups 0-29 years. There are many possible factors responsible for 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 ages, hence, causing errors in age and sex data.

The sex ratios are higher than 100 for age groups 25-74 years in 1980 and age groups 30-74 years in 1990. The pattern of the 1980 Census sex ratios is consistent with the 1990 pattern in that above 29 years, sex ratios are above 100. Tables 2.8 and 2.9 provide more detail. This means that the age groups above 20-24 for 1980 (Table 2.8) and above 25-29 for 1990 (Table 2.9) have more males than females. In-migration could have taken place especially among males above age 29, hence, having more males than females. An under coverage of females could be another possibility since men are mostly the main respondents during enumeration. High maternal mortality could be another contributing factor.

### *Age Ratios*

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 1980 Census show that age groups with age ratios less than 100 in 1980 for males are 10-19, 25-29, 35-39 and 55-69 and for females, the age groups are 10-19, 25-39, 45-59 and 65-69. In 1990, age groups with ratios less than 100 are 20-29, 35-39, 45-49 and 55-69 for males. For females, the same pattern is reflected except for the age group 60-64 which shows an age ratio of above 100. The substantial deviations of the age ratios are suggestive distortions arising from age misreporting. Results from Tables 2.8 and 2.9 suggest that reporting of age is less satisfactory for females than males. This is evidenced by having a higher average age ratio deviation for females than males.

The Age Accuracy Index reduced from 67.9 in 1980 to 29.0 in 1990. The United Nations define age data as "accurate, inaccurate and highly inaccurate" if the age accuracy index lies below 20, between 20-40 and 40 and above, respectively. In as far as the United Nations Age-Sex Accuracy Index is concerned, the 1980 age data were "highly inaccurate" whereas the 1990 data are "inaccurate". However, the 1990 age data show some improvement over the 1980 age data. Refer to Tables 2.8, 2.9 and Figure 2.7 for details.

Table 2.8

Population by Five Year Age Group, Sex, Age Ratio and the Age-Sex Accuracy Index, Copperbelt Province, 1980

Age Group	Population		Age Ratio		Deviation from 10		Sex Ratio	Difference
	Male	Female	Male	Female	Male	Female		
0-4	116,967	116,397	-	-	-	-	100.5	-
5-9	109,089	110,052	105.6	105.2	5.6	5.2	99.1	1.4
10-14	83,972	87,481	97.7	98.4	-2.3	-1.6	96.0	3.1
15-19	64,664	69,199	95.0	94.7	-5.0	-5.3	93.4	2.5
20-24	55,573	62,539	100.9	107.3	0.9	7.3	88.9	4.6
25-29	45,046	43,154	97.3	92.9	-2.7	-7.1	104.4	-15.5
30-34	38,209	33,734	101.8	98.8	1.8	-1.2	113.3	-8.9
35-39	29,374	25,504	93.4	96.8	-6.6	-3.2	115.2	-1.9
40-44	26,801	19,766	100.5	102.7	0.5	2.7	135.6	-20.4
45-49	23,832	12,466	105.8	93.0	5.8	-7.0	191.2	-55.6
50-54	16,933	7,961	102.2	96.6	2.2	-3.4	212.7	-21.5
55-59	8,926	4,286	84.4	80.8	-15.6	-19.2	208.3	4.4
60-64	5,850	3,673	95.8	112.0	-4.2	12.0	159.3	49.0
65-69	3,536	1,876	95.5	83.4	-4.5	-16.6	188.5	-29.2
70-74	1,720	1,197	-	-	-	-	143.7	44.8
Total	630,492	599,285	-	-	57.7*	91.8*	105.2	262.8*
Mean	-	-	-	-	4.4	7.1	-	18.8

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.  
 =  $3 \times 18.8 + 4.4 + 7.1$   
 = 67.9

Figure 2.6

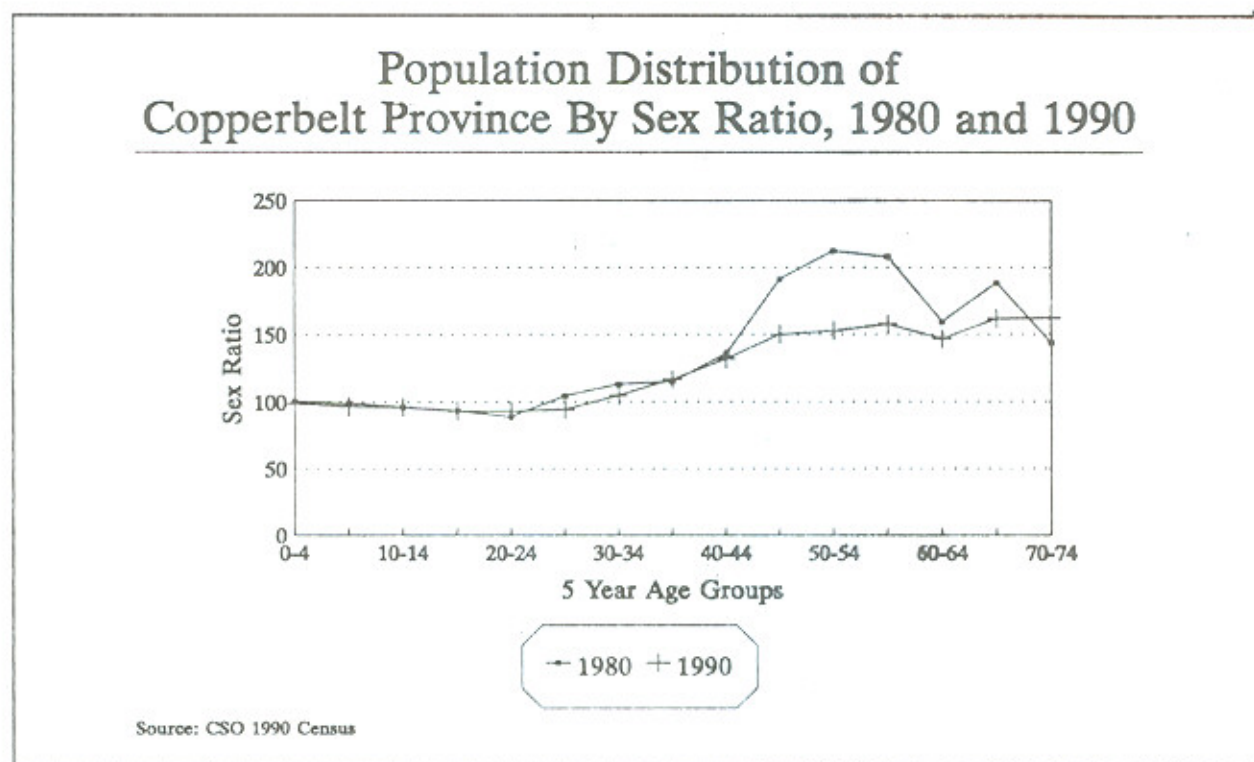


Figure 2.7

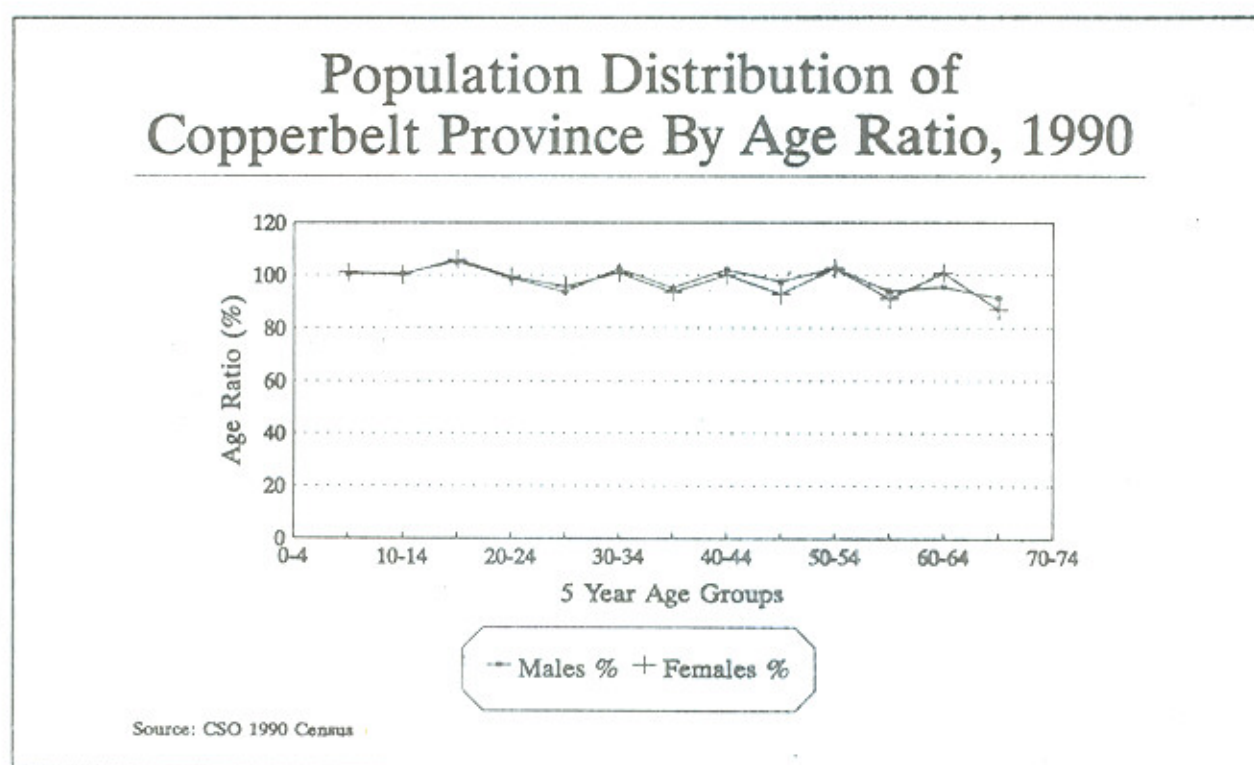


Table 2.9

Population by Five Year Age Group, Sex, Age and the Age-Sex Accuracy Index, Copperbelt Province, 1990

Age Group	Population		Age Ratio		Deviation from 10		Sex Ratio	Difference
	Male	Female	Male	Female	Male	Female		
0-4	109,574	110,786	-	-	-	-	98.9	-
5-9	105,794	109,608	100.6	101.2	0.6	1.2	96.5	2.4
10-14	100,153	104,533	100.6	100.0	0.6	0.0	95.8	0.7
15-19	92,781	99,507	105.0	106.0	5.0	6.0	93.2	2.6
20-24	72,123	77,580	98.9	99.4	-1.1	-0.6	93.0	0.3
25-29	53,811	57,107	93.6	95.7	-6.4	-4.3	94.2	-1.3
30-34	46,501	44,410	102.5	100.8	2.5	0.8	104.7	-10.5
35-39	35,828	30,666	95.0	93.5	-5.0	-6.5	116.8	-12.1
40-44	30,766	23,301	102.0	100.1	2.0	0.1	132.0	-15.2
45-49	23,866	15,900	97.6	92.7	-2.4	-7.3	150.1	-18.1
50-54	18,737	12,269	102.7	102.6	2.7	2.6	152.7	-2.6
55-59	12,147	7,697	93.9	91.0	-6.1	-9.0	157.8	-5.1
60-64	7,932	5,405	95.5	100.8	-4.5	0.8	146.8	11.1
65-69	4,834	2,987	91.4	87.0	-8.6	-13.0	161.8	-15.1
70-74	3,094	1,906	-	-	-	-	162.3	-0.5
Total	717,941	703,662	-	-	47.5*	52.2*	102.2	97.6*
Mean	-	-	-	-	3.6	4.4	-	7.0

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.  
 =  $3 \times 7.0 + 3.6 + 4.4$   
 = 29.0

### Survival Ratios

Survival ratios represent the probability that individuals of the same birth cohort or group of cohorts will still be alive 10 years later. Evaluation of the quality of age and sex data from two censuses using the survival ratio method can be done only under certain assumptions. The population should be closed to migration. It is also assumed that influence of abnormal mortality through wars, disasters, diseases, etc., over a 10 year period should be absent. Cohort survival ratio refers to the survival ratio of the population in a given age group to the next age whereas overall survival ratio refers to the ratio of the population aged say 10 years and above, who will survive to 15 years and above, and so on.

Cohort survival ratios are expected to be highest at age group 10-14 where mortality is assumed to be lowest and then to decline continuously thereafter. Table 2.10 shows fluctuations rather than the expected pattern. For example, at age group 15-19 the cohort survival ratio is lower than in age groups 10-14 and 20-24. The female cohort survival ratio is lower at age group 55-59 than the preceding and the following age group, see Table 2.10. Fluctuations in the cohort survival ratios show that there was over-statement or under-statement of ages among males and females. In the absence of abnormal mortality and migration, the overall survival ratios should decline continuously as we go up to the older ages. The female ratios should be higher than the male ratios because of lower mortality of females compared to that of males. The pattern of having higher ratios for females than males is only true at 10+ and from 50+ (see Table 2.11). This could be an indication of high levels of maternal mortality in the reproductive ages 12-49 years.

Table 2.10

Cohort Survival Ratios By Sex, Copperbelt Province, 1980-1990

Age Group	Male	Female
10-14	0.8563	0.8981
15-19	0.8505	0.9042
20-24	0.8589	0.8868
25-29	0.8322	0.8253
30-34	0.8368	0.7101
35-39	0.7954	0.7106
40-44	0.8055	0.6907
45-49	0.8125	0.6234
50-54	0.7184	0.6207
55-59	0.5097	0.6174
60-64	0.4684	0.6789
65-69	0.5416	0.6969
70-74	0.5289	0.5189
75-79	0.4556	0.4510
80-84	0.3488	0.3985
85+	0.6511	0.6613

Table 2.11

Overall Survival Ratios, Copperbelt Province, 1980-1990

Age Group	Male	Female
10+	0.7993	0.8077
15+	0.7864	0.7860
20+	0.7692	0.7512
25+	0.7458	0.7098
30+	0.7241	0.6731
35+	0.6930	0.6581
40+	0.6637	0.6378
45+	0.6180	0.6148
50+	0.5540	0.6106
55+	0.4917	0.6044
60+	0.4805	0.5964
65+	0.4900	0.5423
70+	0.4538	0.4580
75+	0.3896	0.4045
80+	0.3193	0.3668
85+	0.6511	0.6613

## 2.4 SUMMARY

Copperbelt Province has a young population. Out of the total number of 1,427,545 in 1990, almost 45 percent are below age 15 and almost 54 percent are aged 15-64. The overall dependency ratio of the province declined from 106.3 in 1980 to 85.6 dependants per 100 persons aged 15-64. Copperbelt Province has more males than females and a sex ratio of 102.2 males per 100 females was recorded in 1990. The low age specific sex ratio of 98.9 in 1990 for those aged 0-4 suggests that there was an under-coverage of children. There was age heaping among males and females, with 0,8 and 2 being the most preferred digits. The 1990 age data have improved over the 1980 in as far as the Age-Sex Accuracy Index is concerned which dropped from 67.9 in 1980 to 29.0 in 1990.

## CHAPTER 3

# POPULATION SIZE, GROWTH AND COMPOSITION

### 3.1 INTRODUCTION

The size, growth and composition of a population are the major demographic parameters which are generally derived from censuses. These data are very useful for socio-economic planning in that census data allows disaggregation to low geographic levels.

The Censuses of Zambia have been designed to collect de facto population data. In the 1990 Census, both de facto and de jure population counts were employed. However, the results presented here use the de facto count. The de facto population constitutes people actually present in the home at a given time with the exception of foreign diplomatic personnel accredited to the country. The 1990 Population Census also excluded Zambian diplomats accredited to embassies in foreign countries and their families, Zambian migrant workers and students residing in other countries.

Population composition is defined as the distribution of certain characteristics or attributes of the population and how these affect the overall demographic structure of the country. The three main characteristics are:-

- Demographic, such as age and sex,
- Social, such as ethnicity and citizenship and
- Economic, such as crude activity ratio and labour force participation rate.

### 3.2 POPULATION SIZE AND GROWTH

Copperbelt, with a population of 1,427,545 comprises 721,507 males and 706,038 females. The province is highly urbanised going by the big size of the population residing in urban areas. This information is contained in Table 3.1.

Table 3.1

Population Size by Sex, Residence and District, Copperbelt Province, 1990

District	Total			Rural		Urban	
	Both Sexes	Male	Female	Male	Female	Male	Female
Chililabombwe	62,578	31,831	30,747	4,579	4,300	27,252	26,447
Chingola	161,062	81,471	79,591	782	796	80,689	78,795
Kalulushi	68,223	34,747	33,476	8,023	7,200	26,724	26,276
Kitwe	347,769	175,764	172,005	750	678	175,014	171,327
Luanshya	141,927	72,619	69,308	7,506	7,034	65,113	62,274
Mufulira	146,451	73,959	72,492	5,807	5,510	68,152	66,982
Ndola Rural	165,004	82,569	82,435	76,834	76,547	5,735	5,888
Ndola Urban	334,531	168,547	165,984	-	-	168,547	165,984
Total	1,427,545	721,507	706,038	104,281	102,065	617,226	603,973

Table 3.2 shows the population growth rates of Copperbelt Province as recorded in the three post-independence population Censuses of 1969, 1980 and 1990.

Table 3.2

Population Size and Growth Rates, Copperbelt Province, 1969, 1980 and 1990

District	Population Size 1969	Annual Growth Rate 1969-80	Population Size 1980	Annual Growth Rate 1980-90	Population Size 1990
<b>Copperbelt Province</b>					
- Total	816,309	3.9	1,251,178	1.3	1,427,545
- Rural	72,215	10.7	221,275	-0.7	206,346
- Urban	744,094	3.0	1,029,903	1.7	1,221,199
<b>Districts</b>					
Chililabombwe	44,862	3.0	62,131	0.1	62,578
Chingola	103,292	3.2	145,993	1.0	161,062
Kalulushi	32,272	5.7	59,267	1.4	68,233
Kitwe	199,798	4.4	320,320	0.8	347,769
Luanshya	96,282	2.7	129,589	0.9	141,927
Mufulira	107,802	3.1	150,069	-0.2	146,451
Ndola Rural	72,215	3.2	102,494	4.9	165,004
Ndola Urban	159,786	5.3	281,315	1.7	334,531

Table 3.2 shows that the annual growth rate of the population of Copperbelt Province in the intercensal period 1969-80 was high both at the provincial and district levels, but it declined from 3.9 percent (1969-80) to 1.3 percent (1980-90). However, with the exception of Ndola Rural District, all districts have shown a decline in population growth. In fact, rural areas of Copperbelt Province and Mufulira district recorded negative growth in the 1980-90 intercensal period. The decline in the annual growth rate of the population of the province may be attributed to a decline in the mining activity in the period which could have slowed down in-migration and triggered off out-migration to other provinces.

Figure 3.1 shows that the proportions of population of Kalulushi and Luanshya have remained constant over the intercensal period while there are small changes for the other districts.

Figure 3.1

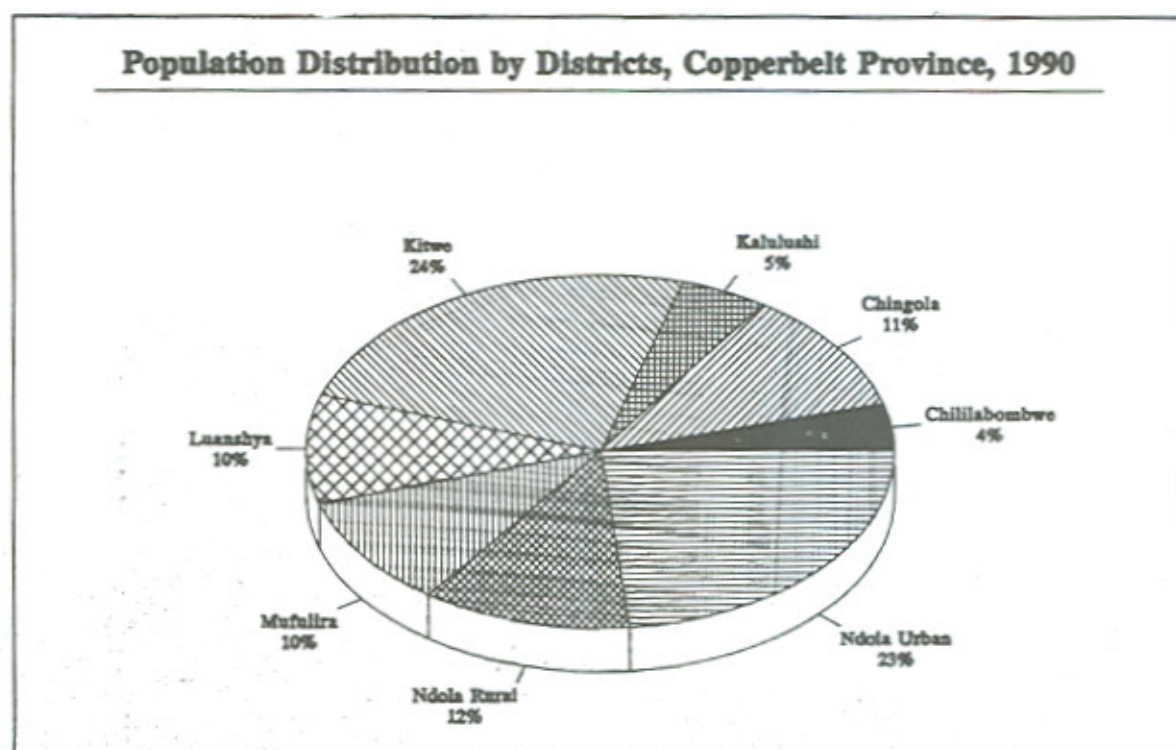


Table 3.3 shows that the population density for Copperbelt Province has increased between the Censuses of 1969, 1980 and 1990. The only exception is Mufulira District whose population density fell from 91.7 (1980) to 89.5 (1990), due to the population decline between 1980 and 1990 at a rate of -0.2 percent per year. As earlier noted, out-migration may explain this phenomenon. Kitwe and Ndola Urban Districts have the highest population densities in the province, which is due to the nature of economic activities that take place in these districts.

Table 3.3

Area and Population Density by District and Population Census Year, Copperbelt Province, 1969, 1980 and 1990

District	Area (Sq Km)	Population Density/Census Year (Population Per sq.km)		
		1969	1980	1990
Copperbelt	31,328	26.1	39.9	45.6
Chililabombwe	1,026	43.7	60.5	61.0
Chingola	1,678	61.6	87.0	96.0
Kalulushi	725	44.5	81.7	94.1
Kitwe	777	257.1	412.2	447.6
Luanshya	811	118.7	159.8	175.0
Mufulira	1,637	65.8	91.7	89.5
Ndola Rural	23,571	3.1	4.3	7.0
Ndola Urban	1,103	144.9	225.1	303.3

### 3.3 POPULATION COMPOSITION

#### *Age Composition*

Age is an important factor in demographic analysis as it is closely related to demographic and social processes. For instance, the number of births depends on the number of child-bearing women aged 15-49 years. Migration is also age-selective, while the school-going population and labour force are persons in specific age groups.

Age in the 1990 Census was defined as "the number of completed years (as at last birthday)" before the census date. The median age is frequently used as a basis for describing a population as young or old. The median age is defined as the age which divides a population into two equal groups, one of which is younger and the other of which is older than the median. The 1990 median age for Copperbelt Province is 16.9 years, implying that the population of the province is quite young. However, this is a significant rise from the median age of 15.1 years for 1980.

The population in each age and sex group is presented graphically in population pyramids in Figures 3.2 and 3.3.

Figure 3.2

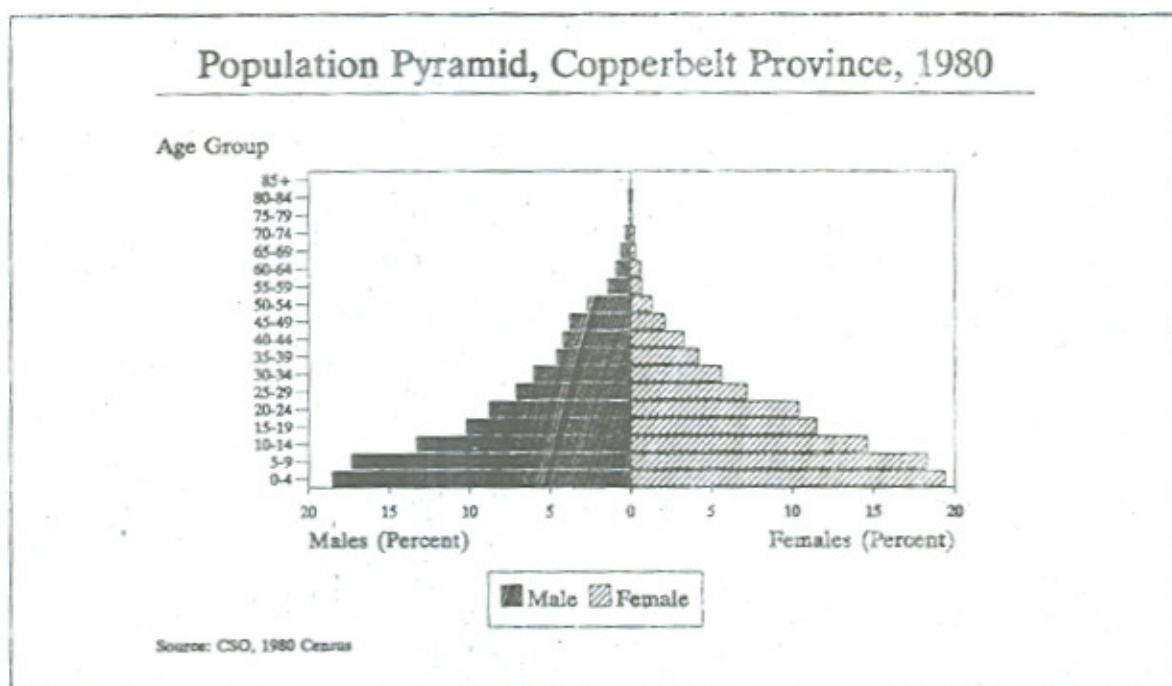
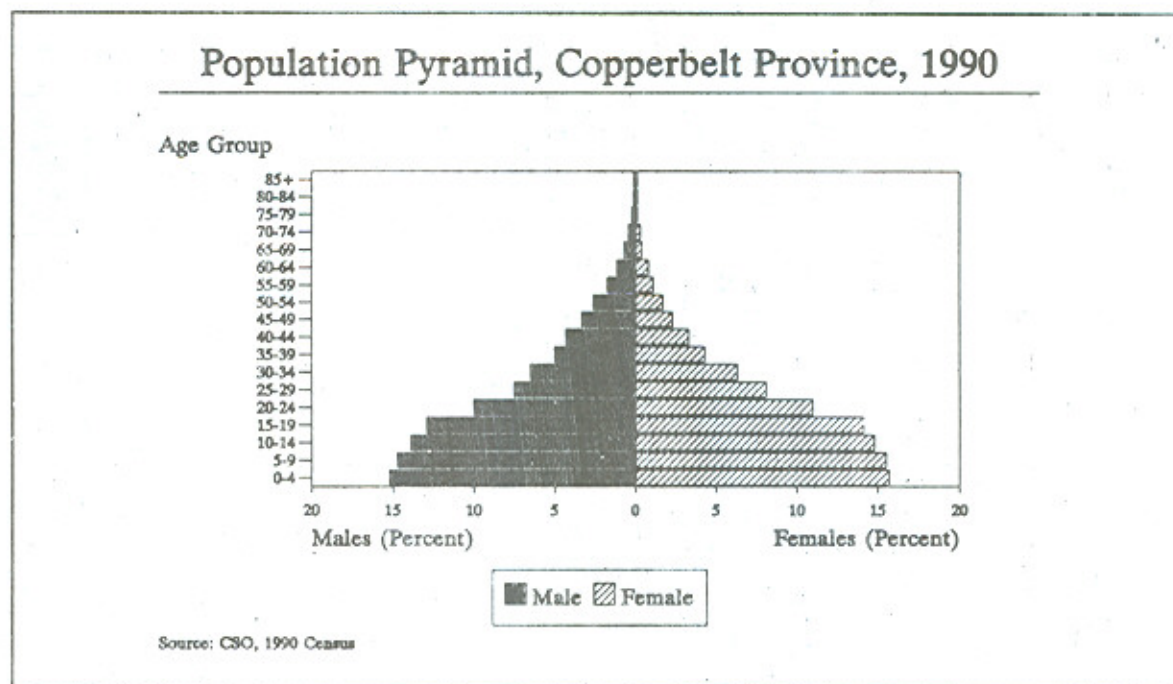


Figure 3.3



The broad base in the population pyramids are an indication that the child population in the Copperbelt Province is large. This has negative implications for the provision of social services such as health and related infrastructure of hospitals and schools because of the high demand. If no pronounced out-migration takes place, prospects for future population growth are high in the province because a large proportion of the population has yet to enter the reproductive age range. However, the base of the 1980 population pyramid is wider than the one for 1990. This means that there was a decline in the growth of the young age groups in the 1980-90 intercensal period.

Table 3.4 gives additional information on the age-sex distribution of the population of Copperbelt Province. The child population which is taken to be age group 0-14 years constitutes about 44.8 percent of the total population of the province. The child population is very large. This has implications for future population growth as the number of persons entering the reproductive ages will be very big. If out-migration, a strong possible factor behind the decline of population growth was to decline to negligible proportions, the population of the province would increase at a high rate.

Table 3.4

Population Age-distribution of by Rural, Urban and Districts, (Percent), Copperbelt Province, 1990

Age Group	Copperbelt			Rural		Urban		Chitima	Chingola	Kalshushi	Kabwe	Lundula	Mafinga	Ndola Rural	Ndola Urban
	Both Sexes	Male	Female	Male	Female	Male	Female	Both Sexes	Both Sexes	Both Sexes	Both Sexes	Both Sexes	Both Sexes	Both Sexes	Both Sexes
0 - 4	15.4	15.2	15.7	14.6	15.2	15.3	15.8	16.8	16.2	15.7	15.2	15.0	15.4	15.2	15.4
5 - 9	15.1	14.7	15.5	14.0	14.5	14.8	15.7	15.7	16.0	15.3	15.0	15.4	15.6	14.3	14.6
10 - 14	14.3	13.9	14.8	13.7	13.5	13.9	15.0	14.0	14.7	14.5	14.6	14.8	15.0	13.6	13.8
15 - 19	13.5	12.8	14.1	12.3	13.1	13.0	14.3	13.2	13.2	13.5	13.7	13.9	13.6	12.6	13.6
20 - 24	10.5	10.0	11.0	9.4	9.7	10.1	11.2	10.7	10.1	10.2	10.8	10.4	10.3	9.6	11.0
25 - 29	7.8	7.4	8.1	7.2	7.2	7.5	8.2	7.6	7.6	7.5	7.9	7.8	7.6	7.2	8.2
30 - 34	6.4	6.4	6.3	5.7	5.4	6.6	6.4	6.3	6.1	6.6	6.6	6.2	6.3	5.5	6.7
35 - 39	4.6	5.0	4.3	4.0	4.0	5.1	4.4	4.2	4.5	4.8	4.9	4.7	4.7	3.9	4.9
40 - 44	3.8	4.3	3.3	3.6	4.0	4.4	3.2	3.4	3.8	3.8	3.9	3.8	3.7	3.8	3.8
45 - 49	2.8	3.3	2.3	3.1	3.5	3.3	2.0	2.5	2.7	2.7	2.7	2.8	2.6	3.3	2.7
50 - 54	2.2	2.6	1.7	3.3	3.4	2.5	1.5	2.1	1.9	2.0	2.0	2.0	2.1	3.3	2.1
55 - 59	1.4	1.7	1.1	2.9	2.4	1.5	0.9	1.2	1.2	1.2	1.2	1.2	1.2	2.7	1.3
60 - 64	0.9	1.1	0.8	2.3	1.8	0.9	0.6	0.9	0.9	0.9	0.7	0.8	0.8	2.0	0.8
65 - 69	0.5	0.7	0.4	1.7	1.0	0.5	0.3	0.5	0.4	0.5	0.4	0.5	0.4	1.3	0.5
70 - 74	0.3	0.4	0.3	1.1	0.7	0.3	0.2	0.4	0.3	0.3	0.2	0.3	0.3	0.9	0.2
75 - 79	0.2	0.2	0.1	0.6	0.3	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.4	0.1
80 - 84	0.1	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.1
85 +	0.1	0.1	0.0	0.2	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1
Not Stated	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total Pop.	1,427,545	721,507	706,038	104,281	102,065	617,226	603,973	62,578	161,062	68,223	347,769	141,927	146,451	65,004	334,531

*Ethnicity and Citizenship*

Ethnicity in the 1990 Census was defined as continent of origin when referring to the whole population, but when applied to Zambians it referred to the indigenous Zambian tribes. About 98.3 percent (1,403,258) of the population in Copperbelt Province is of African origin. The female population is lower than that of males for all categories considered. The population of Copperbelt Province is predominantly African. Other ethnic groups constitute only a small proportion.

Table 3.5

Ethnic Composition of the Population of Copperbelt Province, 1990

Sex	ETHNIC GROUP						Total
	African	American	Asian	European	Other	Not Stated	
Male	708,958	166	1,904	1,207	340	8,932	721,507
Female	694,300	114	1,726	983	301	8,614	706,038
Total	1,403,258	280	3,630	2,190	641	17,546	1,427,545
% of Total Population	98.3	0.02	0.25	0.15	0.05	1.23	100.0

Analysis of the population of Copperbelt Province along the lines of citizenship status shows that 2.2 percent (31,982) are non-Zambians. Table 3.6 shows the population of the province by country of citizenship.

Table 3.6

Foreign Population of Copperbelt Province by Citizenship (1990) and Percentage of Foreign Citizens, 1980

Country/Region	Population 1990	Percent 1990	Percent 1980
Central Africa	3,044	9.5	16.3
Tanzania	2,959	9.2	12.3
Other (Eastern Africa)	382	1.2	0.9
North Africa	219	0.7	0.1
Angola	425	1.3	2.6
Botswana	24	0.1	13.5
Malawi	5,363	16.8	19.7
Mozambique	222	0.7	0.6
Zimbabwe	3,889	12.2	13.7
Other (Southern Africa)	335	1.0	2.3
West Africa	741	2.3	1.0
America	183	0.6	0.3
Asia & Oceania	2,781	8.7	8.6
Europe	1,649	5.2	7.7
Not Stated	9,766	30.5	0.4
% Total		100.0	100.0
Total Foreign Citizens	31,982		62,841
% Foreign Population		2.2	5.0

Among the foreigners in Copperbelt Province, Malawians out-numbered those of any other country. Zimbabweans are in second place. In 1980, the situation was more or less the same with Malawians having the largest proportion. At that time they were closely followed by citizens of Central Africa, Zimbabwe and Botswana. Overall, the proportion of foreign citizens in Copperbelt Province have dropped from 5.0 percent in 1980 to 2.2 percent in 1990. There has been significant declines in the proportional shares of the citizens of Botswana, Malawi and Tanzania between 1980 and 1990.

#### *Economic Characteristics*

Techniques to analyse economic activity are presented in detail in the chapter on economic characteristics. In this chapter only Crude Activity Ratio (CAR) and labour force participation rates are presented, see Tables 3.7 and 3.8.

Table 3.7

## Crude Activity Ratio, Copperbelt Province, 1990

Province/Residence		Crude Activity Ratio (%)
Copperbelt Province	- Total	28.7
	- Rural	36.8
	- Urban	27.3

The CAR is defined as "number of economically active persons divided by the total population". The CARs presented above are low implying that a low number of economically active persons have to support a large inactive population. For Copperbelt Province as a whole, for every 100 persons there are only 29 economically active persons to support them. The situation in rural areas is only marginally better, probably because work is agriculturally based and thus employment opportunities are readily available.

Table 3.8 gives a more refined measure called the Age-Sex Specific Activity Ratio, which is defined as "the proportion of economically active persons in a particular age-sex group expressed as a percentage".

Table 3.8

## Age - Sex Specific Activity Ratio (ASSAR), Copperbelt Province, 1990

Age-Specific Activity Ratio (%)						
	Copperbelt		Rural		Urban	
Age	Male	Female	Male	Female	Male	Female
Total	63.4	25.8	71.5	40.6	62.0	23.2
12-14	12.9	12.7	33.0	31.9	9.6	9.8
15-19	25.5	21.1	49.0	41.3	21.7	18.0
20-24	65.0	28.9	76.2	41.6	63.2	27.1
25-29	87.1	29.3	86.2	39.9	87.3	27.8
30-34	92.8	29.7	89.8	41.0	93.3	28.1
35-39	94.6	32.6	90.7	42.4	95.1	31.1
40-44	94.6	32.3	90.8	42.0	95.1	30.2
45-49	93.8	33.6	90.1	43.3	94.4	30.8
50-54	90.9	33.9	88.8	46.4	91.4	29.1
55-59	86.2	34.1	86.8	46.7	86.0	28.1
60-64	79.3	31.1	83.1	44.3	77.7	24.4
65-69	74.8	29.6	80.2	43.2	71.9	22.8
70-74	65.0	24.7	73.6	35.6	59.6	18.5
75+	51.8	17.5	61.2	29.0	46.0	12.8
N/S	48.2	17.4	39.4	25.0	52.5	15.6

Figure 3.4

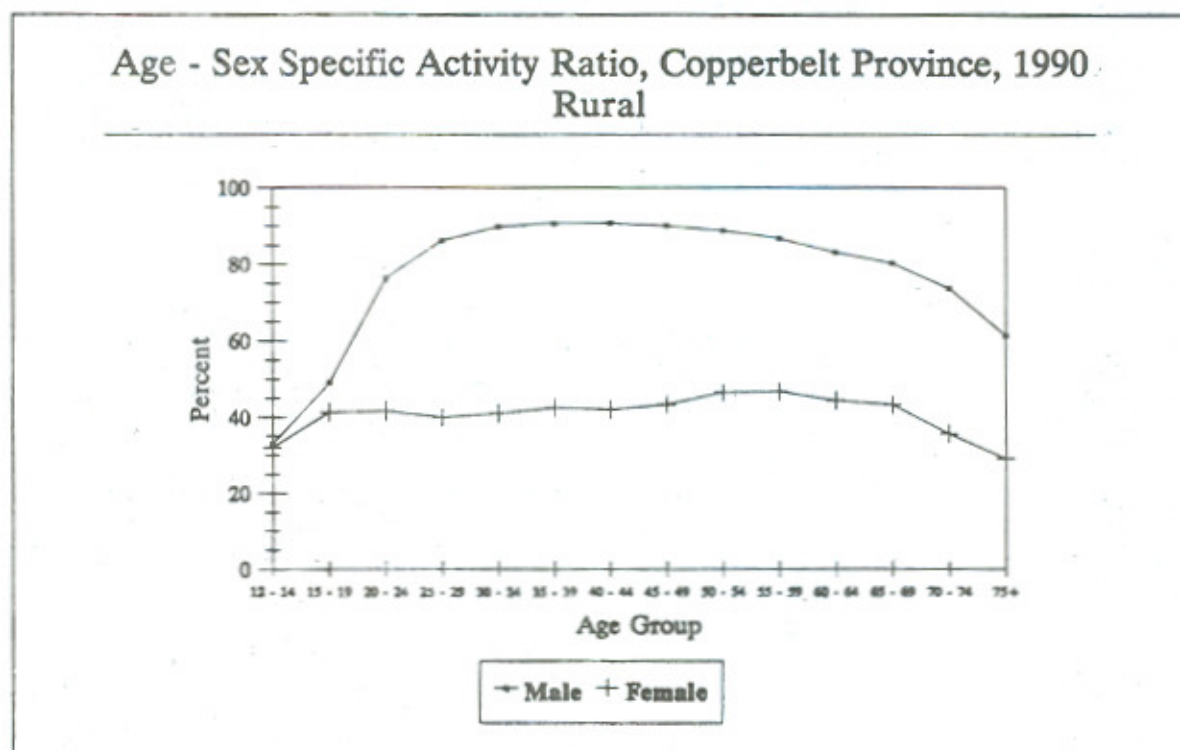
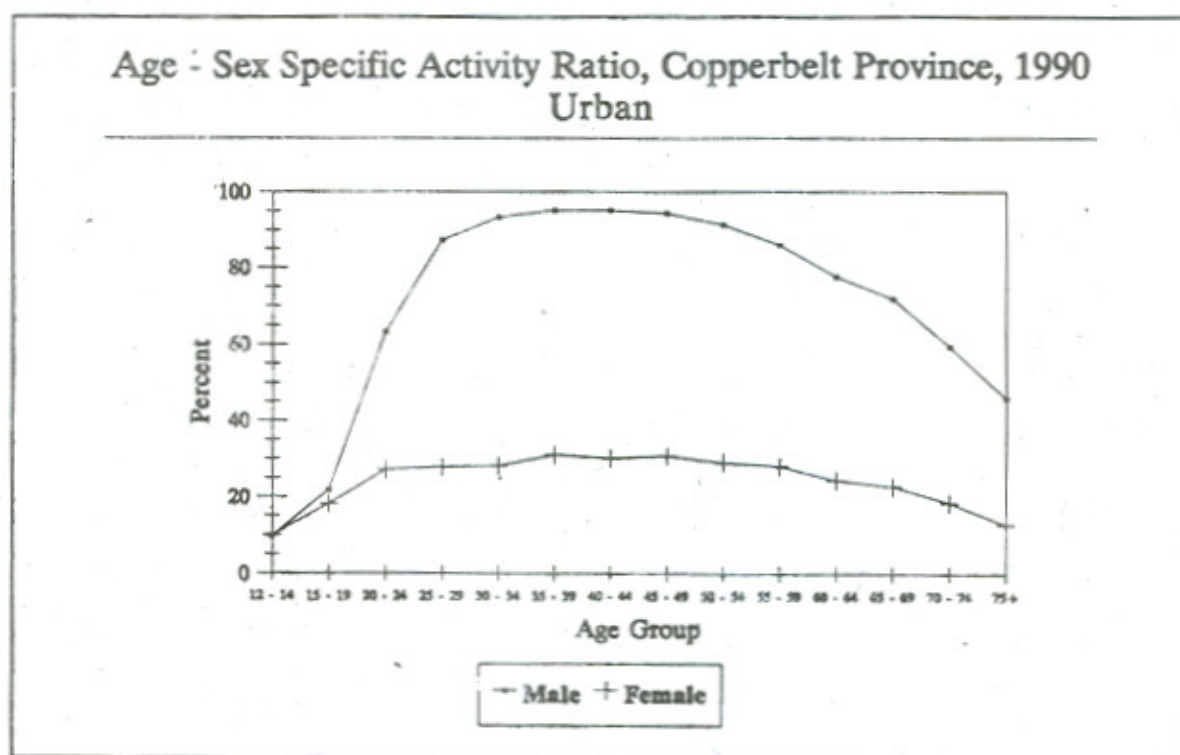


Figure 3.5.



The striking feature depicted by Table 3.8 is that labour force participation ratios for females are consistently lower than those for males. The labour force participation ratios for younger age groups 12-14 and 15-19 are low because the population at those ages is still school-going. Activity ratios for rural females are higher than those for urban females. This may be explained by the fact that rural employment is agriculturally based and may be readily available. The other important finding is that from age 59 years and above, participation ratios for males in the rural areas are higher than those for males in the urban areas. This may be attributed to the fact that at age 59 years most urban males would have retired from formal employment, but work based on the land in the rural areas still continues for males at such advanced ages.

### 3.4 SUMMARY

The population of Copperbelt Province as recorded in the three post-independence censuses has increased from 816,309 in 1969 to 1,251,178 in 1980 and to 1,427,545 in 1990. The annual rate of growth of the population has declined from 3.9 percent in the 1969-80 intercensal period to 1.3 percent in the 1980-90 intercensal period. This is largely attributed to out-migration from the province as a result of declining mining activity.

The population of the province may be termed as "young", considering that 44.8 percent of the population is aged below 15 years. This has negative implications for the provision of socio-economic services such as health, education and employment. Prospects for future population growth in the province are high given that almost half of the population has yet to pass through the reproductive age range.

## CHAPTER 4

# LANGUAGE OF COMMUNICATION

### 4.1 INTRODUCTION

There are many languages and dialects spoken in Zambia. It is estimated that there are 72 tribes in Zambia, each with a unique language or dialect. However, there are seven major languages designated as Zambian languages, which are spoken widely, taught in schools, and aired on both radio and television. These seven Zambian Languages are Bemba, Nyanja, Tonga, Lozi, Kaonde, Lunda and Luvale. English is the official language in the country. It is used in all government functions and is a medium of instruction in schools. English is a compulsory subject at both primary and secondary levels of education and each pupil must pass it to obtain a full certificate.

In the 1990 Census of Zambia, every person was asked to state his/her predominant and second languages of communication. A predominant language of communication was defined as the language most frequently used for day-to-day communication at all places. The second language was conceived to be next in importance to the predominant language.

For easy understanding, the languages have been classified by major language groups. The seven major language groups used in the province comprise the Bemba, Tonga, North-Western, Barotse, Nyanja, Mambwe and Tumbuka. The "other" category shown in the data include other languages not commonly spoken in the province.

### 4.2 PREDOMINANT LANGUAGE OF COMMUNICATION

The major indigenous ethnic group in Copperbelt Province is Lamba. However, because of the industrialization due to the mining activity in the province, there has been an influx of several ethnic groups in the province.

Table 4.1 presents data on major predominant languages. In all, more than 22 languages are represented in Copperbelt Province in 1990, with Bemba dominating as the most spoken language in 1990 (70.7 percent) followed by Lamba (9.1 percent). Lamba is mainly spoken in the rural areas of the province particularly in Ndola Rural District.

The remaining seven districts are highly urbanized and attracting other ethnic groups from other parts of the country), Kaonde (1.8 percent) and English (1.4 percent). The table also shows that Bemba is used most as the first language of communication in all districts except Ndola Rural, where Lamba dominates (63.7 percent). Though Table 4.1 shows only 22 languages, there are many other small languages spoken included in the "Other" category. In Ndola Rural District this "other" category attracts a large proportion of 8.7 percent, and is ranked third, after Lamba and Bemba languages. The Copperbelt Province shows a high degree of language homogeneity in all its districts.

Table 4.1

Predominant Language of Communication by District (Percent), Copperbelt Province, 1990

Major Language	Province	Chililabombwe	Chingola	Katolobche	Kiwe	Lusanshya	Mufumbira	Ndola Rural	Ndola Urban
Bemba	70.7	88.1	74.5	83.9	79.0	91.0	81.7	15.6	68.0
Lunda (Luapula)	0.3	0.2	0.4	0.1	0.3	0.1	0.4	0.1	0.4
Lala	1.3	0.1	0.3	0.4	0.9	0.9	0.7	2.8	2.4
Bisa	0.4	0.2	0.2	0.2	0.5	0.3	0.4	0.2	0.7
Lamba	9.1	4.4	2.3	3.0	0.9	1.0	1.4	63.7	3.0
Tonga	1.1	0.2	1.0	0.6	1.2	0.4	0.9	0.6	1.8
Lenje	0.3	0.0	0.2	0.1	0.3	0.1	0.1	0.4	0.5
Luvale	0.8	0.6	1.9	1.0	0.7	0.4	1.0	0.8	0.6
Lunda (N/West)	1.2	0.6	2.9	1.1	1.0	0.7	0.7	1.0	1.1
Kaonde	1.8	1.1	3.9	1.2	1.5	0.6	1.1	3.6	1.3
Lozi	0.9	0.4	1.0	0.4	1.1	0.4	0.9	0.3	1.4
Chewa	0.8	0.1	0.5	0.3	1.0	0.2	0.5	0.3	1.7
Nsenga	1.3	0.2	0.8	0.5	1.6	0.5	0.6	0.3	2.6
Ngoni	0.8	0.2	0.6	0.3	0.9	0.3	0.4	0.2	1.6
Nyanja	1.2	0.3	0.8	0.6	1.4	0.6	0.7	0.5	2.5
Kunda	0.1	0.0	0.1	0.0	0.2	0.1	0.1	0.0	0.3
Lungu	0.1	0.0	0.2	0.1	0.1	0.0	0.2	0.0	0.2
Mambwe	0.5	0.1	0.6	0.2	0.4	0.2	0.5	0.1	0.8
Namwanga	1.0	0.5	1.6	0.7	1.0	0.4	1.1	0.3	1.4
Tumbuka	1.3	0.4	1.6	0.6	1.9	0.4	1.0	0.3	2.0
Senga	0.2	0.0	0.2	0.1	0.2	0.0	0.2	0.0	0.3
English	1.4	1.2	1.1	2.3	1.5	0.6	1.5	0.2	1.7
Other	1.4	1.1	3.3	2.3	2.4	0.8	3.9	8.7	3.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Size	1,350,624	59,343	152,626	64,801	328,059	134,557	139,837	156,125	315,178

## 4.3 PREDOMINANT LANGUAGE GROUP

The languages presented in Table 4.2 have been grouped according to the language groups described in section 4.1. All the seven Zambian language groups are represented in both rural and urban areas of the province in varying proportions.

Table 4.2

Predominant Language Groups by Sex and Rural/Urban (Percent), Copperbelt Province, 1990.

Language Group	Copperbelt Province Total			Copperbelt Province Rural			Copperbelt Province Urban		
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
Bemba	83.8	83.5	84.1	87.4	87.0	87.8	81.2	82.8	83.5
Tonga	1.5	1.5	1.6	1.0	0.8	1.6	1.6	1.6	1.6
N/Western	4.7	4.6	4.7	8.4	8.3	8.5	4.0	4.0	4.1
Barotse	1.0	1.0	0.9	0.3	0.4	0.3	1.1	1.1	1.1
Nyanja	4.2	4.3	4.2	1.4	1.6	1.2	4.7	4.8	4.7
Mambwe	1.6	1.6	1.5	0.5	0.6	0.5	1.8	1.8	1.8
Tumbuka	1.5	1.6	1.5	0.4	0.4	0.3	1.7	1.8	1.6
English	1.3	1.5	1.1	0.3	0.3	0.2	1.5	1.7	1.2
Other	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Population	1,350,634	683,093	667,541	795,714	99,040	96,674	1,154,920	584,053	570,867

Note: Population Size does not include "Not Stated" and "Not Applicable" cases.

The Bemba language group is dominant in both the rural and urban areas of the province, accounting for over 80 percent of the population. It is worth noting that the indigenous language, Lamba, is one of the components of the Bemba language group. Table 4.2 also shows that the languages comprising the North-Western group are together the second mostly spoken in the province but only by a small proportion of the population (4.7 percent). The languages in this group are often used in the rural areas (8.4 percent). The Nyanja language group is the third in importance in urban areas. English, though an official language is little used in the Province and mostly confined to urban areas. Further Table 4.2 shows that there is very little difference between males and females in the language spoken.

Table 4.3 shows changes in the share of each language group during the intercensal period, 1980-1990. Over the 10-year period, the Bemba speaking group increased its share from about 63 percent in 1980 to 84 percent in 1990 at the expense of other language groups. For example, the North-Western language group declined from 9 percent in 1980 to less than 5 percent in 1990. Similarly, the Nyanja group lost its share of about 10 percent in 1980 to just over 4 percent in 1990.

**Table 4.3**

**Predominant Language Groups by Year (Percent), Copperbelt Province, 1980 and 1990.**

Language Group	Percentage of Total Population	
	1980	1990
Bemba	62.8	83.8
Tonga	3.3	1.5
North-Western	9.2	4.7
Barotse	2.0	1.0
Nyanja	9.7	4.2
Mambwe	4.2	1.6
Tumbuka	4.1	1.5
English	0.7	1.3
Other	4.0	0.4
Total	100	100
Population	1,249,252	1,350,634

Table 4.3 also shows that besides the Bemba language group, all other Zambian language groups are becoming less used as languages of communication in the Copperbelt Province. However, the proportions of persons using English as their predominant language of communication almost doubled during the intercensal period, 1980 and 1990.

#### **4.4 SECOND LANGUAGE OF COMMUNICATION**

In a multilingual society like Copperbelt Province, many people speak several languages. However, there is usually one language in which an individual is most proficient. The 1990 Census solicited information on the second language of communication, see Table 4.4.

Table 4.4

Second Language of Communication by District (Percent), Copperbelt Province, 1990

Second Language	Total	Chiblabombwe	Chingola	Kalulushi	Kitwe	Luanshya	Mufulira	Ndola Rural	Ndola Urban
Bemba	13.1	5.0	16.7	9.3	13.7	4.5	10.5	13.1	17.4
Lunda (Luapula)	0.2	0.3	0.2	0.1	0.3	0.2	0.2	0.1	0.2
Lala	1.0	0.5	0.4	0.4	1.1	1.8	0.7	0.9	1.2
Besa	0.4	0.2	0.2	0.2	0.5	0.8	0.3	0.1	0.4
Lamba	2.0	1.3	1.0	1.6	1.0	1.2	0.8	7.6	1.4
Tonga	0.7	0.4	0.6	0.7	1.0	0.5	0.6	0.3	0.7
Lenge	0.3	0.1	0.2	0.1	0.3	0.4	0.2	0.5	0.4
Luvale	0.5	1.0	0.8	1.3	0.6	0.3	0.5	0.3	0.2
Lunda (North-Western)	0.7	0.7	1.3	1.3	0.9	0.5	0.4	0.4	0.4
Kaonde	1.4	2.4	2.3	1.8	1.4	0.8	0.8	2.2	0.6
Lozi	0.6	0.7	0.7	0.6	0.7	0.5	0.6	0.3	0.5
Chewa	0.6	0.4	0.4	0.4	0.8	0.5	0.4	0.2	0.7
Nsenga	1.1	0.7	0.9	0.7	1.6	1.6	0.6	0.2	1.2
Ngoni	0.5	0.2	0.5	0.3	0.8	0.5	0.3	0.1	0.7
Nyanga	1.8	0.8	1.1	1.0	2.2	1.1	1.3	0.9	2.7
Kunda	0.1	0.1	0.0	0.0	0.2	0.1	0.1	0.0	0.1
Langa	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.1
Manbwae	0.5	0.4	0.7	0.3	0.6	0.4	0.5	0.1	0.5
Namwanga	1.0	1.2	1.6	1.0	1.0	1.0	1.1	0.1	0.7
Tumbuka	1.1	1.1	1.5	0.8	1.8	0.9	0.8	0.2	0.9
Senga	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.0	0.1
English	11.4	9.5	9.3	14.2	11.0	20.2	14.3	2.5	11.8
Other	1.4	2.0	1.8	2.2	2.3	1.3	2.2	2.0	1.5
Not Applicable	58.3	70.1	56.2	60.5	54.4	59.2	61.8	67.1	54.6
Not Stated	1.1	0.7	1.2	1.1	1.5	1.4	0.8	0.8	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Population	1,427,545	62,578	161,662	68,223	347,769	141,927	146,451	165,004	334,531

Table 4.4 shows persons in Copperbelt Province using a second language for communication. Among the second languages of communication, Bemba is spoken more than the other languages in the province (13.1 percent) followed by English (11.4 percent). There are variations in the use of Bemba and English across the districts of Copperbelt Province. The use of Bemba ranges from 4.5 percent in Luanshya District to 17.4 percent in Ndola Urban District; while English ranges from 2.5 percent in Ndola Rural to 20.2 percent in Luanshya.

Table 4.5 shows the percentage distribution of second language groups by sex and rural and urban areas. Bemba is the most preferred second language of communication. However, a small proportion (17.5 percent) of the population in the province use it as a second language. English (11.4 percent) as a second language of communication is the second in importance after Bemba in the province. In rural areas the proportion of persons using Bemba is higher than in urban areas. English language assumes some prominence in the urban areas as a second language spoken.

Table 4.5

Second Language Groups by Sex and Rural/Urban (Percent), Copperbelt Province, 1990

Language Group	Total			Rural			Urban		
	Both Sexes	Males	Females	Both Sexes	Males	Females	Both Sexes	Males	Females
Bemba	17.5	17.3	17.7	22.1	22.4	21.7	16.7	16.5	17.0
Tonga	1.2	1.2	1.1	0.9	0.9	0.8	1.1	1.1	1.2
North-Western	3.0	3.0	3.1	4.4	4.4	4.4	2.8	2.8	2.9
Barotse	0.6	0.6	0.6	0.3	0.4	0.3	0.7	0.6	0.6
Nyanja	4.0	4.0	4.0	1.8	2.2	1.5	4.5	4.3	4.4
Mambwe	1.5	1.4	1.5	0.5	0.6	0.5	1.6	1.6	1.7
Tumbuka	1.2	1.2	1.2	0.5	0.5	0.4	1.3	1.3	1.3
English	11.4	13.7	9.0	3.2	4.4	1.9	12.8	15.3	10.2
Other	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Not applicable	58.3	56.2	60.5	65.1	63.0	67.3	57.2	55.1	59.4
Not Stated	1.1	1.2	1.1	1.0	1.0	1.0	1.1	1.2	1.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Population	1,427,545	721,507	721,152	206,346	104,281	102,065	1,221,199	617,226	603,973

The languages have been ranked according to their proportionate shares, see Table 4.6. The table shows that the Bemba language ranks as a predominant language of communication in Copperbelt Province and in all districts except Ndola Rural where Lamba is spoken most. The ranking of the major five languages in Table 4.6 is such that the language on top in each cell represents the predominant language of communication. The language below is the second language of communication. Where the cell has only one language, it signifies that the language has the same rank order for both predominant and the second language of communication.

Table 4.6

Rank Order of Predominant and Second Language of Communication by District, Copperbelt Province, 1990

Rank Order	Copperbelt Province	Chililabombwe	Chingola	Kalulushi	Kitwe	Laanshya	Mufulira	Ndola Rural	Ndola Urban
1	Bemba	Bemba English	Bemba	Bemba English	Bemba	Bemba English	Bemba English	Lamba Bemba	Bemba
2	Lamba English	Lamba Bemba	Kaonde English	Lamba Bemba	Tumbuka English	Lamba Bemba	English Bemba	Bemba Lamba	Lamba English
3	Kaonde Lamba	English Kaonde	Lunda(N/W) Kaonde	English Kaonde	Nsenga Nyanja	Lala Lunda (Luap)	Lamba Nyanja	Kaonde English	Nsenga Nyanja
4	English Nyanja	Kaonde Lamba	Lamba Namwanga	Kaonde Lamba	Kaonde Tumbuka	Lunda Nsenga	Namwanga	Lunda (Luap) Kaonde	Nyanja Lamba
5	Tumbuka Kaonde	Luvale Namwanga	Luvale Tumbuka	Luvale Lunda (N/W)	English Nsenga	Kaonde Lamba	Kaonde Lamba	Lunda(N/W) Lala	Lala Nyanja

#### **4.5 SUMMARY**

It may be safely concluded that the population in Copperbelt Province is homogeneous with relation to language of communication. The bulk of the population speak Bemba. There are over 22 languages spoken in the province. Even though English is the official language of communication it is spoken by a few people.

## EDUCATIONAL CHARACTERISTICS

## 5.1 INTRODUCTION

The term education generally refers to the skills and knowledge acquired formally through the framework of an established schooling system, or non-formally through interaction with one's society. In the development of human resources, education is the most important consideration that has an overt impact on the quality of human resources in terms of their skills and knowledge.

In Zambia, as in most countries, formal education implies age-specific, full-time classroom attendance in a graded system geared to certificates, diplomas, degrees, or other formal credentials. Subsequently, it is relatively easy to define formal education as well as to measure its costs and identify its outputs. Similarly, the collection and documentation of statistical information related to formal education is easy. Such information includes number, size and geographical distribution of schools, age, sex and number of pupils in each class and spatial location; age, sex and number of teachers by qualification per school; as well as the financial cost of building and of running each school.

In contrast, non-formal education involves activities that are aimed at a wider range of goals. Such activities tend to be heterogeneous, unstandardized and seemingly unrelated. No single institution may be identified as having the major responsibility of providing or regulating the scope and standards of non-formal education. In addition, the costs, inputs and outputs of non-formal education cannot be readily measured. However, non-formal education in most developing countries may even have a greater role than formal education in generating skills, influencing attitudes, and moulding values of the people through routinely and often unconsciously learning-by-doing, being instructed or inspired by others to perform specific tasks or simply by participating or associating in a community. The 1990 Census of Population, Housing and Agriculture included the following educational aspects for all persons aged 5 years and over:-

- Whether they can read and write,
- Attendance to any institution of learning,
- Previous attendance to any institution of learning,
- Highest level of academic education completed, and
- Highest professional/vocational education completed.

Information on current grade school attendance by level of education was not collected in the 1990 Census. Thus, no estimates can be made on age-specific current grade attendance rates.

## 5.2 CONCEPTS AND DEFINITIONS

*Educational System*

Formal education in Zambia is based on a three-tier system. The primary school cycle starts at age seven and is spanned over a period of 7 years. The progression from primary to secondary is restricted through examinations. After secondary education, which lasts for 5 years, another selection takes place such that only a small number of graduates proceed to institutions of higher learning. Since the 1980s, there has been an expansion of part of the secondary education system (grades 8 to 9 or junior secondary) due to manpower needs. Basic schools, offering grades 1 to 9 classes, have greatly increased the number of pupils attending grades 8 and 9. These include private and public learning institutions.

### ***School Attendance***

School attendance is synonymous with school enrolment which refers to enrolment in any regular educational institution, public or private, for systematic instruction at any level of education during a defined and recent time period. The legal age for a child to start school in Zambia is seven years. Taking the entry to grade 1 as 7 years, certain ages will correspond to a given educational level.

- Lower primary grades 1, 2, 3 and 4 correspond to pupils aged 7-10 years.
- Upper primary grades 5, 6 and 7 correspond to pupils aged 11-13 years.
- Junior secondary grades 8 and 9 correspond to pupils aged 14 and 15 years.
- Senior secondary grades 10, 11 and 12 correspond to pupils aged 16-18 years.
- Students above 18 years could be considered to be in higher institutions of learning.

With this kind of correspondence, there sometimes exists an age-grade mismatch in the educational system. For instance, a person above 19 years could still be in secondary school.

### ***Literacy***

Literacy refers to the ability to read and write in any language. Individuals who can read and write are called literate.

### ***Academic education***

This is the highest level of formal education that an individual has attained or completed regardless of duration in school. Educational qualifications attained such as certificate, diploma are included in the educational outputs.

### ***Professional/Vocational Education completed***

Higher qualification attained after formal school (Grade 1-12) either at college or university; including specified fields of study.

## **5.3 LITERACY STATUS**

Data on literacy status was collected from all individuals aged 5 years and over in the 1990 Census. However, no such information was collected during the 1980 Census. Thus, no comparison in literacy levels can be made between 1980 and 1990.

Results on literacy status of the population by age and sex in Copperbelt Province show that males have higher proportions of literacy in ages between 15 and 44 years as compared to females. The same pattern exists in rural, and in urban areas as well as in all districts, see Table 5.1. Similarly, all highly urbanised districts of Copperbelt Province have high proportions of literate persons. The overall proportions of literacy in the age group 45 years and older range from 40 percent in Ndola Rural to 66.5 percent in Kitwe. That of males in the same age group, however, ranges from 58.4 percent in Ndola Rural to 82.2 percent in Kitwe while proportions for females are low in all districts.

Table 5.1

Literate Population by Age Group, Sex and Residence, (Percent), Copperbelt Province, 1990

	Total	Age Group							Not Stated	Size
		5-9	10-14	15-19	20-24	25-29	30-44	45+		
Copperbelt Province										
- Total	71.4	23.1	74.9	89.0	89.6	89.2	84.2	58.1	59.0	1,181,130
- Male	75.8	22.6	74.5	90.3	92.4	93.6	93.4	75.9	71.9	599,003
- Female	66.9	23.5	75.4	87.7	87.1	84.9	73.4	31.0	40.7	582,127
Residence										
Rural										
- Total	54.2	12.7	55.4	73.1	73.9	74.4	66.8	40.7	39.7	172,382
- Male	61.5	12.6	54.6	76.3	80.3	82.7	82.1	58.8	50.5	87,487
- Female	46.7	12.8	56.2	70.1	67.6	65.9	51.3	19.1	27.6	84,895
Urban										
- Total	74.4	24.7	78.0	91.6	92.0	91.5	86.9	63.8	63.9	1,008,748
- Male	78.3	24.2	77.8	92.7	94.2	95.3	95.0	80.6	76.7	511,516
- Female	70.3	25.2	78.2	90.5	89.9	87.9	77.4	35.7	44.7	497,232
Districts										
Chililabombwe										
- Total	69.7	21.0	73.3	90.6	89.8	88.5	82.9	52.6	*	51,090
- Male	74.9	20.7	73.3	92.2	93.2	94.2	93.9	71.9	*	26,048
- Female	64.3	21.3	73.3	89.0	86.3	83.4	70.1	24.1	*	25,042
Chingola										
- Total	71.2	19.3	76.6	91.1	91.1	89.9	84.8	58.7	*	132,105
- Male	75.4	18.6	76.5	92.5	93.6	94.7	93.7	76.1	*	67,171
- Female	66.7	20.0	76.6	89.9	88.7	85.4	74.5	28.9	*	64,934
Kalulushi										
- Total	73.1	24.2	78.2	92.3	91.4	91.3	85.4	57.7	*	56,520
- Male	77.3	23.7	77.4	93.3	93.9	94.9	94.5	75.5	*	28,941
- Female	68.7	24.7	78.9	91.2	89.1	87.9	74.2	30.6	*	27,579
Kitwe										
- Total	75.3	25.2	78.4	92.2	92.3	91.8	87.2	66.5	72.1	286,839
- Male	79.1	24.9	78.1	93.3	94.8	95.5	94.9	82.2	88.4	145,375
- Female	71.4	25.3	78.7	91.2	90.4	88.5	78.2	37.9	39.8	141,464
Luanshya										
- Total	76.8	28.1	83.6	93.9	94.0	93.4	88.8	63.5	*	117,875
- Male	80.4	27.5	83.8	94.9	95.9	96.5	96.3	80.8	*	60,549
- Female	73.1	28.8	84.2	92.9	92.2	90.4	80.1	35.3	*	57,326
Mufulira										
- Total	73.2	24.1	76.9	91.5	91.5	91.1	85.9	60.4	55.1	121,069
- Male	76.8	23.3	76.5	92.7	93.5	94.7	94.1	77.1	70.6	61,256
- Female	69.5	24.8	77.4	90.3	89.7	87.7	76.8	33.7	39.0	59,813
Ndola Rural										
- Total	53.5	12.5	54.0	71.7	73.2	74.3	66.8	40.1	36.4	137,542
- Male	60.6	12.4	53.1	74.5	79.5	79.5	81.6	58.4	44.6	69,091
- Female	46.3	12.5	54.9	69.9	67.1	66.4	52.1	19.4	26.8	68,451
Ndola Urban										
- Total	73.3	25.3	75.1	88.6	90.3	89.9	85.8	63.9	59.3	278,090
- Male	77.6	24.7	74.8	90.1	92.8	94.3	94.4	80.7	69.3	140,572
- Female	68.9	25.9	75.3	87.4	87.9	86.0	75.4	36.9	45.2	137,515

Note: \* low population figures of less than 50 persons.

Figure 5.1

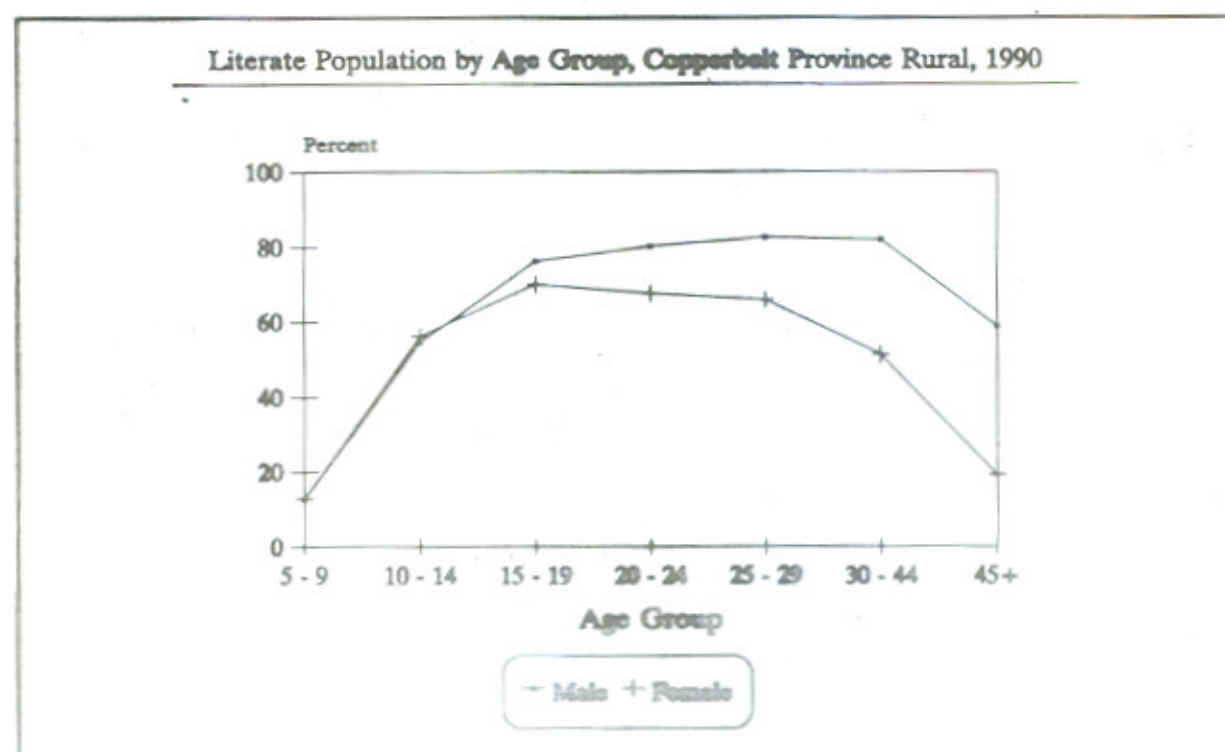
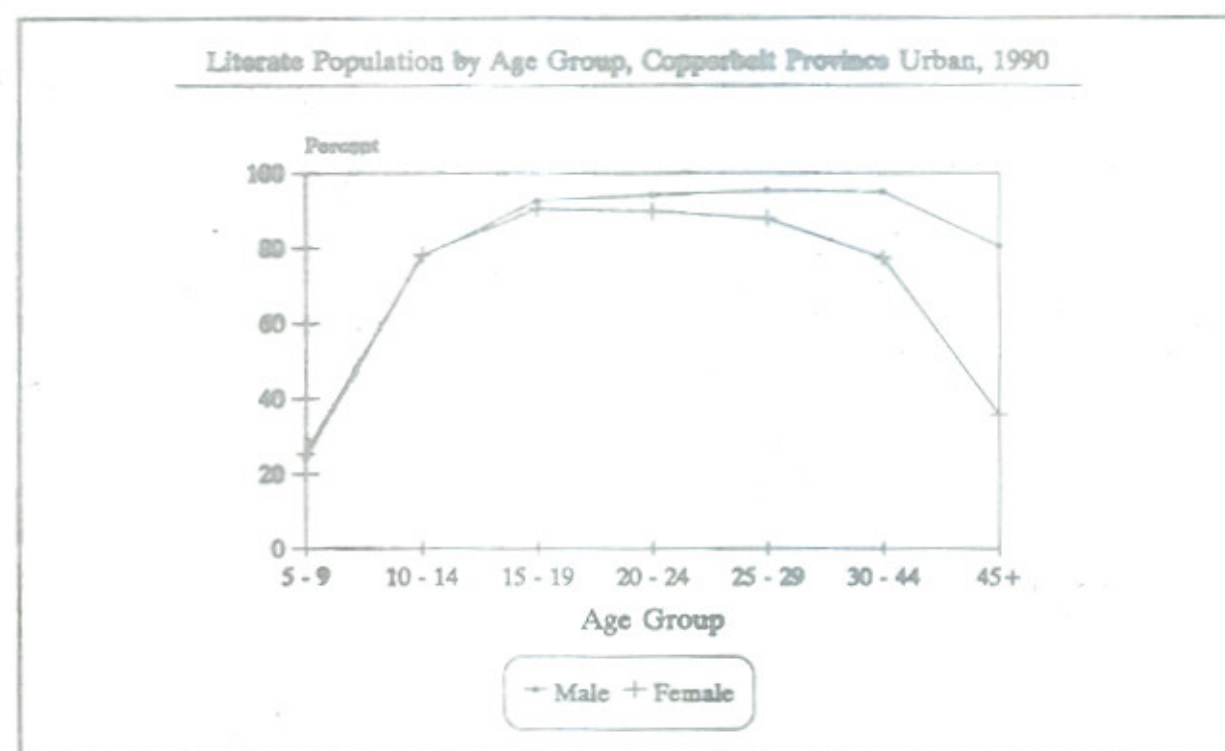


Figure 5.2



## 5.4 SCHOOL ATTENDANCE

Results from the 1990 Census as shown in Table 5.2 indicate that the majority of persons aged 10-19 years are attending school. The proportion of the population in school constitutes 83.2 and 59.0 percent for those aged 10-14

Table 5.2

Population Presently Attending School by Sex, Age and Residence, (Percent), Copperbelt Province, 1990

	Age Group						Not Stated	Size
	5-9	10-14	15-19	20-24	25-29	30+		
<b>Copperbelt Province</b>								
- Total	43.6	83.2	59.0	15.8	7.9	1.9	7.7	326,880
- Male	42.5	83.9	67.5	21.7	5.3	2.2	7.6	183,518
- Female	44.6	82.5	51.1	10.5	10.4	1.5	7.8	143,362
<b>Residence</b>								
Rural								
- Total	30.3	65.2	39.5	8.9	3.1	1.5	9.6	58,382
- Male	29.7	65.4	48.0	12.4	3.6	1.7	12.7	29,531
- Female	30.9	65.1	31.3	5.4	2.6	1.4	5.9	28,851
Urban								
- Total	45.7	86.1	62.1	16.9	8.7	2.0	7.3	268,498
- Male	44.5	87.0	70.6	23.1	5.6	2.3	6.7	153,987
- Female	46.8	85.2	54.2	11.2	11.5	1.5	8.2	114,511
<b>Districts</b>								
Chililabombwe								
- Total	42.2	82.9	62.3	17.1	4.7	1.6	12.5	13,499
- Male	41.3	83.7	71.8	22.0	4.9	1.8	9.1	7,565
- Female	43.0	82.1	53.0	12.1	4.4	1.2	16.7	5,934
Chingola								
- Total	45.1	86.3	62.9	22.9	4.4	2.3	4.3	27,091
- Male	43.9	87.1	71.8	22.3	5.2	2.8	6.1	11,929
- Female	46.2	85.5	54.7	23.4	3.6	1.7	2.7	15,162
Kalulushi								
- Total	47.8	85.8	61.8	15.8	3.6	2.1	-	15,629
- Male	46.2	86.4	70.1	21.9	4.4	2.4	-	8,901
- Female	49.4	85.2	53.8	10.1	3.0	1.8	-	6,728
Kitwe								
- Total	46.6	87.5	64.3	18.5	4.6	2.5	9.8	76,966
- Male	45.7	88.5	72.4	25.1	5.8	2.6	10.5	44,098
- Female	47.6	86.4	56.7	12.5	3.4	1.8	8.5	32,868
Luanshya								
- Total	47.4	88.6	65.0	17.7	5.3	2.0	2.2	31,559
- Male	46.2	89.0	73.4	24.3	7.3	2.4	3.9	17,879
- Female	48.7	88.3	57.0	11.3	3.4	1.5	-	13,680
Mufutsa								
- Total	51.2	87.9	65.9	18.2	4.7	2.0	10.2	32,574
- Male	50.0	88.2	74.3	25.9	5.9	2.3	12.8	18,208
- Female	52.4	87.6	58.1	11.3	3.5	1.6	7.6	14,366
Ndola Rural								
- Total	29.4	63.6	37.3	8.3	2.5	1.2	7.4	44,762
- Male	28.5	63.4	45.5	11.4	2.7	1.5	8.0	23,021
- Female	30.2	63.8	29.7	5.2	2.2	1.0	6.7	21,741
Ndola Urban								
- Total	40.5	81.3	54.9	14.2	4.0	1.7	9.0	76,805
- Male	39.5	82.5	63.5	19.5	5.1	2.0	5.9	43,867
- Female	41.5	80.2	47.1	9.3	2.8	1.4	13.1	32,938

and 15-19 years, respectively. Proportions of population presently attending school in age group 10-14 are high. This could be a result of the existing government policy of offering free education to both boys and girls at least up to primary level. After this age group, proportions decrease with increasing age. There are no large differences between the districts of Copperbelt Province. The only exception is Ndola Rural District with less than 70.0 percent of primary school going population aged 10-14 years and a high proportion of females 15-19 years attending school in Chingola.

Figure 5.3

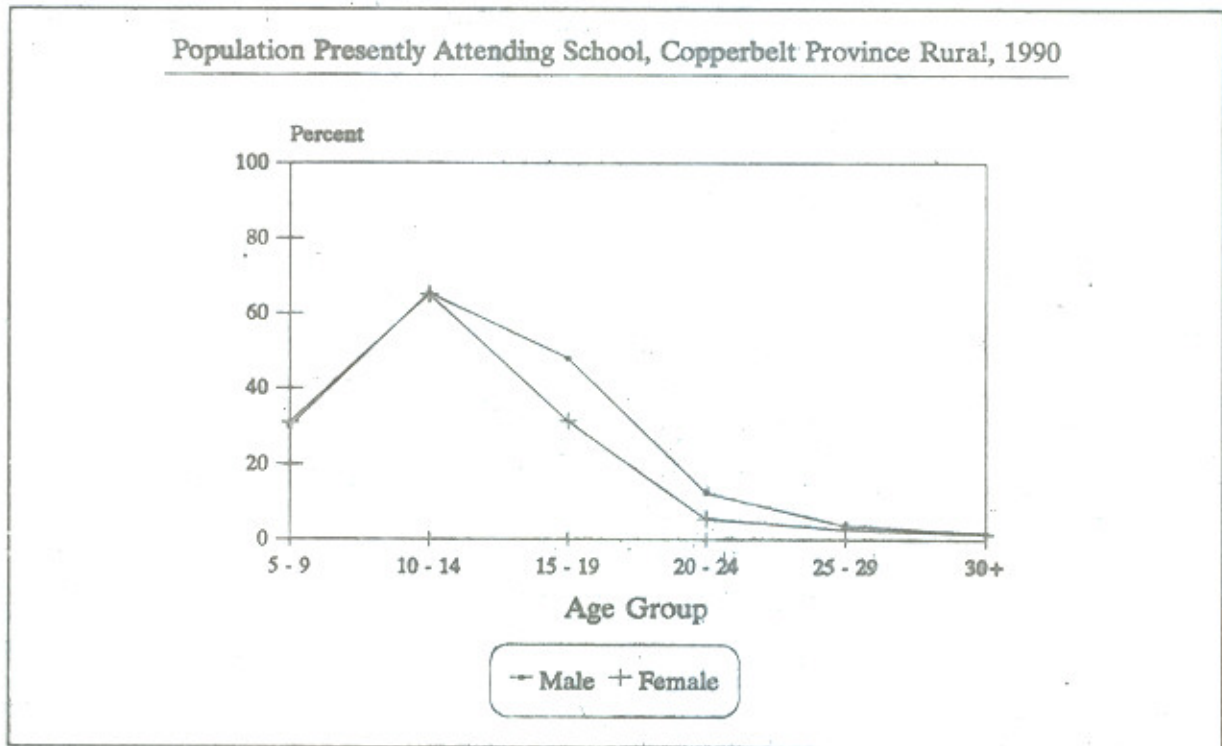
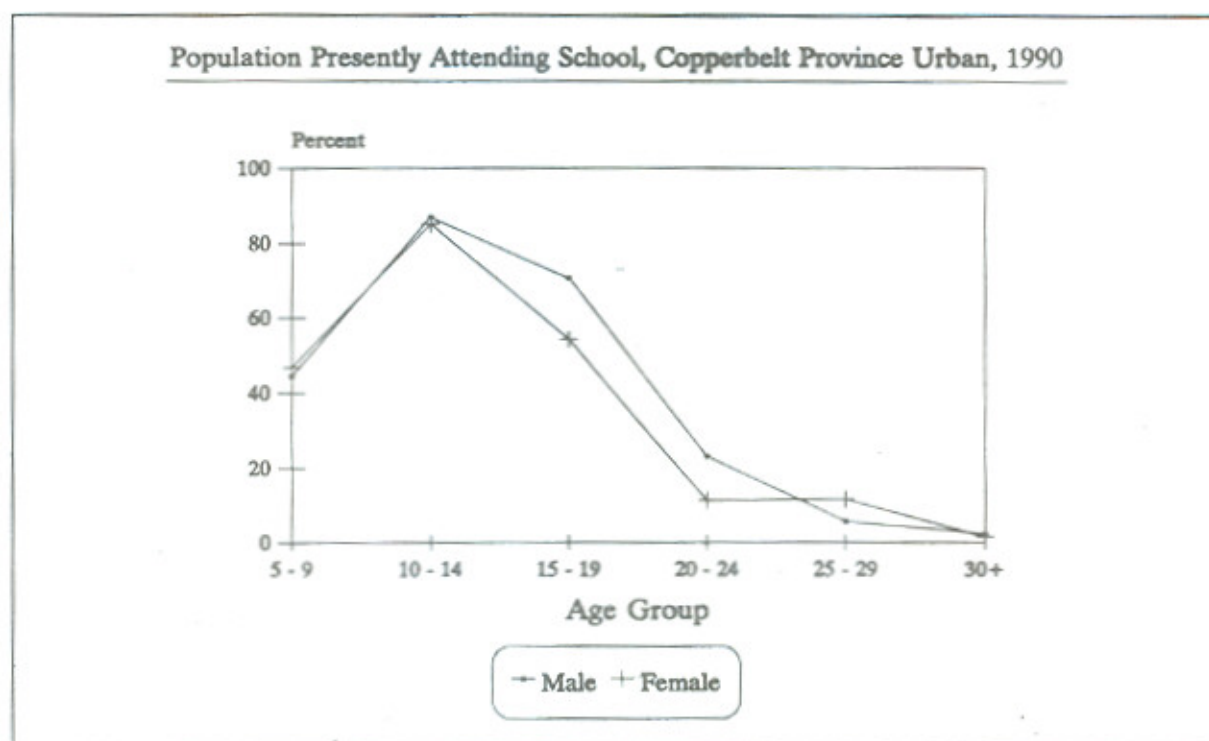


Figure 5.4



A comparative analysis of attendance ratios from the 1980 (Table 5.3) and 1990 (Table 5.2) Censuses shows a substantial increase of children aged 5-9 years who are enrolled in primary schools in 1990. The school attendance ratio nearly doubled from 22.3 percent in 1980 to 43.6 percent in 1990. The school attendance ratio of males increased from 21.6 percent in 1980 to 42.5 percent in 1990. Similarly, the ratio for females increased from 23.1 percent in 1980 to 44.6 percent in 1990. However, the ratio for those aged 10-14 years have stagnated at around 83 percent. The school attendance ratio for rural areas is about 65 percent.

The ratio for urban areas is about 86 percent. Colleges and other institutions of learning seem to have increased their intakes during the 1980-1990 intercensal period. This is shown by an increase from 10 to 15.8 percent for persons 20-24 years old. The increase is particularly pronounced for females, where the ratio increased from 3.9 to 10.8 percent. Rural and urban areas exhibit similar differentials over the ten year period.

Table 5.3

Population Presently Attending School by Sex, Age and Residence, (Percent) Copperbelt Province 1980

Residence/Sex	Age Group					
	5-9	10-14	15-19	20-24	25+	Not Stated
<b>Copperbelt Province</b>						
- Total	22.3	83.0	53.6	10.0	1.2	3.5
- Male	21.6	83.9	65.7	16.9	1.6	4.3
- Female	23.1	82.0	42.3	3.9	0.7	2.5
<b>Residence</b>						
<b>Rural</b>						
- Total	16.3	65.3	35.7	5.3	0.6	3.2
- Male	16.2	66.3	49.5	9.4	0.8	4.1
- Female	16.5	64.2	23.2	1.6	0.3	2.2
<b>Urban</b>						
- Total	23.6	86.2	57.1	10.9	1.4	3.6
- Male	22.7	87.3	68.8	18.3	1.8	4.3
- Female	24.4	85.2	46.0	4.3	0.8	2.7

Table 5.4 shows the presently attending school population by level of education completed. Overall, 75.6 percent of population in 1990 completed primary education. The rates for males and females were 74.0 and 77.4 percent, respectively. The effect of age-grade mismatch is high at age groups 20-24 and 25-29 years where 44.6 and 48.2 percent, respectively, of presently attending school population completed grades 10-12. These persons are supposed to be in either college or university by the age of 20 years. The same pattern exists for both males and females at provincial level and in the urban areas. Rural areas have lower rates for the age groups 20-24 and 25-29 years for both males and females.

Table 5.4

Population (5 Years and Older) Presently Attending School by Age, Sex, Level of Education Completed and Residence, (Percent), Copperbelt Province, 1990

Residence and Age Group		Education Level Completed						Size
		1-4	5-7	8-9	10-12	'A' Level	Degree	
<b>Copperbelt Province Both Sexes</b>								
Total		42.1	33.5	9.9	6.1	0.0	0.0	399,713
5-9		74.8	0.0	-	-	-	-	87,391
10-14		56.6	37.7	1.3	-	-	-	167,132
15-19		5.9	56.8	26.4	8.5	0.0	-	111,260
20-24		3.1	19.7	29.8	44.6	0.3	0.0	23,126
25-29		5.8	28.0	13.3	48.2	0.6	0.3	4,561
30+		13.5	28.2	10.8	38.4	0.5	0.2	6,146
Not Stated		32.0	29.9	9.3	15.5	-	-	97
<b>Female</b>								
Total		43.9	33.5	9.3	4.6	0.0	0.0	191,827
5-9		75.3	0.0	-	-	-	-	45,594
10-14		54.8	39.4	1.4	0.0	-	-	84,668
15-19		5.0	55.6	28.3	8.7	0.0	-	49,719
20-24		4.4	22.8	28.0	41.9	0.2	-	7,911
25-29		9.0	17.3	12.5	35.8	0.2	0.1	1,781
30+		19.3	34.1	11.1	21.1	0.2	0.2	2,112
Not Stated		33.3	33.3	7.1	14.3	-	-	42
<b>Male</b>								
Total		40.5	33.5	10.5	7.5	0.0	0.0	207,884
5-9		74.3	0.0	-	-	-	-	41,797
10-14		58.4	35.9	1.2	0.0	-	-	82,464
15-19		6.5	57.9	24.9	8.3	-	-	61,541
20-24		2.5	18.1	30.7	46.0	0.3	0.0	15,215
25-29		3.7	22.1	13.8	56.2	0.9	0.4	2,780
30+		10.4	25.1	10.7	47.4	0.7	0.3	4,034
Not Stated		30.9	27.3	10.9	16.4	0.0	0.0	55
<b>Rural</b>								
<b>Male</b>								
Total		46.7	33.0	6.9	3.6	0.0	0.0	21,233
5-9		74.0	0.0	-	-	-	-	4,070
10-14		64.2	28.1	0.6	-	-	-	9,173
15-19		13.8	62.4	15.9	3.8	-	-	6,038
20-24		6.1	30.6	30.2	28.9	-	-	1,191
25-29		6.4	42.1	18.0	27.8	-	0.4	266
30+		19.6	35.8	9.4	24.0	0.4	0.2	480
Not stated		53.3	20.0	6.7	6.7	-	-	15
<b>Female</b>								
Total		51.6	30.4	5.4	1.9	0.0	0.0	18,228
5-9		76.1	0.0	-	-	-	-	4,310
10-14		62.3	30.3	0.7	-	-	-	8,773
15-19		11.9	61.2	18.6	3.8	-	-	4,091
20-24		11.6	34.7	23.8	22.9	-	-	559
25-29		15.1	47.8	9.1	18.8	0.5	-	186
30+		27.7	29.7	4.0	7.9	-	0.3	303
Not stated		16.7	33.3	16.7	-	-	-	6
<b>Urban</b>								
<b>Male</b>								
Total		39.8	33.5	10.9	8.0	0.1	0.0	186,653
5-9		74.3	0.0	-	-	-	-	37,727
10-14		57.7	36.9	1.3	0.0	-	-	73,291
15-19		5.7	57.4	25.9	8.8	0.0	-	55,503
20-24		2.2	17.0	30.7	47.5	0.3	0.0	14,024
25-29		3.4	20.0	13.3	59.2	1.0	0.4	2,514
30+		9.2	23.6	10.9	50.6	0.7	0.3	3,554
Not Stated		22.5	30.0	12.5	20.0	-	-	40
<b>Female</b>								
Total		43.1	33.8	9.7	4.8	0.0	0.0	173,599
5-9		75.2	0.0	-	-	-	-	41,284
10-14		54.0	46.4	1.5	0.0	-	-	75,895
15-19		4.4	55.1	29.1	9.1	0.0	-	45,628
20-24		3.8	21.9	28.3	43.4	0.2	-	7,352
25-29		8.3	36.1	12.9	37.7	0.2	0.1	1,595
30+		17.9	35.0	12.3	23.3	0.2	0.2	1,809
Not Stated		36.1	33.3	5.6	16.7	-	-	36

Percentages derived from the 1980 Census in Table 5.5 show the same trend as those established from the 1990 Census. Results from the 1980 Census have shown that those who completed grades 1-7 were 84.1 percent. The corresponding percentage for males and females are 82.1 and 86.5 percent, respectively. Rural and urban areas have overall percentages of above 80.0 percent. Over 85 percent of the population 5-14 years has completed primary school grades 1-7. At secondary school level, between 30.0 and 35.0 percent of persons 15-19 reported to have completed a secondary school grade. Over half of the population in age group 20-24 in 1980 were reported to have completed a secondary school grade.

Table 5.5

Population (5 Years and Older) Presently Attending School by Age Sex, Level of Educational Completed and Residence (Percent), Copperbelt Province, 1980

Residence and Age Group		Education Level Completed						
		1-4	5-7	8-9	10-12	'A' Level	Degree	Not Stated
<b>Copperbelt Province Both Sexes</b>								
Total		51.4	32.7	7.6	5.0	0.1	0.0	3.2
5-9		86.9	0.5	-	-	-	-	13.0
10-14		65.5	31.9	1.0	0.1	-	-	1.3
15-19		6.5	59.7	23.0	10.7	0.1	0.0	0.2
20-24		1.7	14.4	29.3	53.3	0.4	0.4	0.5
25+		16.6	26.4	16.1	37.4	0.7	0.9	1.9
Not Stated		49.4	28.1	8.9	7.1	-	-	6.5
<b>Male</b>								
Total		48.6	33.5	8.5	6.3	0.1	0.0	3.0
5-9		86.2	0.5	-	-	-	-	13.3
10-14		66.7	31.1	0.8	0.1	-	-	1.4
15-19		7.5	60.5	21.7	9.1	0.1	0.0	0.3
20-24		1.5	14.0	30.4	53.0	0.3	0.4	0.4
25+		12.6	24.1	16.1	43.9	0.6	1.1	1.6
Not Stated		42.3	31.8	10.5	9.0	-	-	6.4
<b>Female</b>								
Total		54.7	31.8	6.6	3.6	0.0	0.0	3.3
5-9		87.7	0.4	-	-	-	-	12.8
10-14		64.3	32.7	1.2	0.1	-	-	1.2
15-19		5.0	58.6	24.9	11.8	0.1	0.0	0.2
20-24		2.9	16.2	24.5	54.5	0.7	0.3	0.9
25+		25.7	31.8	16.1	32.2	0.9	0.5	2.8
Not Stated		64.1	20.5	5.6	3.1	-	-	6.7
<b>Rural</b>								
<b>Male</b>								
Total		55.6	31.6	5.5	4.2	0.8	-	3.1
5-9		87.6	0.5	-	-	-	-	11.9
10-14		72.5	25.1	0.4	0.0	-	-	2.0
15-19		15.4	63.0	14.0	7.1	0.0	-	0.5
20-24		3.8	23.8	27.3	44.4	0.3	-	0.4
25+		18.3	25.0	26.2	28.7	1.2	-	0.6
Not stated		63.2	27.2	0.9	2.6	-	-	6.1
<b>Female</b>								
Total		63.2	28.0	3.7	1.6	0.0	-	3.5
5-9		88.6	0.2	-	-	-	-	11.2
10-14		70.5	27.0	0.7	0.1	-	-	1.7
15-19		12.9	63.0	17.2	6.7	0.1	-	0.2
20-24		9.2	33.8	18.5	37.7	-	-	0.8
25+		42.9	37.1	4.3	8.6	-	-	7.1
Not stated		70.5	18.0	3.3	1.6	-	-	6.6
<b>Urban</b>								
<b>Male</b>								
Total		47.6	32.4	9.0	6.6	0.0	0.0	2.9
5-9		86.0	-	-	-	-	-	13.5
10-14		65.9	29.1	0.9	0.1	-	-	1.3
15-19		6.4	60.2	22.8	10.3	0.1	0.0	0.2
20-24		1.2	13.0	30.7	53.9	0.3	0.4	0.4
25+		11.8	24.0	14.6	46.0	0.5	1.3	1.7
Not Stated		33.9	33.6	14.3	11.5	-	-	6.6
<b>Female</b>								
Total		53.6	32.3	7.0	3.8	0.0	0.0	3.3
5-9		86.6	0.5	-	-	-	-	13.0
10-14		63.8	33.7	1.2	0.1	-	-	1.2
15-19		4.3	57.4	25.7	12.3	0.1	0.0	0.2
20-24		2.4	16.1	25.0	55.8	0.8	0.3	0.9
25+		23.1	31.9	17.8	24.1	1.0	0.6	2.2
Not Stated		61.2	5.0	6.7	3.7	-	-	6.7

## 5.5 PREVIOUSLY ATTENDED SCHOOL POPULATION

Table 5.6 presents information on the population which previously attended school. The majority of the population who were reported to have previously attended school are in age groups 20-24 and 25-29 years. The percentage of previously attended school population aged 30 years and over is high. The pattern is the same in all Copperbelt districts, rural and urban areas. Overall, the 1990 Census reveals that 46.8 percent of the previously attended school population are aged 30 years and over. Percentages for the same age group for males and females are 55.3 and 37.0 percent, respectively.

An important feature in the 1990 Census is that age group 15-19 years has a higher proportion of females than males who reported to have previously attended school. This implies that more females drop out of school as they become older as compared to their male counterparts. This situation is more pronounced in rural than in urban areas. The proportion of females aged 15-19 years who reported that they previously attended school is 19.8 percent in rural areas as compared to 15 percent in urban areas. Percentages of males in age group 15-19 years are 10.5 and 7.4 percent in rural and urban areas, respectively. Less than 5.0 percent of those who had previously attended school were aged 5-14 years in all districts rural and urban areas.

Table 5.6

Population Previously Attended School by Sex, Age and Residence, Copperbelt Province, 1990

Residence and Sex	Age Group						Per 1000	Total	Sex
	5-9	10-14	15-19	20-24	25-29	30+			
Copperbelt Province									
- Total	0.6	1.9	11.4	21.1	18.1	46.8	0.1	100	498,856
- Male	0.6	1.5	7.8	17.9	16.8	55.3	0.1	100	269,585
- Female	0.7	2.3	15.6	24.8	19.6	37.0	0.1	100	229,271
Residence									
Rural									
- Total	0.8	3.1	14.4	19.6	16.3	43.6	0.1	100	43,650
- Male	0.6	2.6	10.5	17.6	15.8	52.8	0.1	100	36,646
- Female	1.0	3.9	19.8	22.4	17.1	35.8	0.1	100	27,004
Urban									
- Total	0.6	1.7	11.0	21.3	18.3	27.0	0.1	100	435,206
- Male	0.6	1.4	7.4	18.0	16.9	55.7	0.1	100	232,939
- Female	0.6	2.1	15.0	25.2	20.0	37.1	0.1	100	202,267
Districts									
Chililabombwe									
- Total	0.5	1.9	11.0	22.8	18.7	44.9	0.1	100	19,659
- Male	0.4	1.6	7.2	20.5	16.9	53.3	0.1	100	10,901
- Female	0.7	2.3	15.7	25.7	21.0	34.6	0.1	100	8,758
Chingola									
- Total	0.5	1.6	10.8	21.5	18.6	46.9	0.0	100	53,310
- Male	0.5	1.3	7.0	18.0	17.7	53.4	0.1	100	28,914
- Female	0.6	1.9	15.2	25.7	19.8	36.9	0.0	100	24,396
Kalulushi									
- Total	0.5	1.7	11.3	20.9	18.3	47.2	0.1	100	24,073
- Male	0.5	1.4	7.7	17.4	16.7	56.1	0.1	100	13,140
- Female	0.5	2.2	15.5	25.2	20.2	36.4	0.0	100	10,933
Kitwe									
- Total	0.6	1.6	10.3	23.3	17.7	46.5	0.1	100	126,985
- Male	0.6	1.3	7.1	17.6	16.6	56.7	0.2	100	65,755
- Female	0.6	1.9	13.6	29.4	18.9	35.5	0.0	100	61,230
Luanshya									
- Total	0.6	1.7	10.8	21.1	18.3	47.4	0.0	100	50,746
- Male	0.5	1.4	7.3	18.0	17.1	55.6	0.1	100	27,236
- Female	0.7	2.0	14.9	24.7	19.6	38.0	0.0	100	23,510
Mufulira									
- Total	0.7	1.7	10.3	21.0	18.2	48.0	0.1	100	50,844
- Male	0.7	1.4	7.0	17.2	17.0	56.6	0.2	100	26,886
- Female	0.7	2.0	14.0	25.3	19.6	38.3	0.1	100	23,958
Ndola Rural									
- Total	0.8	3.2	14.6	19.8	16.4	45.1	0.1	100	50,921
- Male	0.6	2.7	10.7	18.0	16.0	51.9	0.1	100	29,013
- Female	1.0	3.8	19.8	22.2	17.0	36.1	0.1	100	21,908
Ndola Urban									
- Total	0.6	1.9	11.9	21.3	18.1	46.1	0.1	100	125,918
- Male	0.6	1.5	8.3	17.1	16.6	54.8	0.2	100	67,740
- Female	0.6	2.3	16.1	25.1	19.8	36.0	0.1	100	58,178

Table 5.7 shows that in rural areas 24.6 percent of females who had previously attended school were in age group 15-19 years as compared to 18.1 percent for urban areas by 1980. Rates for males are 10.1 and 7.6 percent for rural and urban areas, respectively. Similarly, less than 5.0 percent of both males and females are in the age group 5-9 and 10-14 years.

Table 5.7

Population Previously Attended School by Sex, Age and Residence, Copperbelt Province, 1980

Residence and Sex	Age Group						Total	Size
	5-9	10-14	15-19	20-24	25+	Not Stated		
Copperbelt Province								
- Total	0.2	1.9	12.8	23.0	60.3	1.9	100	419,480
- Male	0.1	1.4	8.0	18.3	69.6	2.5	100	238,277
- Female	0.2	2.6	19.0	29.1	48.0	1.0	100	181,203
Residence								
Rural - Total	0.3	3.2	16.0	21.8	56.4	2.4	100	65,512
- Male	0.3	2.4	10.1	18.3	66.1	2.9	100	38,999
- Female	0.3	4.4	24.6	27.1	42.0	1.6	100	26,513
Urban - Total	0.1	1.7	12.2	23.2	61.0	1.8	100	353,968
- Male	0.1	1.2	7.6	18.4	70.3	2.4	100	199,278
- Female	0.1	2.3	18.1	29.5	49.0	1.0	100	154,690

## 5.6 EVER ATTENDED SCHOOL POPULATION

Table 5.8 shows the highest level of education completed for the population, i.e. for current and past school attendances combined. The quantification of educational achievement by the population is assessed by analysing data on ever attended school population. Considering that education is free up to primary school grades 1-7, it is worth analysing the population aged 15 years and over who ever attended school. The proportion of females aged 15 years and over with no formal schooling in 1990 was 23.6 percent, which is high compared to males whose proportion is 12.5 percent.

The percentage of persons 45 years and older and with no formal schooling is high (42.5 percent). In this age group, 66.2 percent of females have no schooling as compared to 27.1 percent for males. The existence of functional literacy programmes after the attainment of independence in 1964 could have benefitted males more than females. Another reason could be that males are more willing to enrol in functional literacy programmes than females. Hence, there are fewer males with no formal schooling. This situation has remained more or less the same since 1980, see figures 5.5 and 5.6.

Table 5.8

Population (15 Years and Above) by Highest Level of Education Completed, Sex and Age Group, (Percent), Copperbelt Province, 1990

Age Group	Sex	Total Population	Highest Level Completed						
			No Schooling	Grade 1-4	Grade 5-7	Grade 8-9	Grade 10-12	A'Level Degree	Not Stated
15+	Both	768,340	17.9	8.7	36.4	14.4	21.0	0.2	1.4
	Male	396,800	12.5	8.3	34.8	15.0	27.5	0.4	1.5
	Female	371,540	23.6	9.1	38.0	13.7	14.0	0.1	1.5
15-19	Both	188,493	10.8	7.0	53.3	20.5	6.4	0.1	1.9
	Male	91,199	9.3	7.4	54.3	20.1	6.8	0.0	2.0
	Female	97,294	12.3	6.7	52.4	20.8	6.0	0.0	1.8
20-24	Both	145,935	12.0	4.3	37.0	22.4	23.1	0.1	1.1
	Male	70,273	9.6	3.5	33.4	24.7	27.4	0.1	1.3
	Female	75,662	14.3	5.0	40.3	20.4	19.0	0.0	1.0
25-29	Both	108,290	12.5	4.7	34.6	11.2	35.7	0.3	1.0
	Male	52,529	8.7	3.2	28.1	12.3	46.3	0.4	1.0
	Female	55,761	16.1	6.2	40.7	10.1	25.7	0.1	1.0
30-44	Both	207,218	17.1	8.9	28.9	10.2	33.0	0.5	1.4
	Male	110,984	9.3	5.8	25.1	11.2	46.8	0.7	1.1
	Female	96,234	26.1	12.6	33.4	9.1	17.2	0.3	1.4
45+	Both	118,404	42.5	20.1	23.2	4.7	7.0	0.5	2.0
	Male	71,815	27.1	21.9	31.4	6.8	10.1	0.8	1.9
	Female	46,589	66.2	17.3	10.4	1.6	2.2	0.2	2.1

Figure 5.5

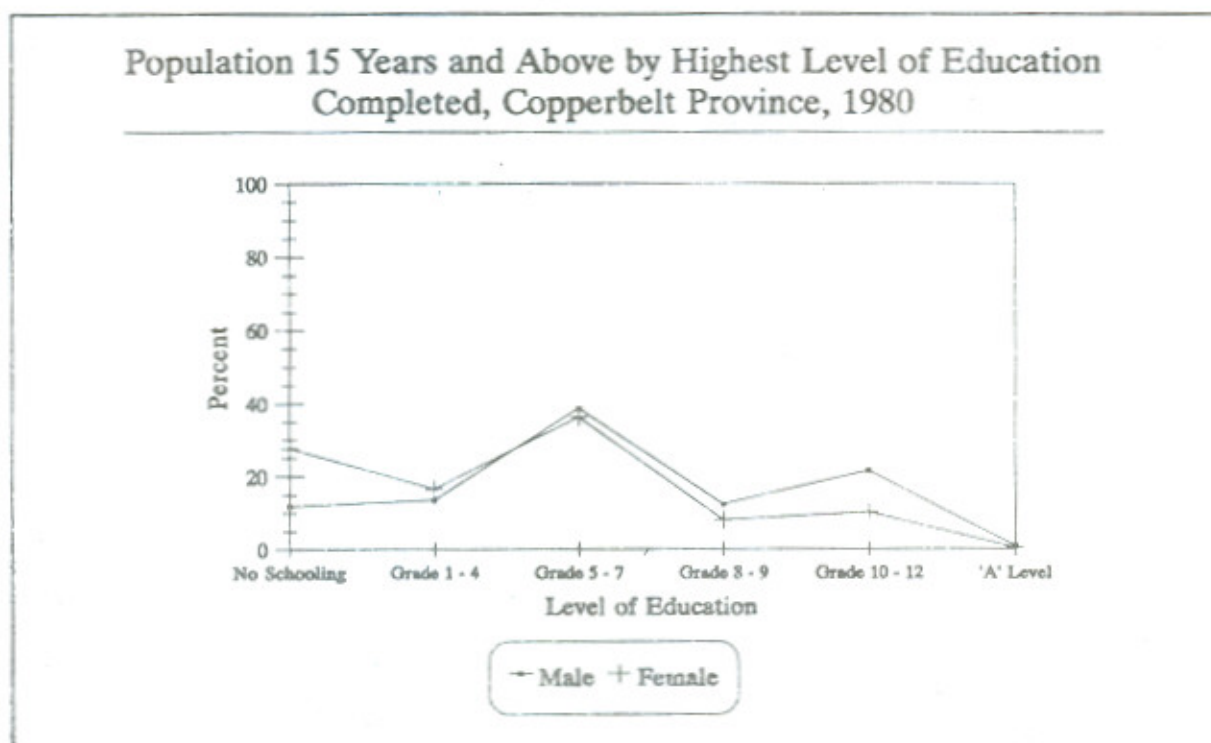
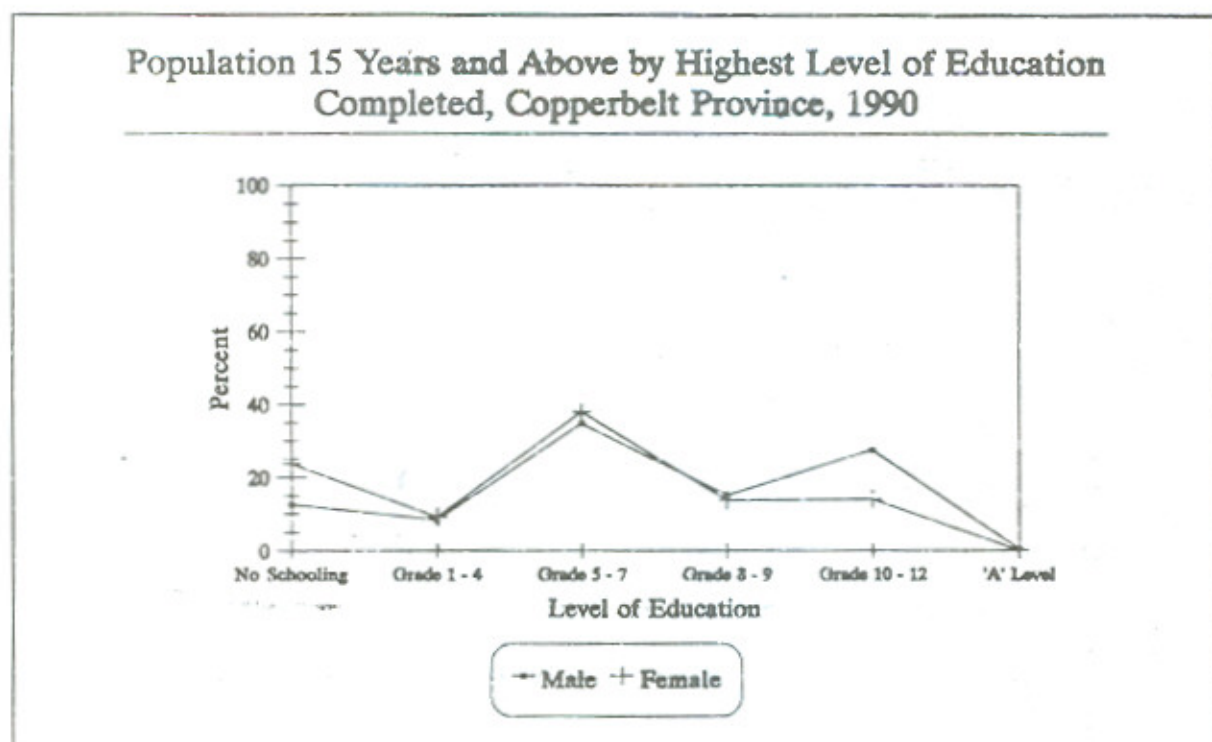


Figure 5.6



Assessment of the highest level of education completed shows that the majority of individuals have completed upper primary school level (grades 5-7). The higher percentages of completion of upper primary school level for females than males could imply lower progression rates from grade 7 to grade 8 for females than males. This is shown by high proportions of completion for males at grades 8-9 and 10-12 compared to those of females. At age group 15-19 years, the proportions of completion for both males and females are nearly the same. However, males recorded higher proportions at grades 8-9 and 10-12 in ages between 20 and 44 years. Attainment of 'A' level and degree qualifications is low due to a very limited number of university or college places for the eligible grade 12 pupils.

The proportions completing primary and secondary grades according to the 1980 and 1990 Censuses are not very different, see Tables 5.8 and 5.9. Overall, 37.5 percent completed grades 5-7 in 1980 and 36.4 percent in 1990. At secondary school level, 26.4 percent completed grades 8-12 in 1980 while 0.7 percent of the population completed 'A' and degree levels. Differences exist when males and females are analysed separately. Results from the 1980 Census show that, 38.6 percent of males completed grades 5-7 as compared to 36.2 percent for females. Similarly, the percentages of males and females who completed secondary school grades 8-12 recorded 33.7 and 18.3 percent, respectively. Age-sex differences are equally pronounced at the age groups starting at 20 years. There are more females who completed grades 5-7 as compared to their male counterparts. At secondary school level, there are more males than females who completed grades 8-12.

Table 5.9

Population (15 Years and Above) by Highest Level of Education Completed by Sex and Age Group, (Percent), Copperbelt Province, 1980

Age Group	Sex	Total Population	Highest Level Completed						
			No Schooling	Grade 1-4	Grade 5-7	Grade 8-9	Grade 10-12	A' Level	Not Stated
15+	Both	608,531	19.2	14.9	37.5	10.3	16.1	0.7	1.3
	Male	322,061	11.8	13.5	38.6	12.3	21.4	0.9	1.5
	Female	286,470	27.6	16.5	36.2	8.1	10.2	0.4	1.0
15-19	Both	133,863	6.4	9.6	59.1	14.8	9.6	0.1	0.4
	Male	64,664	4.8	9.2	60.1	15.8	9.6	0.1	0.4
	Female	69,199	7.8	9.9	58.2	14.0	9.6	0.1	0.4
20-24	Both	118,112	8.2	8.3	43.8	10.3	28.4	0.3	0.7
	Male	55,573	4.4	4.8	39.2	11.7	38.7	0.4	0.8
	Female	62,539	11.6	11.5	47.8	9.3	19.1	0.2	0.7
25-44	Both	261,588	20.9	17.4	30.1	10.5	18.5	1.2	1.4
	Male	139,430	8.9	12.4	33.6	14.2	27.6	1.6	1.7
	Female	122,158	34.8	23.0	26.1	6.2	8.1	0.7	1.1
45+	Both	94,968	46.2	23.9	19.9	3.5	3.7	0.8	2.0
	Male	62,394	31.9	28.1	27.3	4.9	4.6	0.9	2.3
	Female	32,574	73.6	15.8	5.9	0.8	1.9	0.5	1.5

## 5.7 SELECTED FIELDS OF STUDY

The selected fields of study represent 55.5 percent of the total male population with professional/vocational training. Similarly, 66.7 percent of females are in the selected fields of study out of the total female population with professional/vocational training. Overall, 42,696 males and 19,768 females have professional/vocational training in the Copperbelt Province.

Most of the professionals in the selected fields of study have attended senior secondary grades 10-12 regardless of sex. Persons having completed grades 1-7 and with training in the field of engineering may be in possession of crafts certificates. Shifts in educational level completed cannot be established because the information was not collected in the 1969 and 1980 Censuses. The common fields of study undertaken by males are engineering, teacher training, accountancy and business administration. In the case of females, teacher training, secretarial and nurse training are the common fields of study.

Selected Fields of Study by Level of Education Completed, (Percent), Copperbelt Province, 1990

Field of Study	Size	Total	Level of Education Completed					
			1-7	8-9	10-12	'A' Level	Degree	Not Stated
<b>Males</b>								
Electronic Engineering	2,752	100	9.2	5.5	79.8	1.9	1.8	1.8
Mechanical Engineering	4,429	100	12.9	7.9	73.9	2.0	1.3	2.0
Mining Engineering	1,119	100	12.2	4.6	72.8	4.6	3.9	1.9
Industrial Engineering	826	100	35.1	10.7	49.1	1.7	0.7	2.7
Medicine and Surgery	425	100	9.6	4.9	74.1	4.5	4.7	2.2
Pharmacy	461	100	5.4	0.9	86.5	0.7	1.3	5.2
Nursing	176	100	9.0	5.7	81.2	0.7	1.7	1.7
Economics	254	100	6.7	3.2	79.5	5.5	3.5	1.6
Accountancy	3,498	100	5.3	3.7	86.1	2.7	0.7	1.5
Teacher Training	4,459	100	7.4	10.7	78.0	1.8	0.7	1.4
Law/Jurisprudence	556	100	14.6	7.0	72.8	3.2	1.1	1.3
Business Administration	2,240	100	9.3	6.5	78.8	2.5	0.8	2.1
Secretarial Training	268	100	9.3	11.2	74.6	1.5	-	3.4
Agricultural/Forestry/Fisheries	1,061	100	18.2	11.7	65.9	2.2	0.3	1.7
Woodworking	1,196	100	39.6	14.6	42.2	0.3	-	3.3
<b>Females</b>								
Electronic Engineering	54	100	11.1	1.9	77.8	5.6	1.8	1.8
Mechanical Engineering	37	100	29.7	13.5	48.6	2.7	2.7	2.7
Mining Engineering	17	100	41.2	-	47.0	-	5.9	5.9
Industrial Engineering	234	100	76.9	13.7	5.6	-	-	3.8
Medicine and Surgery	89	100	4.5	7.9	71.9	5.6	6.7	3.4
Pharmacy	175	100	4.0	1.2	81.7	2.3	1.7	9.1
Nursing	3,181	100	5.8	7.8	84.0	0.8	0.2	1.4
Economics	260	100	20.4	12.7	58.5	2.7	3.5	2.3
Accountancy	707	100	2.7	2.3	96.9	1.4	0.4	2.3
Teacher Training	4,280	100	6.4	12.1	78.1	1.3	0.4	1.7
Law/Jurisprudence	68	100	5.9	7.3	83.8	1.5	1.5	-
Business Administration	336	100	3.6	4.2	84.2	3.6	1.2	3.3
Secretarial Training	3,590	100	4.5	7.9	85.1	0.6	0.0	1.8
Agricultural/Forestry/Fisheries	138	100	10.2	6.6	79.7	1.4	0.7	1.4
Woodworking	21	100	23.8	9.5	61.9	-	-	4.8

Completion of professional or vocational training is usually achieved following the award of a certificate, diploma or degree. Considering that less than 1.0 percent of the professionals have degrees, only certificates and diplomas are considered in the analysis by completed educational level. Results from Table 5.11 show that persons with certificates tend to have completed primary and senior secondary grades. At diploma level the majority of persons with professional or vocational training have completed grades 10-12.

Table 5.11

Certificate and Diplomas by Level of Education, Sex and Rural/Urban, Copperbelt Province, 1990

	Educational Level					Size
	1-7	8-9	10-12	'A' Level	Total	
<b>Certificates</b>						
Total	17.8	12.4	69.3	0.5	100	48,276
Male	20.5	12.0	67.0	0.5	100	31,210
Female	12.9	13.2	73.5	0.4	100	17,066
<b>Rural</b>						
Total	17.8	14.5	47.3	0.4	100	3,110
Male	18.9	14.4	46.3	0.4	100	2,388
Female	14.2	14.8	50.6	0.4	100	722
<b>Urban</b>						
Total	16.4	12.3	70.8	0.5	100	45,166
Male	18.9	11.8	68.7	0.6	100	28,822
Female	11.9	13.1	74.5	0.5	100	16,344
<b>Diploma</b>						
<b>Copperbelt Province</b>						
Total	4.7	3.2	85.8	6.3	100	13,621
Male	4.9	3.1	85.8	6.2	100	11,032
Female	4.1	3.7	85.8	6.4	100	2,589
<b>Rural</b>						
Total	10.2	6.4	75.7	7.7	100	431
Male	9.5	6.9	76.8	6.8	100	364
Female	13.8	3.1	69.2	13.9	100	67
<b>Urban</b>						
Total	4.5	3.1	86.2	6.2	100	13,190
Male	4.7	2.9	86.1	6.3	100	10,668
Female	3.8	3.7	86.2	6.3	100	2,522

## 5.8 SUMMARY

Results from the 1990 Census show that 75.8 percent of the males and 66.9 percent of the females are literate in the Copperbelt Province. Data on school attendance has shown that more female pupils attend primary school than males. The situation is opposite when secondary school attendance is considered. This gives an indication that female pupils drop out of school at higher rate than males.

Assessment of the highest level of education completed shows that the majority of the population has completed upper primary school level (grades 5-7). The percentage of females who have completed these grades is higher than that for males, implying a low progression rate from grade 7 to 8 on their part.

The most common fields of study pursued by males are engineering, teacher training, accountancy and business administration. Their female counterparts have mostly pursued teacher or secretarial training, and nursing.

## CHAPTER 6

# ECONOMIC CHARACTERISTICS

## 6.1 INTRODUCTION

Information on economic characteristics is used for planning, monitoring, evaluation and formulation of policies and programs related to human resource development. Similarly, such information is used in explaining the observed level and distribution of income among individuals or households.

The 1990 Census collected data from all persons 12 years and over on the following:-

- Economic activity,
- Employment Status,
- Occupation and
- Industry.

## 6.2 WORKING-AGE POPULATION

In the 1990 Census, the working-age population is defined as persons aged 12 years and over see Table 6.1. The percentage distribution of this population by age shows that it declined with increasing age. The urban working population of the Copperbelt Province experienced a much higher increase from 1980 to 1990 (38.8 percent) than that of the rural areas (6.8 percent).

Table 6.1

Working-Age Population (12 Years and Over) by Broad Age Groups, Residence and Sex, (Percent), Copperbelt Province, 1980 and 1990

Residence, Sex and Year			Size	Total	12-19	20-24	25-29	30-59	60+	Age Not Stated
<b>Copperbelt Province</b>										
- Total	1980		717,890	100.0	32.0	16.4	12.1	34.1	2.8	2.6
	1990		908,650	100.0	34.5	16.5	12.2	33.2	3.4	0.2
- Male	1980		377,437	100.0	29.8	14.7	11.8	37.7	3.3	2.7
	1990		465,043	100.0	32.7	15.5	11.6	36.0	4.0	0.2
- Female	1980		340,453	100.0	34.5	18.2	12.5	30.1	2.3	2.4
	1990		443,607	100.0	36.5	17.5	12.9	30.2	2.7	0.2
<b>Residence</b>										
<b>Rural</b>	- Total	1980	126,145	100.0	27.2	14.4	10.0	37.7	6.4	4.3
		1990	134,751	100.0	31.7	14.6	11.1	34.8	7.6	0.2
	- Male	1980	65,685	100.0	25.8	13.6	10.0	38.5	8.0	4.1
		1990	68,618	100.0	31.0	14.3	11.0	34.3	9.2	0.2
	- Female	1980	60,460	100.0	28.8	15.3	9.9	36.8	4.7	4.5
		1990	66,133	100.0	32.5	14.9	11.2	35.2	6.0	0.2
<b>Urban</b>	- Total	1980	591,745	100.0	33.0	16.8	12.6	33.4	2.0	2.2
		1990	773,899	100.0	35.0	16.8	12.4	33.0	2.6	0.2
	- Male	1980	311,752	100.0	30.6	15.0	12.1	37.6	2.3	2.4
		1990	396,425	100.0	32.9	15.7	11.7	36.4	3.1	0.2
	- Female	1980	279,993	100.0	35.7	18.8	13.0	28.8	1.7	2.0
		1990	377,474	100.0	37.2	17.9	13.2	29.4	2.2	0.1

### 6.3 ECONOMICALLY ACTIVE POPULATION

Table 6.2 shows that the total labour force (i.e. the employed and unemployed) grew by 6.9 percent from 383,000 in 1980 to 409,237 in 1990. The female labour force increased by 12.6 percent while that of males rose by 4.9 percent. Of the total labour force in the province, about four-fifths lived in the urban and the remaining one-fifth was in the rural areas.

Table 6.2

Economically Active Population 12 Years and Over by Residence and Sex, (Percent), Copperbelt Province, 1980 and 1990

Activity and Sex	Residence							
	1980				1990			
	Total Number	Total	Rural	Urban	Total Number	Total	Rural	Urban
<b>Population</b>								
- Total	717,890	100	17.6	82.4	908,650	100	14.8	85.2
- Male	377,437	100	17.4	82.6	465,043	100	14.8	85.2
- Female	340,453	100	17.8	82.2	443,607	100	14.9	85.1
<b>Labour Force</b>								
- Total	382,727	100	19.5	80.5	409,237	100	19.3	80.7
- Male	281,132	100	19.1	80.9	294,856	100	16.9	83.1
- Female	101,592	100	20.7	79.3	114,381	100	26.5	73.5
<b>Employed</b>								
- Total	258,772	100	18.3	81.7	345,440	100	19.3	80.7
- Male	214,464	100	17.7	82.3	256,844	100	16.9	83.1
- Female	44,308	100	20.9	79.1	88,596	100	26.5	73.5
<b>Unemployed</b>								
- Total	123,955	100	22.2	77.8	63,797	100	14.4	85.6
- Male	66,668	100	23.7	76.3	38,012	100	15.1	84.9
- Female	57,287	100	20.5	79.5	25,785	100	13.2	86.8
<b>Inactive</b>								
- Total	333,986	100	15.2	84.8	476,490	100	11.7	88.3
- Male	95,339	100	11.8	88.2	159,239	100	11.3	88.7
- Female	238,647	100	16.5	83.5	317,251	100	11.9	88.1
<b>Not Stated</b>								
- Total	1,177	100	57.4	42.6	22,923	100	13.1	86.9
- Male	966	100	62.5	37.5	10,948	100	13.5	86.5
- Female	211	100	34.1	65.9	11,975	100	12.8	87.5

Figure 6.1

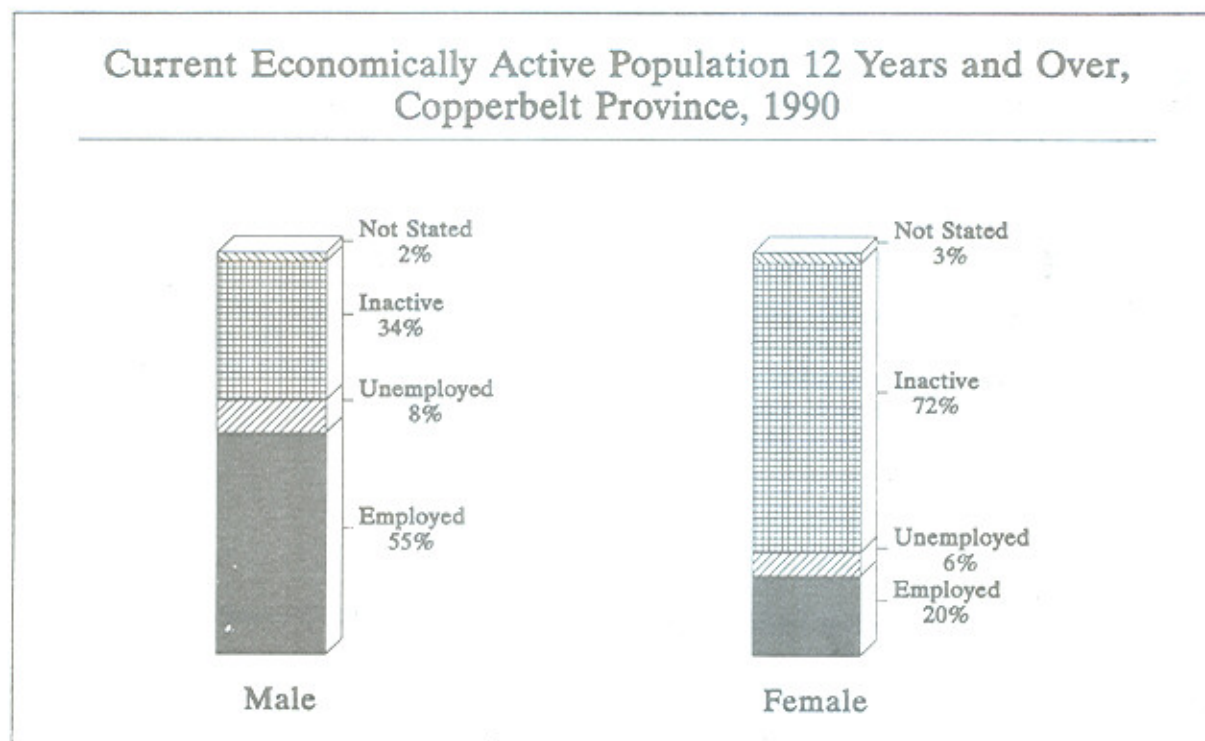
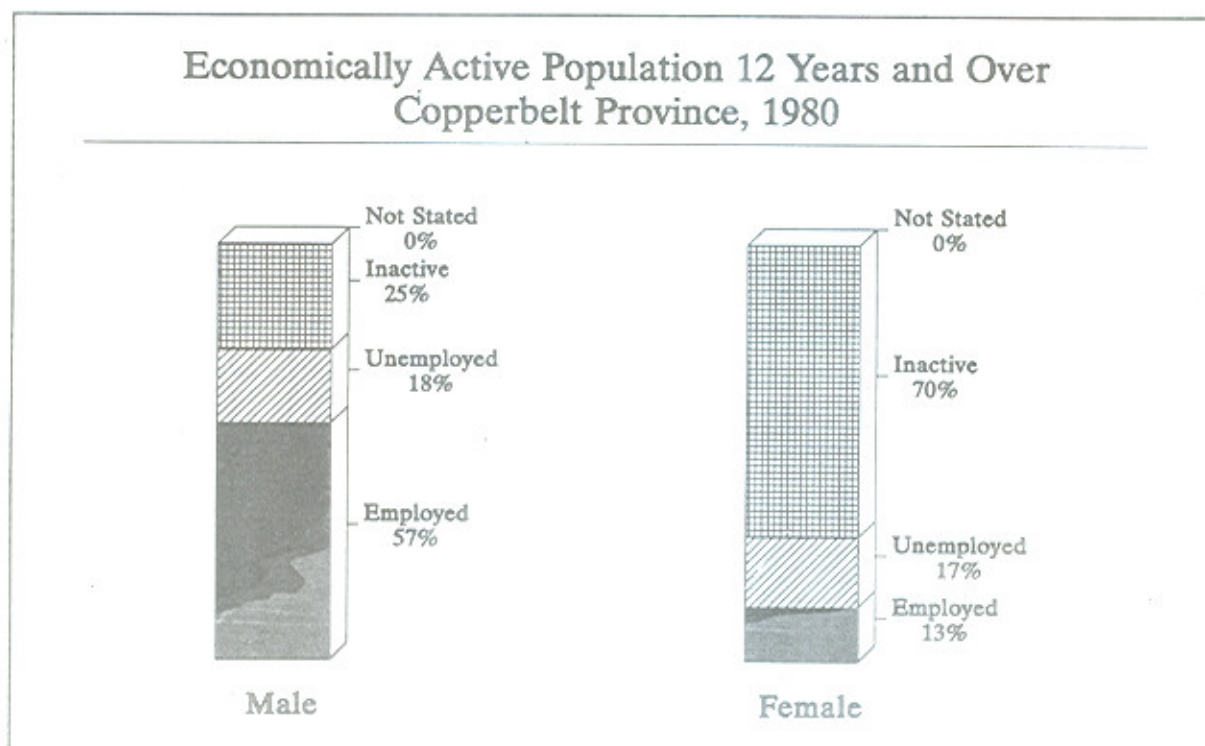


Figure 6.2



Of the total labour force of 409,237, 84.4 percent were employed. Although, the female employed population doubled from 1980 to 1990, it still remains much lower than the male employed population. Like the labour force, most of the employed persons (four-fifths) lived in urban and one fifth in rural areas. The impressive increase of the female employed population is due to increased female labour-force participation as sex barriers in employment are being removed.

The number of unemployed persons in the province declined by 48.5 percent, from 123,955 in 1980 to 63,797 in 1990. The male unemployed population declined by 43.0 percent, compared with 55.0 percent for females. The decline in unemployment was due both to the fact that many of the persons without jobs took up informal sector activities during the 1980's and that there was improved coverage of economic activities during the 1990 enumeration especially for females.

The age structure of the economically active population is given in Table 6.3. Close to half of the labour force is in the young age group of 12-29 years. Only 7.3 percent were 55 years and above. The age distribution of the employed labour force was similar to that of the total labour force. However, a different picture is shown by the unemployed labour force, of whom 81.4 percent were young persons of 12-29 years, 6.3 percent were in the 30-34 age group, 9.2 percent were in the 35-54 broad age group and only 3.0 percent were in the old age group of 55 years and above.

Table 6.3

Current Economically Active Population 12 Years and Over by Age and Sex, (Percent), Copperbelt Province 1990

Activity and Sex	Total Number	Total	Age Group							Not Stated
			12-19	20-24	25-29	30-34	35-54	55-64	65+	
<b>Labour Force</b>										
- Total	409,237	100.0	14.7	16.9	15.6	13.8	31.6	5.2	2.1	0.1
- Male	294,856	100.0	10.6	15.9	15.9	14.6	34.8	5.7	2.4	0.1
- Female	114,381	100.0	25.3	19.6	14.6	11.5	23.7	3.8	1.4	0.1
<b>Employed</b>										
- Total	345,440	100.0	11.2	13.8	15.9	15.2	35.8	5.7	2.3	0.1
- Male	256,844	100.0	8.1	13.1	16.0	15.7	38.2	6.1	2.6	0.2
- Female	88,596	100.0	20.4	15.7	15.5	13.4	28.7	4.5	1.7	0.1
<b>Unemployed</b>										
- Total	63,797	100.0	33.5	34.2	13.7	6.3	9.2	2.1	0.9	0.1
- Male	38,012	100.0	27.7	35.0	15.1	7.1	11.2	2.6	1.2	0.1
- Female	25,785	100.0	42.2	33.1	11.7	4.9	6.2	1.2	0.6	0.1
<b>Inactive</b>										
- Total	476,490	100.0	50.8	16.0	9.5	7.0	12.5	2.4	1.7	0.1
- Male	159,239	100.0	72.2	14.5	3.7	1.7	3.7	1.9	2.1	0.2
- Female	317,251	100.0	40.0	16.7	12.4	9.6	17.0	2.7	1.5	0.1
<b>Not Stated</b>										
- Total	22,923	100.0	51.1	18.3	9.4	5.4	9.4	2.8	2.5	1.1
- Male	10,948	100.0	51.1	19.5	9.7	5.4	8.5	2.1	2.5	1.2
- Female	11,975	100.0	51.1	17.2	9.0	5.4	10.3	3.3	2.5	1.1

## 6.4 ECONOMICALLY INACTIVE POPULATION

Table 6.4, shows that one third of the economically inactive population is male while two thirds were female. The main reason for male inactivity is studying on a full time basis with 60.3 percent. Similarly, the majority of females are economically inactive because of household duties (52.3 percent), followed by studying (26.0 percent). In rural areas, the most important reason for being economically inactive is home making with 40.8 percent. In urban areas, studying and home making are the common reasons, with 39.3 and 34.9 percent, respectively.

Overall, 52.4 percent of the working age population in Copperbelt Province are economically inactive in 1990. Table 6.5 shows that 88.3 percent of the economically inactive resided in urban areas and 11.7 percent in rural areas. The affected age group is 12-29 years with three quarters of them being economically inactive.

Table 6.4

Current Economically Inactive Population by Reason for Inactivity, Residence and Sex, (Percent), Copperbelt Province, 1990

Residence and Sex	Reason for Inactivity				
	Total Number	Total	Home maker	Student	Other
Residence					
- Total	476,490	100.0	35.5	37.5	27.0
- Rural	55,811	100.0	40.8	23.4	35.8
- Urban	420,679	100.0	34.9	39.3	25.8
Sex					
- Male	159,239	100.0	2.2	60.3	37.5
- Female	317,251	100.0	52.3	26.0	21.7

According to Table 6.5, 13.5 percent home makers are in rural areas compared to 86.5 percent who are in urban areas. Of the student population aged 12 years and above, 7.3 percent are in rural areas and 92.7 percent are in urban areas. The category of "other" constituted 15.5 percent in rural areas as compared to 84.5 percent in urban areas.

Table 6.5

Current Economically Inactive Population by Reason for Inactivity, Residence and Sex, (Percent), Copperbelt Province, 1990

Residence and Sex	Reason for Inactivity			
	Total	Home maker	Student	Other
Copperbelt Province				
- Total Number	476,490	169,369	178,494	128,627
- Total	100.0	100.0	100.0	100.0
Sex				
- Male	33.4	2.1	53.8	46.4
- Female	66.6	97.9	46.2	53.6

## 6.5 LABOUR FORCE PARTICIPATION RATES

The labour force participation rate (LFPR) is the proportion of persons of a particular age-group who are in the labour force. Table 6.6 gives participation rates by age, sex and residence. The overall labour force participation rate for the province declined from 53.3 percent in 1980 to 45.0 percent in 1990. For males, the rate declined from 74.5 to 63.4 percent, while for females it increased from 12.1 to 25.8 percent.

The increases for females took place in the rural areas. In the urban areas declines were registered for both sexes.

**Table 6.6**

**Current Labour Force Participation Rates by Age, Sex and Residence, (Percent),  
Copperbelt Province, 1980 and 1990**

Age-Group	Current Participation Rates (Percent)								
	Total			Rural			Urban		
	Both	Male	Female	Both	Male	Female	Both	Male	Female
1980	53.3	74.5	12.1	59.3	82.0	34.7	52.0	72.9	28.8
1990	45.0	63.4	25.8	56.3	71.5	40.6	43.1	62.0	23.2
1990 Census Age Groups									
12-19	19.2	20.6	17.8	40.1	42.6	37.7	15.9	17.0	14.8
20-24	46.3	65.0	28.9	58.9	76.2	41.6	44.4	63.2	27.1
25-29	57.4	87.1	29.3	63.3	86.2	39.9	56.4	87.3	27.7
30-34	62.0	92.8	29.7	66.4	89.8	41.0	61.3	93.2	28.1
35-39	66.0	94.6	32.6	66.6	90.7	42.4	65.9	95.1	31.1
40-44	67.7	94.6	32.3	65.3	90.8	42.0	68.2	95.1	30.2
45-49	69.7	93.8	33.6	65.7	90.1	43.3	70.5	94.4	30.8
50-54	68.4	90.9	33.9	67.5	88.8	46.4	68.6	91.4	29.1
55-59	66.0	86.2	34.1	68.6	86.8	46.7	65.0	86.0	28.1
60-64	59.8	79.3	31.1	66.3	83.1	44.3	56.8	77.7	24.4
65+	50.4	66.2	25.1	60.6	73.3	37.6	44.8	61.9	18.9
Age Not Stated	36.2	50.4	17.4	32.4	39.4	25.0	37.0	52.5	15.6

Figure 6.3

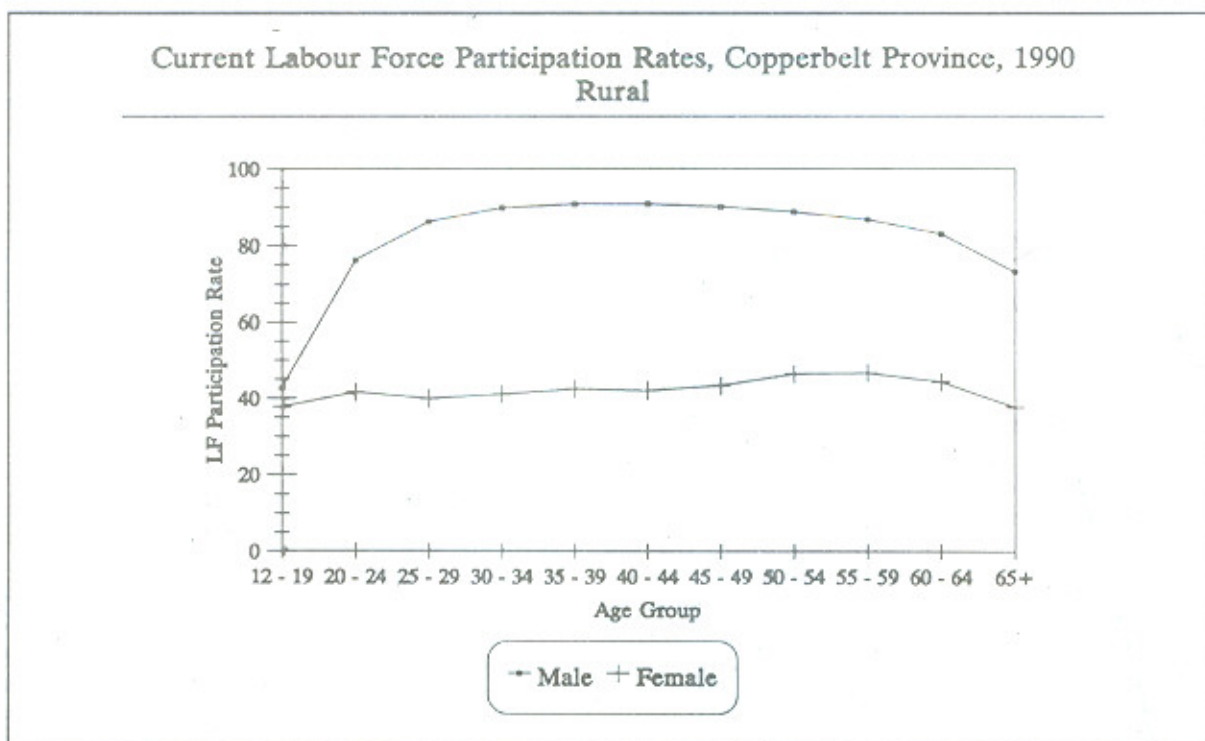
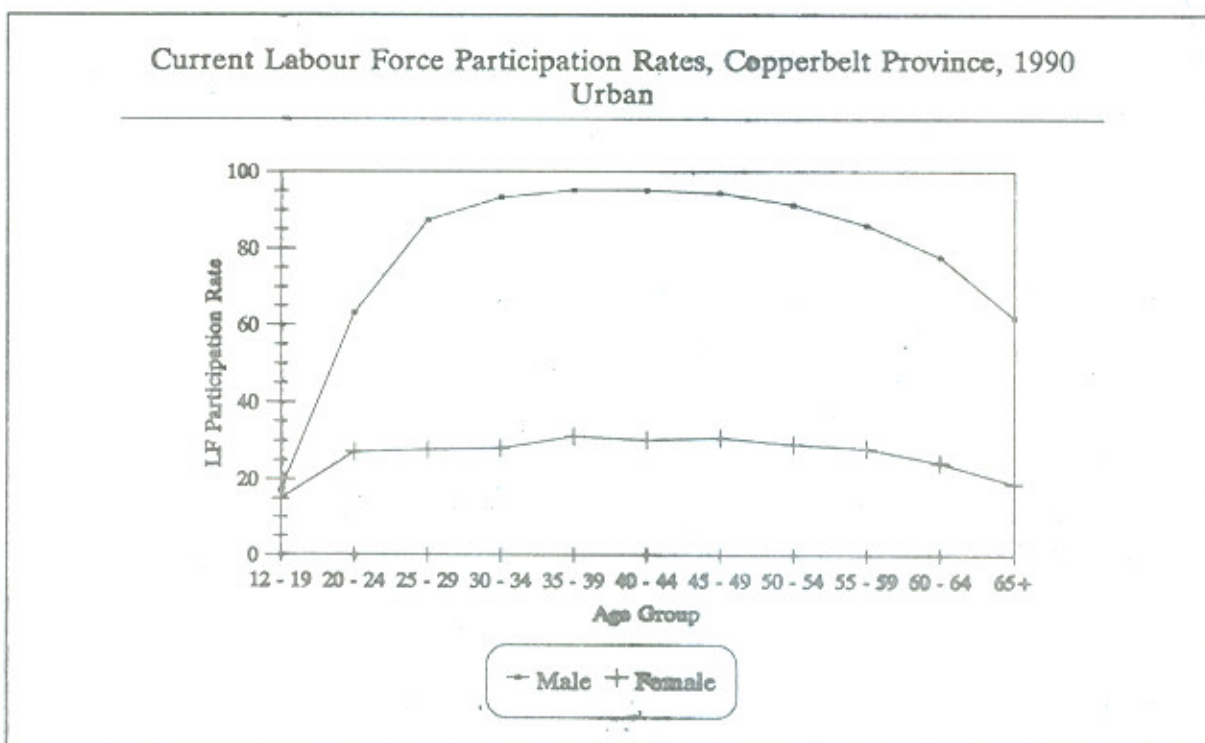


Figure 6.4



In rural areas, participation rates declined from 59.3 to 56.3 percent in 1980 and 1990, respectively. In the case of urban areas, participation rate declined from 52.0 to 43.1 percent during the same period. Male participation rates declined in both rural and urban areas. Female participation rates declined in urban areas but rose in rural areas. The male participation rate in 1990 was higher (63.4 percent) than that of females (25.8 percent). It was also higher than that of females at every age group for the whole province, in rural and in urban areas. The gap between male and female participation rates has become substantially smaller during the 1980's. In 1980 the LFPR was 6 times higher for males than for females, whereas in 1990 it was only 2.5 times as high.

The participation rates by age show an upward trend from 19.2 percent for the young age group 12-19 years, reaching a peak of 69.7 percent for the adult age group 45-49 years, and then dropped to 50.4 percent for the old age group 65 years and over. The rates are almost constant over age range 25-54 for males (around 90 percent) and 20-59 for females (around 30 percent).

## 6.6 EMPLOYMENT STATUS

Persons in the labour force are engaged in various economic activities. To achieve good economic performance, the skills of the people engaged in these economic activities ought to conform to the desired levels. To this effect, there will be managers or owners and workers to accomplish a set of targets in a work environment.

The general employment status of the economically active population is discussed by analysing the different categories of employment status, namely self-employed, employee, employer and unpaid-family worker. Table 6.7 shows the employment status by sex and residence of the usually working population 12 years and over for Copperbelt Province for 1980 and 1990. From the table, it can be observed that the majority of the people classified as usually working are either employees or self-employed. Employees accounted for 74.7 percent and self-employed for 22.6 percent in 1980. In 1990, the proportion of employees had declined to 57.9 percent whereas the self-employed remained at 22.6 percent. It should be noted that for Copperbelt Province for both 1980 and 1990, it is far more common to be employed in the urban than in rural areas. Specifically, employees registered 82.1 and 66.7 percent in 1980 and 1990, respectively, for urban areas compared to 42.0 and 20.1 percent for rural areas during the same periods.

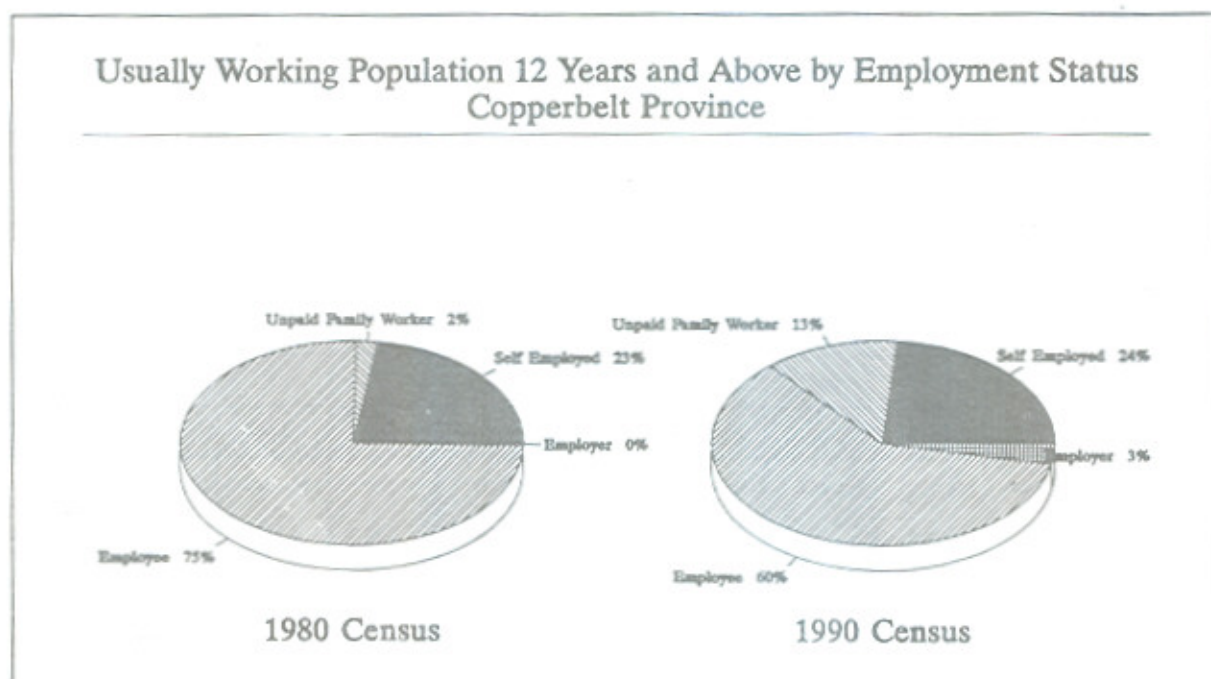
It is considerably more common to be employed for males than for females, although there was some decline from 1980 to 1990. The proportion of males who are employers remains at a low level, but increased from 0.4 percent in 1980 to 3.1 percent in 1990. A substantial proportion of females are unpaid family workers, particularly in rural areas. The sharp increase from 1980 to 1990 from 7.3 to 26.2 percent may, however, be, at least partly, be explained by differences in enumeration procedures.

Table 6.7

Usually Working Population 12 Years and Over by Employment Status, Sex and Residence, (Percent), Copperbelt Province, 1980 and 1990

Employment Status and Sex	Residence and Year					
	Total		Rural		Urban	
	1980	1990	1980	1990	1980	1990
Total Number						
- Total	258,772	323,338	47,256	61,112	211,516	262,226
- Male	214,484	244,588	38,007	40,195	176,457	204,393
- Female	44,308	78,750	9,249	20,917	35,059	57,833
Total						
- Total	100.0	100.0	100.0	100.0	100.0	100.0
- Male	100.0	100.0	100.0	100.0	100.0	100.0
- Female	100.0	100.0	100.0	100.0	100.0	100.0
Self-Employed						
- Total	22.6	22.6	48.2	33.2	16.8	20.2
- Male	17.4	19.2	46.4	34.9	11.1	16.1
- Female	47.5	33.2	55.3	29.8	45.4	34.5
Employee						
- Total	74.7	57.9	42.0	20.1	82.1	66.7
- Male	81.0	66.1	48.7	27.6	88.0	73.7
- Female	44.4	32.6	14.6	5.8	52.2	42.3
Employer						
- Total	0.4	3.1	0.4	1.3	0.4	3.5
- Male	0.4	3.5	0.5	1.7	0.4	3.9
- Female	0.3	1.7	0.1	0.6	0.4	2.1
Unpaid-Family Worker						
- Total	2.0	12.3	9.2	42.8	0.4	5.1
- Male	0.9	7.8	4.2	33.5	0.2	2.7
- Female	7.3	26.2	29.6	60.6	1.5	13.7
Not Stated						
- Total	0.3	4.1	0.2	2.6	0.3	4.5
- Male	0.3	3.4	0.2	2.3	0.3	3.7
- Female	0.5	6.3	0.4	3.2	0.5	7.4

Figure 6.5



## 6.7 WORKING POPULATION BY OCCUPATION

The fact that the dominant economic activities in the province are non-agricultural is reflected by the prominence of both white and blue collar non-agricultural occupations, see Table 6.8. The most common occupation among males in 1990 is production and related workers (23.1 percent) and among women "agriculture and related occupations" and "sales workers" (20.9 percent and 21.3 percent, respectively).

**Table 6.8**

Usually Working Population By Occupation, Sex and Residence, (Percent), Copperbelt Province, 1990

Occupation	Percentage of Working Population								
	Total			Rural			Urban		
	Both	Male	Female	Both	Male	Female	Both	Male	Female
Total Number of Workers	323,338	244,588	78,750	61,112	40,195	20,917	262,226	204,393	57,833
Total (%)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Professional, Technical	11.1	10.5	12.9	2.6	2.8	2.2	13.1	12.0	16.8
Administrative and Manag.	1.0	1.1	0.4	0.2	0.2	0	1.1	1.3	0.5
Clerical and Related	4.5	3.6	7.4	0.5	0.6	0.4	5.4	4.2	9.9
Sales Workers	11.8	8.8	21.3	3.8	3.6	4.0	13.7	9.8	27.6
Service Workers	9.5	10.7	6.0	3.0	3.6	1.8	11.1	12.1	7.5
Agriculture, Animal Hus.	15.7	14.0	20.9	58.3	56.7	61.5	5.7	5.6	6.1
Production and Related	23.1	28.7	5.6	7.8	10.5	2.7	26.6	32.3	6.7
Unclassified	3.2	2.9	4.2	3.2	2.8	3.8	3.3	2.9	4.4
Not Stated	20.1	19.7	21.3	20.6	19.2	23.6	20.0	19.8	20.5

Changes in the occupational structure of the workforce over the intercensal period were largely not significant, except for the in the proportion of males in production and related occupations which declined from 40.4 percent in 1980 to 28.7 percent in 1990 and the proportion of females in the occupation of sales workers which declined from 40.3 percent in 1980 to 6.0 percent in 1990. More or less similar percent distributions of the usually working population by occupation were observed in both 1980 and 1990 Censuses. The corresponding data for 1980 are given in Table 6.9.

**Table 6.9**

Usually Working Population By Occupation, Sex and Residence, (Percent), Copperbelt Province, 1980

Occupation	Percentage of Working Population								
	Total			Rural			Urban		
	Both	Male	Female	Both	Male	Female	Both	Male	Female
Total Number of Workers	258,772	214,464	44,308	47,256	38,007	9,249	211,516	176,457	35,059
Total (%)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Professional, Technical	9.5	8.3	15.1	3.8	4.0	2.8	10.7	9.2	18.3
Administrative and Manag.	1.7	1.9	1.0	0.7	0.8	0.3	1.9	2.1	1.3
Clerical and related	5.6	4.5	10.8	1.6	1.6	1.5	6.5	5.1	13.3
Sales Workers	12.9	7.3	40.3	8.9	5.1	24.4	13.8	7.7	44.4
Service Workers	12.5	13.4	7.7	7.7	8.7	3.8	13.5	14.5	8.7
Agriculture, Animal Hus.	13.5	13.0	16.2	53.2	51.5	60.2	4.7	4.7	4.6
Production and Related	34.5	40.4	6.1	16.6	19.7	3.7	38.6	44.9	6.7
Unclassified	1.7	1.9	0.5	2.1	2.6	0.3	1.6	1.8	0.5
Not Stated	8.1	9.3	2.3	5.4	6.0	3.0	8.7	10.0	2.2

## 6.8 WORKING POPULATION BY INDUSTRY

According to Table 6.10, in 1990 agriculture has 16.8 percent of the usually working population, mining has 16.9 percent, the secondary industries have 13.8 percent, while the tertiary industries have 34.8 percent. Agricultural activities are less important than the other activities combined. (Secondary industries consist of manufacturing, electricity generation and distribution, and construction, while the tertiary industries consist of trading, transportation, finance, social, community and other services).

Most of the self-employed and unpaid family workers are found in agriculture, trading and community industrial activities, while employees and employers are found in mining, manufacturing and the service industries. In 1990, self employed and unpaid family workers make up 34.9 percent compared to 61.0 percent for employees and employers (see Table 6.11). In 1980, the self employed and unpaid family workers constitute 24.6 percent compared to 75.1 percent for the employees and employers.

Changes associated with industrialization can be seen in the Copperbelt province, whereby self employment which is a characteristic of subsistence farming, handicraft and cottage industries, street vending and family store keeping and low-paid personal services have come to be replaced by employees and employers in specialized commercial, manufacturing and business service enterprises. This constitutes a shift from less productive to more productive lines of activity. Over the ten-year period the industries which gained more workers are agriculture, manufacturing and finance. Those industries which lost workers are mining, construction, trade and community services. These losses are associated with the economic recession which the province has experienced during most of the 1980s.

Table 6.10

Usually Working Population 12 Years and Over by Employment Status and Industry, (Percent), Copperbelt Province, 1980 and 1990

Industrial and Year	Total Number Working	Self Employed	Employee	Employer	Unpaid Family Worker	Not Stated
Total Number - 1980	258,772	58,333	193,382	1,115	5,205	747
- 1990	323,338	73,149	187,285	9,929	39,601	13,374
Copperbelt Province - 1980	100.0	100.0	100.0	100.0	100.0	100.0
- 1990	100.0	100.0	100.0	100.0	100.0	100.0
Agriculture - 1980	14.0	39.5	4.6	17.9	80.4	7.0
- 1990	16.8	27.8	6.0	8.3	53.0	6.3
Mining - 1980	22.3	0.2	29.7	2.5	0.1	10.9
- 1990	16.9	0.4	27.4	18.2	0.2	8.8
Manufacturing - 1980	9.2	5.8	10.4	10.3	1.4	7.3
- 1990	10.3	8.7	12.7	13.2	1.9	7.3
Electricity - 1980	1.0	0.1	1.2	1.1	0.1	1.3
- 1990	1.0	0.2	1.5	1.6	0.0	0.6
Construction - 1980	4.1	1.4	5.0	8.3	0.2	2.5
- 1990	2.5	1.5	3.4	2.9	0.2	1.7
Trade - 1980	13.6	42.9	4.8	30.8	10.6	7.9
- 1990	6.5	13.7	4.1	5.9	1.6	5.7
Transport - 1980	5.5	1.2	7.0	5.7	0.8	3.9
- 1990	5.1	1.8	7.4	7.2	0.3	3.6
Finance - 1980	2.4	1.0	2.9	5.4	0.3	1.3
- 1990	3.1	3.5	3.5	3.6	0.4	2.0
Community - 1980	22.5	4.7	28.5	10.2	1.5	28.0
- 1990	20.1	20.9	23.3	25.4	4.4	12.9
Other - 1980	2.9	2.9	2.0	2.0	6.1	7.8
Not Stated - 1980	5.4	3.2	5.9	7.8	4.6	29.7
- 1990	14.8	18.6	8.7	11.7	31.9	43.3

Table 6.11

Usually Working Population 12 years and Over by Industry and Employment Status, (Percent),  
Copperbelt Province, 1980 and 1990

Industry and Year		Total Number Working	Total	Self Employed	Employee	Employer	Unpaid Family Worker	Not Stated
Total Number	- 1980	258,772	100.0	22.6	74.7	0.4	2.0	0.3
	- 1990	323,338	100.0	22.6	57.9	3.1	12.3	4.1
Agriculture	- 1980	36,354	100.0	63.4	24.4	0.6	11.5	0.1
	- 1990	54,192	100.0	37.5	20.7	1.5	38.8	1.5
Mining	- 1980	57,722	100.0	0.2	99.6	0.1	0.0	0.1
	- 1990	54,697	100.0	0.6	95.9	3.3	0.1	2.1
Manufacturing	- 1980	23,688	100.0	14.1	84.9	0.5	0.3	0.2
	- 1990	33,269	100.0	19.1	71.8	3.9	2.2	3.0
Electricity	- 1980	2,502	100.0	1.9	97.1	0.5	0.1	0.4
	- 1990	3,200	100.0	3.9	88.3	5.0	0.1	2.7
Construction	- 1980	10,612	100.0	7.8	91.0	0.9	0.1	0.2
	- 1990	8,022	100.0	13.4	79.3	3.5	0.9	2.9
Trade	- 1980	35,190	100.0	71.1	26.2	1.0	1.6	0.1
	- 1990	21,161	100.0	54.2	36.4	2.8	3.0	3.6
Transport	- 1980	14,289	100.0	71.1	26.2	1.0	1.5	0.2
	- 1990	16,437	100.0	8.0	84.0	4.4	0.7	2.9
Finance	- 1980	6,292	100.0	9.2	89.5	0.9	0.2	0.2
	- 1990	9,870	100.0	26.1	66.0	3.6	1.6	2.7
Community	- 1980	58,212	100.0	4.7	94.6	0.2	0.1	0.4
	- 1990	64,970	100.0	23.6	67.2	3.9	2.7	2.6
Other	- 1980	9,519	100.0	22.6	38.9	2.1	25.5	11.0
Not Stated	- 1980	13,911	100.0	13.6	82.5	0.6	1.7	1.6
	- 1990	48,001	100.0	25.3	33.9	2.4	26.3	12.1

## 6.9 UNEMPLOYMENT

The existence of unemployment indicates that the supply of labour is in excess of its demand. Unemployment is caused primarily by poor economic conditions, though demographic trends affect the growth and composition of the labour force. A high level of unemployment implies that employment opportunities are inadequate and many people are out of work. The number of unemployed persons as a proportion of the total labour force is called the unemployment rate or ratio. Unemployment rates by sex, residence and district are presented in Table 6.12.

Table 6.12

Current Unemployment Rate by Sex and Residence, (Percent), Copperbelt Province, 1980 and 1990

	1980	1990
Copperbelt Province		
-Total	23.4	15.6
-Male	23.7	12.9
-Female	56.4	22.5
Residence		
Rural		
-Total	36.9	12.1
-Male	29.4	11.7
-Female	56.0	12.7
Urban		
-Total	31.3	16.4
-Male	22.4	13.1
-Female	56.5	25.6
Districts		
-Chililabombwe	-	23.0
-Chingola	-	15.7
-Kalulushi	-	17.6
-Kitwe	-	16.5
-Luanshya	-	15.8
-Mufulira	-	17.5
-Ndola Rural	-	10.1
-Ndola Urban	-	15.8

The overall unemployment rate in the province in 1990 is 15.6 percent which is a significant decline from 1980 when it is 23.4 percent, see Table 6.12. The male unemployment rate of 12.9 percent was lower than that of females, 22.5 percent. In 1980, rural unemployment is higher than urban unemployment because in the economic boom of the 1960s and 1980s employment opportunities tended to be concentrated more in the urban than the rural areas; in 1990, rural areas had a lower rate of unemployment of (12.1 percent) than the urban areas (16.4 percent), because the business recession of the 1980s had a higher impact on the modern-sector industries than on the subsistence-agriculture industry of the rural areas. The province is more likely to have experienced out-migration in the 1980s as a result of the economic recession. Unemployment rates for males and females in rural areas are not very different, 11.7 and 12.7 percent, respectively. In urban areas, however, the female unemployment rate of 25.6 percent is much higher than that of males of 13.1 percent. Unemployment rates are highest among the young population of 12 to 29 years; they are the lowest for the adult population of 30 to 54 years and slightly high for the old population of 55 years and older, see Table 6.14. This pattern is the same for males and females in rural and urban areas.

Table 6.13

## Current Unemployment Rates by Age, Sex and Residence, (Percent), Copperbelt Province, 1990

Current Unemployment Rates									
Age Group	Total			Rural			Urban		
	Both	Male	Female	Both	Male	Female	Both	Male	Female
Total	15.6	12.9	22.5	12.1	11.7	12.7	16.4	13.1	25.6
12-19	35.5	33.6	37.6	20.0	19.8	20.3	41.7	39.2	44.4
20-24	31.5	28.4	38.0	18.1	18.5	17.5	34.2	30.2	42.6
25-29	13.8	12.2	18.1	12.0	12.0	12.1	14.1	12.3	19.4
30-34	7.1	6.3	9.6	8.8	9.1	8.1	6.8	5.9	9.9
35-39	4.9	4.5	6.1	7.4	7.7	6.8	4.5	4.1	6.1
40-44	4.2	3.9	5.6	6.5	7.3	5.1	3.8	3.4	5.7
45-49	4.2	3.9	5.3	5.8	6.5	4.5	3.8	3.5	5.6
50-54	4.8	4.4	6.6	5.9	6.4	4.9	4.5	3.9	7.7
55-59	6.0	5.7	7.3	5.6	5.5	5.9	6.1	5.7	8.3
60-64	6.8	6.5	7.8	4.9	5.2	4.1	7.8	7.1	11.1
65+	6.9	6.4	9.3	5.1	4.8	6.4	8.3	7.5	12.2
Not Stated	8.6	7.7	11.8	11.1	12.5	8.8	8.1	7.1	12.9

The educational attainment of the unemployed are shown in Table 6.14. Most of the unemployed completed have grades 7 or less. However, among those with secondary education, unemployment was more serious in the broad age group of 12-44 years. In the past years, unemployment was an acute problem for those with inadequate education. Currently, the situation is that even the relatively younger population with secondary education qualification school is increasingly facing the same problem of unemployment. Thus the table shows that 19.2 percent of the usually unemployed population of the Copperbelt province had no education, 47.8 percent had an educational attainment of grades 1-7, and 31.2 percent had grades 8-12.

Table 6.14

## Usually Unemployed by Level of Education Completed and Age, (Percent), Copperbelt Province, 1990

Age Group	Total Number Unemployed	Total	None	Grade 1-7	Grade 8-12	"A" Level	Degree	Not Stated
Total	64,577	100.0	19.2	47.8	31.2	0.0	0.0	1.8
12-19	20,348	100.0	23.6	59.7	14.7	0.0	0.0	2.0
20-24	22,205	100.0	11.1	43.3	44.3	0.0	0.0	1.3
25-29	9,225	100.0	13.2	40.6	44.4	0.0	0.0	1.8
30-34	4,263	100.0	17.4	41.5	39.1	0.1	0.1	1.8
35-39	2,333	100.0	22.4	40.8	34.9	0.0	0.1	1.8
40-44	1,667	100.0	31.4	40.9	25.1	0.3	0.1	2.2
45-49	1,252	100.0	36.2	47.4	14.1	0.2	0.0	2.1
50-54	1,140	100.0	46.1	46.1	5.4	0.4	0.0	2.0
55-59	837	100.0	47.3	45.2	4.4	0.4	0.0	2.7
60-64	591	100.0	54.3	38.2	5.3	0.0	0.0	2.2
65+	675	100.0	60.1	32.6	3.0	0.0	0.0	4.3
Not Stated	41	100.0	31.7	41.5	12.2	0.0	0.0	14.6

Figure 6.6

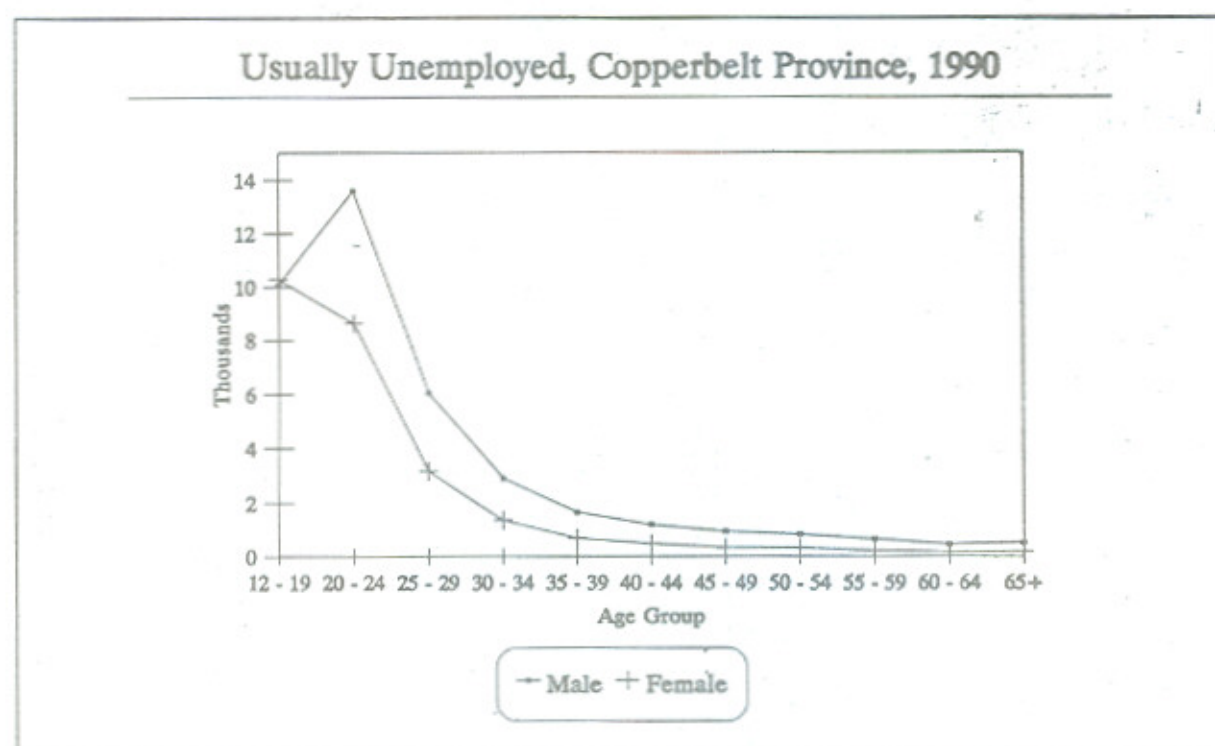


Table 6.15

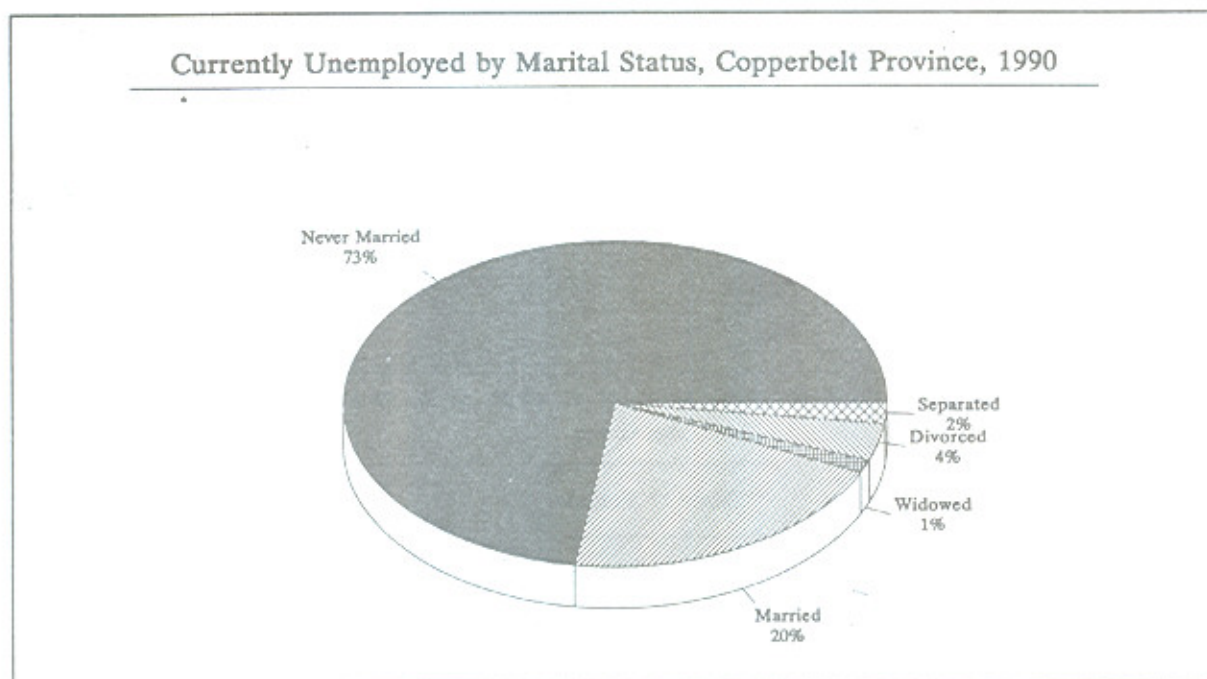
Currently Unemployed by Marital Status, Sex and Rural/Urban, (Percent), Copperbelt Province, 1990

Residence and Sex	Total Number Unemployed	Marital Status						
		Total	Single	Married	Widowed	Divorced	Separated	Not Stated
<b>Total</b>								
Both Sexes	63,797	100.0	68.0	19.0	1.2	3.5	2.0	6.3
Male	38,012	100.0	68.5	21.8	0.4	1.4	0.8	7.1
Female	25,785	100.0	67.5	14.8	2.4	6.7	3.7	4.9
<b>Rural</b>								
Both Sexes	9,163	100.0	56.5	28.2	1.8	5.7	2.5	5.3
Male	5,749	100.0	55.7	33.6	0.5	2.9	1.4	5.9
Female	3,414	100.0	57.8	19.0	3.9	10.3	4.5	4.5
<b>Urban</b>								
Both Sexes	54,634	100.0	70.0	17.4	1.1	3.2	1.9	6.4
Male	32,263	100.0	70.7	19.7	0.4	1.1	0.7	7.4
Female	22,371	100.0	69.0	14.2	2.1	6.1	3.6	5.0

### *The marital status of the unemployed*

According to Table 6.15, two thirds of the unemployed were single, only one fifth were married and 6.7 percent were distributed in the remaining marital status categories. This pattern is maintained for both male and female sexes, and rural and urban areas.

Figure 6.7



### **6.10 SUMMARY**

The working age population (aged 12 and over) in Copperbelt Province grew by 26.6 percent over the ten-year period 1980-90 with the urban areas experiencing a high increase of 38.8 percent, compared to 6.8 percent for rural areas. The total labour force grew by 6.9 percent. The female labour force increased by 12.6 percent, and the male labour force by 4.9 percent. Four fifths of the labour force lived in the urban areas. Much of the increase in the working age population went to boost the economically inactive populations, which grew by 42.7 percent, compared to a growth of only 6.9 percent of the labour force. Three quarters of the inactive were young persons below the age of 29 years. The female labour force participation rate increased while that of the males decreased. Two-thirds of the unemployed had a level of education of grade seven or less. The highest rates of unemployment were among the young population due to the fact that the province is highly urbanized and that new entrants find difficulties to compete with older skilled persons for the few available jobs. This problem was compounded by the slow economic growth in Zambia and Copperbelt Province in particular, during the intercensal period, 1980-1990.

## CHAPTER 7

# CHILDREN, YOUTH AND WOMEN

### 7.1 INTRODUCTION

The subject of children, youth and women has been discussed in a number of national and international fora for sometime now. In this chapter an attempt is made to examine and analyse the situation of children, youth and women using the following data items from the Census:-

- Population distribution within the province,
- Composition and Change over time,
- Marital Status of youth and women,
- Fertility,
- Education and
- Economic Activity.

For ease of reference, a child is defined as a person below 15 years of age (within the age group of 0-14 years), whereas a youth is a person within age group 15-24 years.

### 7.2 POPULATION CHANGE, COMPOSITION AND DISTRIBUTION OF CHILDREN AND YOUTH

#### *Population Change*

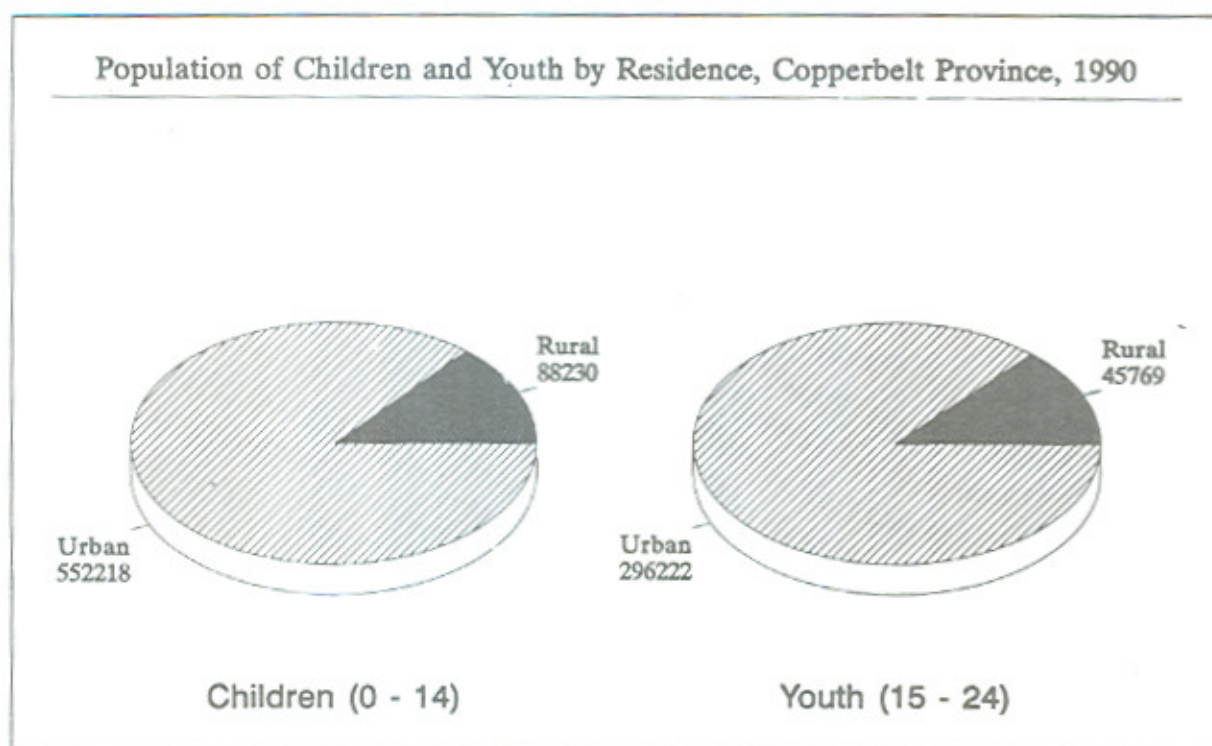
The growth rate of children and youths in Copperbelt Province for the period 1980-1990 are shown in Table 7.1. The table indicates that the growth rate of children is very low compared to that of the youth. In rural Copperbelt, a negative growth rate for children is recorded. This striking feature contributes to the observed overall low growth rate of 1.3 percent for the province.

Table 7.1

Population Size and Growth Rate of Children and Youth by Broad Age Group, Copperbelt Province, 1980 and 1990

	Age Group	Residence	Population		Average Annual Growth Rate (%) 1980-1990
			1980	1990	
Children	0 - 14	Total	623,958	640,448	0.3
		Rural	102,569	88,230	-1.5
		Urban	521,389	552,218	0.6
Youth	15 - 24	Total	251,975	341,991	3.1
		Rural	40,466	45,769	1.2
		Urban	211,509	296,222	3.4

Figure 7.1



#### *Population Composition and Distribution*

The total population of Copperbelt Province is recorded as 1,427,545. About 45 percent of the total population are children below 15 years of age. A further 24 percent is made up of youth aged 15 to 24 years. The children and youth in Copperbelt Province account for nearly 69 percent of the population. A further breakdown shows that of the total population of children and youth, only a few of them live in rural areas of the province (See Figure 7.1). This may be attributed to the fact that the proportion of the total population in the rural part of the province is very small. By district, most of the children and youth live in Kitwe (See Figure 7.2).

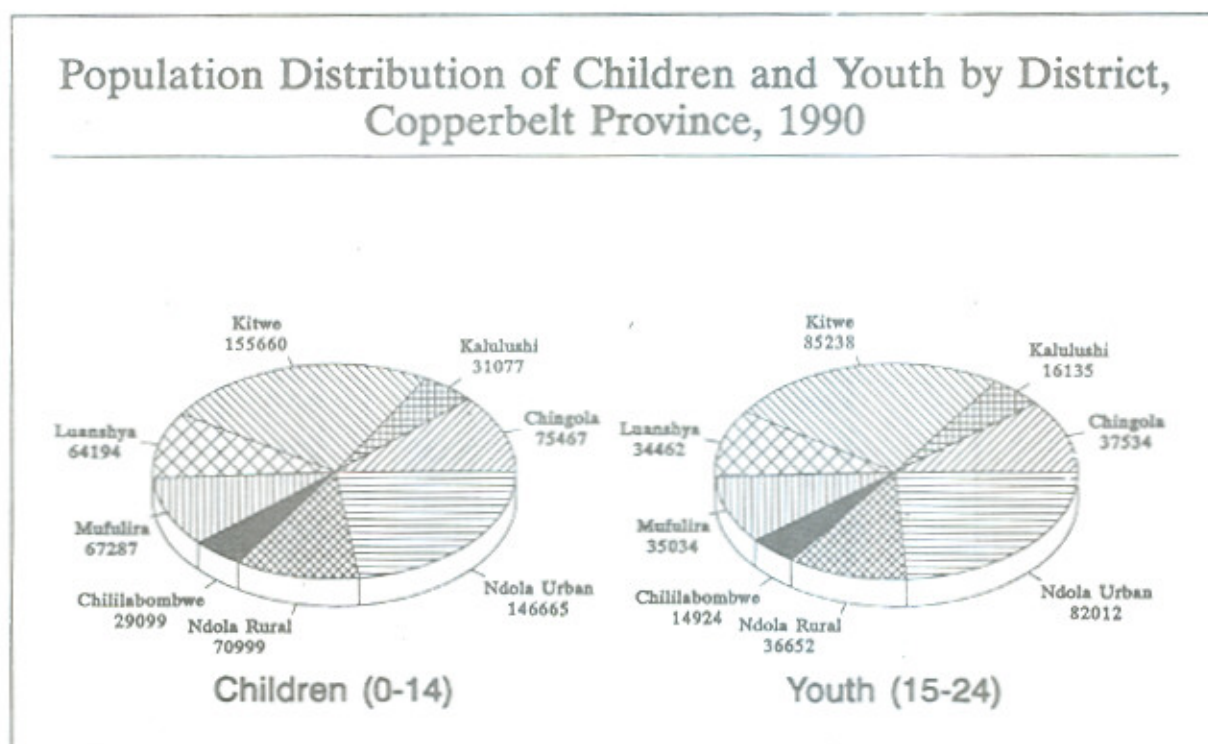
Table 7.2

**Population Under 25 Years as a Proportion of Total Population by Sex and Broad Age Group, Copperbelt Province, 1990**

Age Group	Sex	Number	Proportion of Total Population
0-14	Both Sexes	640,448	44.9
	Male	315,521	43.7
	Female	324,927	46.0
15-24	Both Sexes	341,991	24.0
	Male	164,904	22.9
	Female	177,087	25.1

A large proportion of children and youth in Copperbelt Province implies it has a young population. A young population has an in-built momentum for population growth due to a large number of young people entering the reproductive ages (15-49 years). Further, a very young population has economic implications as well. For instance, large amounts of resources have to be diverted to provide social services such as health and education, leaving little resources for investment and savings.

Figure 7.2



The data presented in Table 7.3 allows for the calculation of sex ratios of children and youth. The table shows the sex ratios of 97 and 93 of children and youth in the Copperbelt, respectively, indicating that females are in excess of males. Generally, in all the districts except for Chililabombwe, the sex ratios for children are higher than the sex ratios for youth. The difference in the sex ratio of children and youth in the Copperbelt Province may partly be attributed to the out-migration of male youth to other provinces in search of facilities such as education and employment opportunities.

Table 7.3

Population Distribution and Sex Ratio of Children and Youth by District, Copperbelt Province, 1990

District	Population	Total	Male	Female	Sex Ratio
Copperbelt Province	Children	640,448	315,521	324,927	97.1
	Youth	341,991	164,904	177,087	93.1
Chililabombwe	Children	29,099	14,414	14,685	98.2
	Youth	14,924	7,479	7,445	100.5
Chingola	Children	75,467	37,078	38,389	96.6
	Youth	37,534	18,031	19,503	92.5
Kalulushi	Children	31,077	15,378	15,699	98.0
	Youth	16,135	7,862	8,273	95.0
Kitwe	Children	155,660	76,358	79,302	96.3
	Youth	85,238	40,930	44,308	92.4
Luanshya	Children	64,194	32,045	32,149	99.7
	Youth	34,462	16,856	17,606	95.7
Mufulira	Children	67,287	33,422	33,865	98.7
	Youth	35,034	16,706	18,328	91.2
Ndola-Rural	Children	70,999	35,260	35,739	98.7
	Youth	36,652	17,965	18,687	96.1
Ndola-Urban	Children	146,665	71,566	75,099	95.3
	Youth	82,012	39,075	42,937	91.0

### 7.3 SOCIAL AND ECONOMIC CHARACTERISTICS OF CHILDREN AND YOUTH

Despite the Copperbelt population being termed as youthful, the participation of youth in the development of the economy is being hampered by lack of job opportunities. A large proportion of the youth population has attained low levels of education. Also, their unemployment rates are highest compared to the older age groups. In this section marital status, fertility, literacy, education of children and youth and their economic activities are discussed.

#### *Marital Status of the Youth*

Table 7.4 shows that Copperbelt Province has high proportions of male youth who have never married as opposed to their female counterparts. The proportions of married female youth are much higher than those of the male youth. This difference may be explained by the fact that female youth have a lower singulate mean age at marriage than male youth. The average ages at marriage of females and males in Copperbelt Province are 22 and 27 years, respectively (See Chapter 8).

Table 7.4

Youth by Age, Sex, Marital Status and Residence, (Percent), Copperbelt Province, 1990

Residence	Age group	Sex	Total		Marital Status					
			Number	Percentage	Never Married	Married	Widowed	Divorced	Separated	Not Stated
Copperbelt Province Total	15-19	Male	92,781	100	88.4	1.0	0.0	0.1	0.1	10.4
		Female	99,507	100	75.3	16.9	0.1	0.7	0.7	6.2
	20-24	Male	72,123	100	75.1	15.4	0.1	0.4	0.4	8.5
		Female	77,580	100	35.5	55.2	0.4	2.9	2.0	3.9
Rural	15-19	Male	12,781	100	87.1	2.4	0.1	0.1	0.3	10.1
		Female	13,331	100	64.3	27.5	0.2	1.4	1.2	5.4
	20-24	Male	9,803	100	63.2	28.0	0.1	0.9	0.8	7.0
		Female	9,854	100	26.1	61.8	0.7	4.9	3.0	3.4
Urban	15-19	Male	80,000	100	88.6	0.8	0.0	0.0	0.1	10.4
		Female	86,176	100	77.0	15.3	0.1	0.6	0.7	6.3
	20-24	Male	62,320	100	77.0	13.4	0.1	0.4	0.3	8.8
		Female	67,726	100	36.9	54.2	0.4	2.6	1.9	4.0

Further, Table 7.4 shows a higher percentage of married youth in rural than in urban areas. Low levels of education completed by youth in rural areas may be a contributing factor to this difference, as marriage could be seen as an alternative once they are out of school. On the whole, less than 10 percent of the youth, regardless of sex, are previously married (divorced, widowed and separated).

#### *Fertility of Female Youth*

Table 7.5 shows the proportion of female youth in Copperbelt Province who have had a birth. Almost 13 percent of teenage girls (aged 15-19 years) are recorded to have had a birth. It is of interest to see that in 20-24 years age group, slightly more than half (52 percent) of the female youth have had a birth.

It should be noted that despite a lower number of female youth in rural than urban areas, the proportion of female youth in rural areas who have had a birth is higher than in urban areas. Details on their fertility levels are discussed in Chapter 8.

Table 7.5

Proportion of Female Youth who have had a Birth by Age and Residence, Copperbelt Province, 1990

Age Group/Residence	Total Females	Females who have had a Birth	Proportion of Females who have had a Birth
Copperbelt Province Total	15-19	12,784	12.8
	20-24	40,297	51.9
Rural	15-19	2,547	19.1
	20-24	5,834	59.2
Urban	15-19	10,237	11.9
	20-24	34,463	50.9

### *Children and Youth who can Read and Write*

Out of all the children and youth in Copperbelt Province, the proportions of those who can read and write have been tabulated and presented in Table 7.6.

Only 22 percent of children aged 5-9 years old are able to read and write. As for the older children (10-14 years), almost three-quarters of them are able to read and write. Table 7.6 shows that between male and female children, the difference in proportion of those who are able to read and write is very minimal (about 1 percent only).

However, the proportions of male and female youth who can read and write show some difference. Generally, males have a higher proportion of those who can read and write than females. The difference is more noticeable in the age group 20-24 years (5 percent) than in the 15-19 age group.

**Table 7.6**

**Proportion of Children and Youth who can Read and Write by Age and Sex, Copperbelt Province, 1990**

Age Group	Sex	Total Population	Persons who can Read and Write	Proportion of Persons who can Read and Write
5-9	Both Sexes	215,396	46,581	21.6
	Male	105,779	22,357	21.1
	Female	109,617	24,224	22.1
10-14	Both Sexes	204,703	150,872	73.7
	Male	100,160	73,387	73.3
	Female	104,543	77,485	74.1
15-19	Both Sexes	192,261	169,218	88.0
	Male	92,765	87,988	89.5
	Female	99,765	86,230	86.7
20-24	Both Sexes	149,713	132,321	88.4
	Male	72,121	65,639	91.0
	Female	77,592	66,682	85.9

### *Education Level Completed by Youth*

The percentage of youth by their highest level of education completed is shown in Table 7.7. Only a small percentage of youth in Copperbelt Province have never been to school at all. However, the proportion of female youth who have never been to school is higher than the male youth. An equal percentage of male and female youth in age group 15-19 years have completed secondary school, with 27 percent in each case.

Further, the proportion of all youth in age group 15-19 years who have been to school is highest in the "primary" category, while in age group 20-24 years it's highest in the "secondary and above" category. In age group 20-24 years, a higher percentage of female youth have completed primary school than male youth. In the same age group, over half of male youth have at least completed secondary school compared to less than half of female youth. This contributes to the general speculation that males stay in school longer and achieve higher levels of education than females, maybe because females drop out of school early for various reasons including pregnancy.

Table 7.7

Population (15-24 Years) by Age, Sex and Highest Level of Education Completed, (Percent), Copperbelt Province, 1990

Age Group	Sex	Total Population	Level of Education Completed				
			Total Percentage	No Schooling	Primary	Secondary +	Not Stated
15-19	Both Sexes	188,493	100	10.8	60.3	27.0	1.9
	Male	91,199	100	9.3	61.7	26.9	3.0
	Female	97,294	100	12.3	59.1	26.8	1.8
20-24	Both Sexes	145,935	100	12.0	41.3	45.6	1.1
	Male	70,273	100	9.6	36.9	52.2	1.3
	Female	75,662	100	14.3	45.3	39.4	1.0

#### *Economic Activity of Children and Youth*

Table 7.8 shows that in Copperbelt Province, very few male and female children (aged 12-14 years) work full-time, i.e. only 3 percent each, with the same percentage being unemployed (3 percent). As expected the majority of economically inactive children are full-time students. Most youth in age group 15-19 years are full-time students. Whereas in age group 12-14 years, the difference in the proportion of male and female full-time students is small, it gets larger with far higher ages. The female proportion of students declines substantially below that of males, signifying high drop-out rates among female students.

In age group 20-24 years, whereas most of male youth (43 percent) are employed, only 16 percent of female youth are employed. Within the same age group, 45 percent of female youth are full-time housewives compared to only 1 percent of male youth. This confirms that females marry much earlier than males.

Table 7.8

Children and Youth (12-24 years) by Age, Sex and Nature of Usual Economic Activity, Rural/Urban, (Percent), Copperbelt Province, 1990

Residence	Age Group	Sex	Total		Economically Active		Economically Inactive			Not Stated
			Population	Percentage	Employed	Unemployed	Full-time Housewife/Homemaker	Full-time Students	Others	
Copperbelt Province Total	12-14	Male	59,057	100	3.5	2.7	0.5	79.0	12.1	2.1
		Female	62,496	100	3.4	2.6	1.2	77.3	13.1	2.3
	15-19	Male	92,781	100	10.0	9.1	0.7	64.7	13.2	2.3
		Female	99,507	100	7.5	8.7	14.4	49.6	17.0	2.8
	20-24	Male	72,123	100	43.0	18.8	0.9	21.2	13.2	3.0
		Female	77,580	100	16.4	11.1	45.4	10.1	13.9	3.1
	Rural	Male	8,463	100	14.6	6.0	0.8	55.9	19.5	3.3
		Female	8,172	100	14.4	5.6	1.9	55.1	19.7	3.3
	15-19	Male	12,781	100	26.8	12.1	0.7	41.5	16.3	2.6
		Female	13,331	100	24.2	10.0	18.3	27.5	17.2	2.8
	20-24	Male	9,803	100	57.1	17.2	1.2	10.2	12.0	2.2
		Female	9,854	100	31.3	8.5	41.6	4.3	11.7	2.7
Urban	12-14	Male	50,594	100	1.6	2.2	0.5	82.9	10.9	1.9
		Female	54,324	100	1.8	2.2	1.1	80.7	12.1	2.2
	15-19	Male	50,000	100	7.3	8.6	0.7	68.5	12.7	2.2
		Female	86,176	100	4.9	8.5	13.8	53.0	17.0	2.8
	20-24	Male	62,320	100	40.7	19.1	0.8	22.9	13.3	3.1
		Female	67,726	100	14.2	11.5	45.9	11.0	14.3	3.1

There are large differences in the economic activity of children and youth between rural and urban areas of Copperbelt Province. Table 7.8 shows that the proportion of economically active children and youth is higher in rural than in urban areas. Conversely, the proportion of economically inactive children and youth is lower in rural than urban areas. For instance, within the economically inactive category, the proportion of children in rural areas who are full-time students is slightly over half (55 percent) compared to 80 percent in urban areas.

Similarly, the proportion of youth in urban areas who are full-time students is higher than in rural areas. The female youth in rural areas leave school earlier than those in urban areas probably to seek employment and due to marriage and child bearing.

Figure 7.3 shows that the most common economic activity for male and female youth aged 15-19 years is student, although the proportion for male youth is much higher than for female youth.

The majority of male youth aged 20-24 years are employed whilst most of the female youth in this age group are housewives (See Figure 7.4).

Figure 7.3

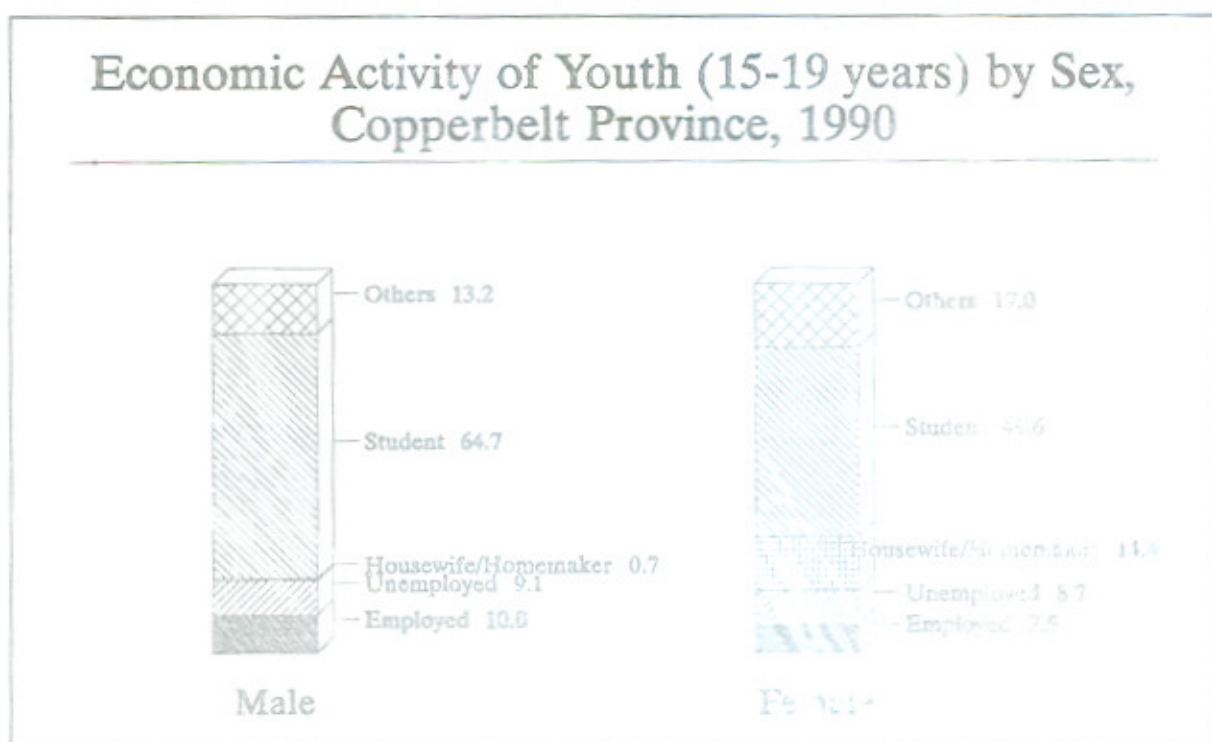
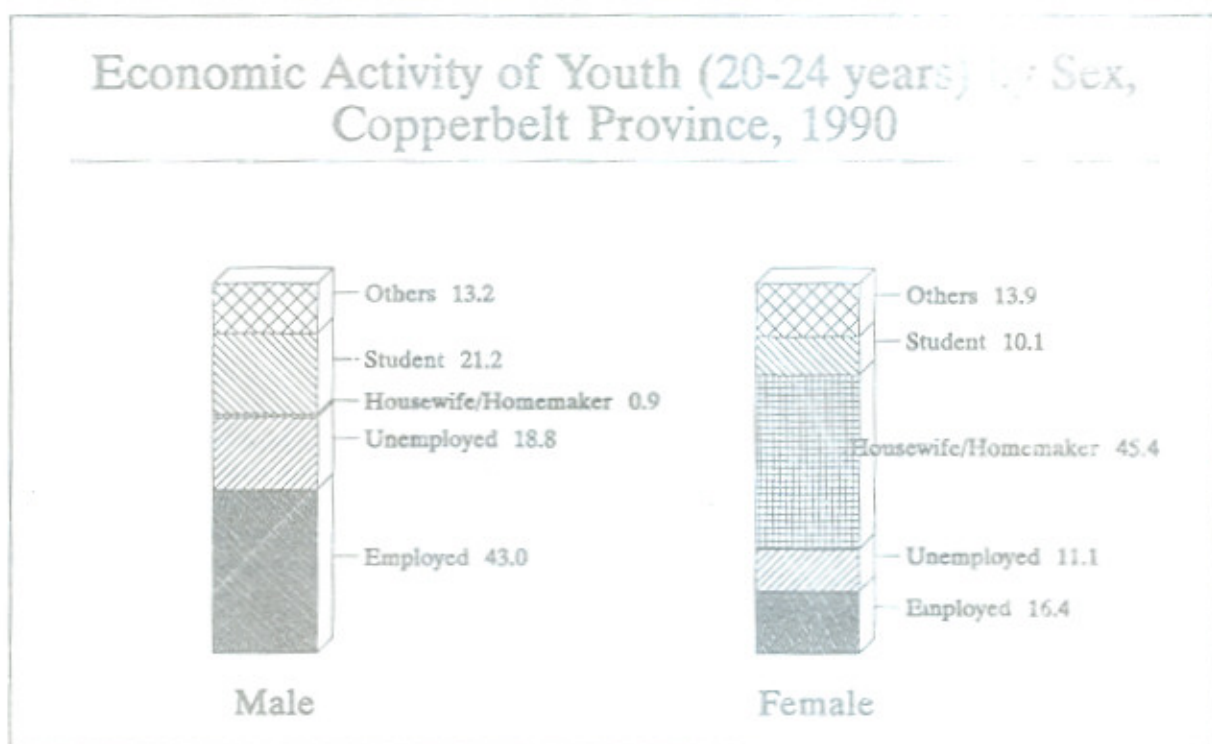


Figure 7.4



### Youth Unemployment Rates

The number of unemployed persons (aged 15-24 years) in Copperbelt Province measured against its respective total labour force (i.e unemployment rate) is shown in Table 7.9.

The unemployment rate for youth aged 15-19 years is 40 percent and 32 percent for those aged 20-24 years. In both age groups, female youth have higher unemployment rates than male youth. The unemployment rate is substantially higher for urban than rural youth. For example, 21 and 42 percent for male youth (aged 15-19 year) in rural and urban areas, respectively, and 22 and 50 percent for female youth in the same age group in rural and urban areas, respectively.

Table 7.9

Unemployment Rate of Youth by Age, Sex and Residence, Copperbelt Province, 1990

Age Group/Residence	Sex	Total Labour Force	Unemployed Population	Unemployment Rate (%)
Copperbelt Province Total	15-19			
	Both Sexes	44,653	17,743	39.7
	Male	23,656	8,704	36.8
	Female	20,997	9,039	43.0
	20-24			
	Both Sexes	69,322	21,830	31.5
Rural	15-19			
	Both Sexes	11,762	2,557	21.7
	Male	6,260	1,338	21.4
	Female	5,502	1,219	22.2
	20-24			
	Both Sexes	11,577	2,099	18.1
Urban	15-19			
	Both Sexes	32,891	15,186	46.2
	Male	17,396	7,366	42.3
	Female	15,495	7,820	50.5
	20-24			
	Both Sexes	57,745	19,731	34.2
	Male	39,414	11,920	30.2
	Female	18,331	7,811	42.6

### 7.4 SOCIAL AND ECONOMIC CHARACTERISTICS OF WOMEN

The contribution of women to the development of the economy is usually under valued by both policy makers and planners. Little effort is made to quantify women's economic activities or to value the output of their work. The majority of women do not participate fully in decision-making in the various economic sectors. Thus, it is important to look at some of the social and economic factors explaining low participation rates of women in economic development. In this section, marital, education and economic status of female household heads and women in general are discussed.

### *Female Household Heads*

In Copperbelt Province, there are 236,700 households of which 29,540 are headed by women, i.e 12 percent. These figures indicate that headship of households is dominated by men. This is true for rural and urban areas. Urban areas have a low proportion of female household heads (11 percent) compared to those in rural areas (18 percent). At district level, the highest proportion of female household heads is found in Ndola Rural with 20 percent, while the lowest is found in Kitwe with 10 percent.

### *Marital Status of Household Heads*

Table 7.10 shows the proportion of all household heads in a certain category who are females. For example, of all households with a divorced head, women make up 69 percent. Generally, the proportions of widowed, divorced and separated women who are household heads are slightly higher in rural than in urban areas. As expected, there are very few women (only 2 percent) who are married and heading households. About 22 percent of all never married household heads are women. Table 7.10 indicates that in most cases, women become heads of households only when they lose their spouses through death, divorce or separation. This pattern is found in all districts of the province.

Table 7.10

Female Household Heads as a Proportion of Total Household Heads by Marital Status, Residence and District, (Percent), Copperbelt Province, 1990

Residence/District	Total	Never Married	Married	Widowed	Divorced	Separated	Not Stated
<b>Copperbelt Province</b>							
Total	12.5	21.9	2.2	79.9	69.0	61.5	13.3
Rural	17.8	23.5	3.2	82.3	72.0	63.0	9.5
Urban	11.4	21.7	2.0	79.2	67.7	61.0	14.6
<b>District</b>							
Chililabombwe	13.8	19.4	3.2	78.8	72.2	64.8	15.7
Chingola	10.7	18.2	2.0	77.6	63.7	57.1	15.3
Kalulushi	12.3	16.8	1.8	79.6	63.9	59.6	17.4
Kitwe	10.2	21.9	1.9	76.6	64.4	60.4	12.6
Luanshya	11.8	18.9	1.8	80.8	65.8	57.2	13.9
Mufulira	11.5	21.0	2.1	81.1	68.6	63.3	13.8
Ndola Rural	19.5	28.1	3.6	84.2	77.2	69.0	8.9
Ndola Urban	11.8	24.5	2.1	79.6	68.4	57.4	15.4

### *Educational Status of Women*

Data on women and men by their highest level of education completed is shown in Table 7.11. Almost a quarter of women in the province have had no schooling compared to only 12 percent of men. A much lower proportion of women than men have completed secondary school. The table further shows that mostly women who have been to school in the province have only completed primary school.

Table 7.11

Population (15 Years and Above) by Highest Level of Education Completed and Sex, (Percent), Copperbelt Province, 1990

Sex	Total Population	Total Percentage	Level of Education Completed				
			No Schooling	Primary	Secondary	Higher	Not Stated
Male	396,920	100	12.5	43.1	42.5	0.4	1.5
Female	571,840	100	23.6	47.1	27.7	0.1	1.5

Table 7.12 shows that the proportion of female household heads who have no formal schooling is about 44 percent. The share of female household heads who are without formal schooling is much higher in rural than urban areas. In rural Copperbelt, the majority of women heads of households have either never attended formal school, compared to 39 percent in the urban Copperbelt. Although almost an equal percentage of women heading households have completed primary school, a larger percentage in urban areas have completed secondary school.

Table 7.12

Female Household Heads by Highest Level of Education Completed and Residence, (Percent), Copperbelt Province, 1990

Level of Education Completed	Total	Rural	Urban
Never Attended School	44.5	62.1	38.7
Primary	30.7	29.0	31.2
Secondary	21.9	5.8	27.4
Higher Education	0.2	0.0	0.2
Not Stated	2.7	3.1	2.6
Total Percentage	100	100	100
Total Female Heads	29,540	7,360	22,180
Total Household Heads	236,700	41,300	195,400

#### *Employment Status of Women*

Generally, most working women are found in the informal sector. In all, women make up 24 percent of all working persons in Copperbelt Province. The proportions for rural and urban working women are 34 and 22 percent, respectively.

Table 7.13 shows that the majority of unpaid family workers in Copperbelt Province are women (52 percent). Urban areas have a high proportion of female unpaid family workers (59 percent) as compared to 48 percent in rural areas. Another dominant employment status category for women is the "self-employed," with 36 percent. However, the proportion of self-employed women in urban areas is higher than in rural areas.

Table 7.13

Usually Working Females (12 Years and Older) as a Proportion of Total Usually Working Population by Employment Status, (Percent), Copperbelt Province, 1990

Employment Status	Total	Rural	Urban
Total	24.4	34.2	22.1
Employer	13.5	14.3	13.4
Employee	13.7	9.8	14.0
Self-Employed	35.8	30.8	37.7
Unpaid Family Workers	52.0	48.5	58.8
Not Stated	37.1	42.6	36.4

Figure 7.5 illustrates the disparities in the distribution of the usually working female rural-urban population by employment status. Except for employer category, the rest of the unemployment status categories show lower proportions of working women in rural than urban areas.

Figure 7.5

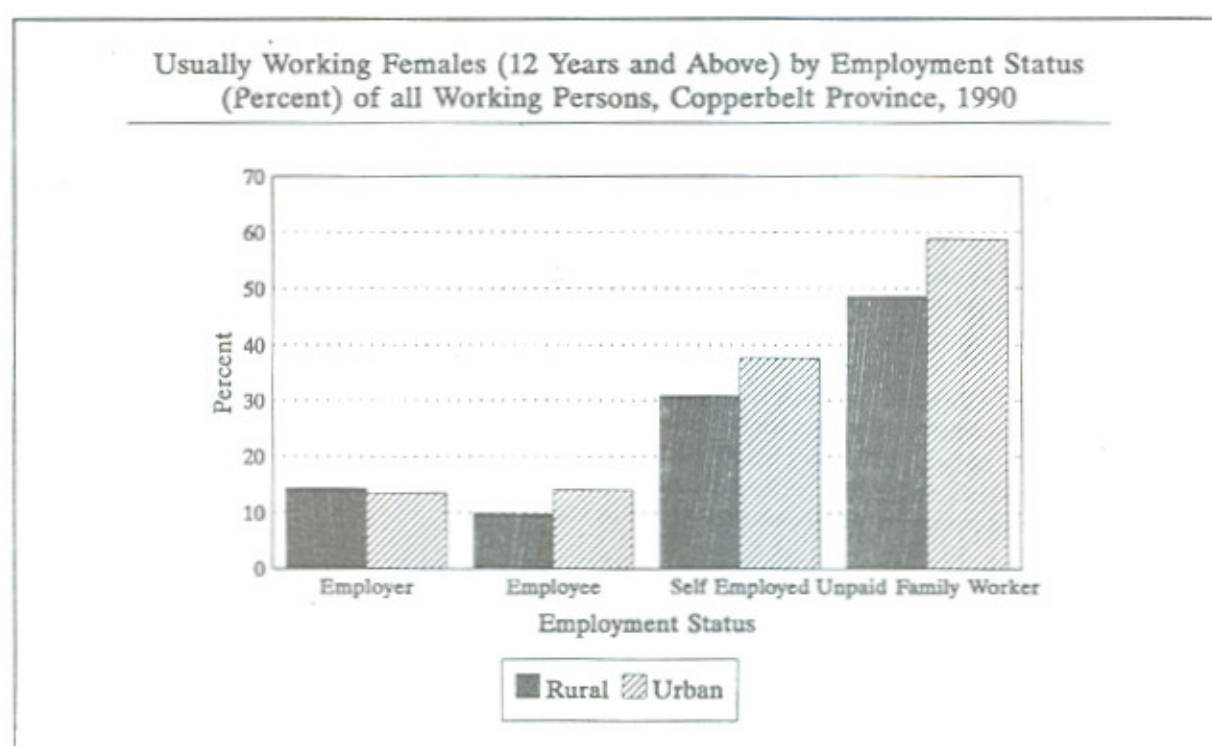


Table 7.14 shows that almost half of all sales workers are women. Another occupation category which has a high proportion of females is that of clerical and related workers (40 percent). Of all unpaid family workers, women dominate in the category of service workers (with 70 percent).

Other important occupational categories for females are agricultural husbandry, forestry and fishery and professional/technical and related workers with proportions of 32 and 28 percent, respectively. In these two occupations, unpaid female family workers comprise 46 and 48 percent of all unpaid family workers, respectively.

A low proportion of women work in Administration and Management, and in Production, Transport and Labourers categories. Since women generally achieve low levels of academic training in comparison to men, it is not surprising that men dominate in Administration and Management.

Table 7.14

Usually Working Females (12 Years and Older) as a Proportion of Total Usually Working Population by Occupation and Employment Status, (Percent), Copperbelt Province, 1990

Occupation	Total	Employment Status				
		Employer	Employee	Self Employed	Unpaid Family Worker	Not Stated
Total	24.4	13.5	13.7	35.8	52.0	37.1
Professional/Technical and Related Workers	28.4	23.9	28.7	18.8	47.9	35.4
Admin. Managerial Workers	10.2	9.8	10.1	8.0	36.8	15.1
Clerical and Related Workers	39.7	34.6	40.1	22.6	34.8	41.8
Sales Workers	43.9	26.1	22.8	49.6	60.3	48.9
Service Workers	15.4	10.0	13.6	32.8	70.4	22.7
Agriculture Husbandry, Forestry and Fishery	32.4	12.4	10.1	28.8	45.7	28.6
Production, Transport and Labourers	5.9	5.1	3.4	20.0	67.0	7.9
Unclassified Occupations	31.8	15.8	10.7	33.5	61.1	45.6
Not Stated	25.8	8.9	6.7	29.9	57.8	45.8

### *Women in Industry*

Table 7.15 shows that the proportion of women in wholesale and retail trade, restaurants and hotels is over half (52 percent) of all workers in this industry. Noticeably, this industry also has the highest proportion of females who are paid employees.

Table 7.15 also shows that the proportion of women in Mining and Quarrying; Transport, Storage and Communication; and Electricity, Gas and Water are very low (less than 5 percent). This may be due to the notion that these are male-oriented industries because the work is hard and physically strenuous. It should be noted that despite the mining industry being dominant in Copperbelt Province, few women are employed in this sector.

There are four industries in which a large proportion (more than 30 percent) are women. These are: Wholesale and Retail Trade; Restaurants and Hotels; Finance, Insurance and Real Estates; Agriculture, Hunting, Forestry and Fishery; and Manufacturing.

Lastly, working females aged 12 years and over, engage themselves primarily in the following industries: agriculture/forestry/fishing; manufacturing; wholesaler/retail trade; restaurants/hotels; finance, insurance and real estate. Very low proportions of these women are shown in the industries termed as male-oriented. To mention but one, only 1 percent of females are in the industry of Mining and Quarrying, despite it being the dominant industry in Copperbelt Province.

The majority of women who have been to school have only completed primary school with 47 percent, in comparison to men whose proportions of those who have completed primary and secondary are almost equal (about 43 percent).

Thirteen percent of the household heads in Copperbelt Province are women. Rural areas have a high proportion of female household heads with 18 percent, compared to 11 percent in urban areas. At district level, Ndola Rural has the highest proportion of female household heads with 20 percent followed by Chililabombwe with 14 percent. In the remaining districts less than 13 percent of households are headed by females. In both rural and urban areas, many female household heads have never attended school, 62 in rural and 39 percent in urban areas.

The majority of male youth aged 20-24 years have at least completed secondary school whilst the majority of female youth (aged 20-24 years) have only completed primary school. Youth unemployment rates are high in Copperbelt Province, with those for females being much higher than those for males. Unemployment rates are substantially higher for the urban than the rural youth. This may imply that it is much easier to find employment in rural areas or youth in urban areas are still full-time students.

Data on marital status of the youth aged 15-24 years show that many have never been married. In age group 15-19 years, 88 and 75 percent of males and females have never married, respectively. More than half (55 percent) of female youth in age group 20-24 years are married. Slightly more than 15 percent of male youth in this age group are married. Proportions of married female youth are high in both rural and urban areas, implying high school drop-out rates among young females.

Overall, the growth rates of children and youth are 0.3 and 3.1 percent per year, respectively. Nearly half the population of Copperbelt Province constitutes children below 15 years. The proportion of youth is 24 percent. Children have a sex ratio of 97.1 while that of the youth is 93.1 per 100 females. In all districts, the sex ratio of children is higher than the sex ratio of youth.

## 7.5 SUMMARY

Industry	Total	Employer	Employee	Self-Employed	Unpaid Family Worker	Not Stated
Total	34.2	14.3	9.8	30.8	48.5	42.6
Agriculture, Forestry and Fishery	34.9	15.2	7.8	30.9	45.8	33.7
Mining and Quarrying	1.0	0.0	0.8	4.3	36.4	5.3
Manufacturing	30.5	18.5	7.7	31.5	80.3	7.1
Electricity, Gas and Water	4.2	0.0	5.3	0.0	0.0	0.0
Construction and Allied Repairs	2.2	5.6	1.5	1.5	11.4	0.0
Wholesale and Retail Trade, Restaurants and Hotels	52.3	46.2	43.1	53.7	71.4	52.9
Transport, Storage and Communication	1.1	0.0	1.1	2.7	0.0	0.0
Finance, Insurance and Real Estate	36.4	0.0	22.2	40.4	50.0	0.0
Community, Social and Personal Service	25.7	21.6	20.8	21.3	51.2	34.1
Unclassified Industry	44.0	8.3	12.0	30.6	58.1	42.9
Not Stated	43.1	17.9	12.6	32.3	52.4	49.8

Usually Working Females (12 Years and Older) as a Proportion of Total Usually Working Population by Industrial Category and Employment Status, (Percent), Copperbelt Province, 1990

# NUPITALITY AND FERTILITY

## CHAPTER 8

### 8.1 INTRODUCTION

Nuptiality and fertility information is very important for social and economic development planning. Nuptiality data may allow planners to assess family formation and thus formulate housing programmes and projects. Fertility is a very important component of population growth, others being mortality and migration. In order to derive nuptiality and fertility patterns in Zambia during the 1990 Census, data were collected for all persons aged 12 years and over on the following:-

- Marital Status, i.e. whether a person is married, divorced, separated, widowed or never married.
- Age at first marriage.

For females aged 12 years and over the following information was solicited pertaining to fertility:-

- Whether they have had a live birth (question F-1).
- Age at first live birth (question F-2).
- Number of children ever born and are still living by sex (question F-3).
- Number of children dead by sex (question F-4).

Also, the number of children born in the last 12 months was collected in addition to those who died of these children.

### 8.2 CONCEPTS AND DEFINITIONS

#### *Fertility*

Fertility refers to the frequency of occurrence of births or more specifically live births within populations and sub-populations.

#### *Nuptiality*

Nuptiality refers to the frequency, characteristics and dissolution of marriages in a population. Marriage is a characteristic which together with birth and death can be conceived to be a vital event in one's life cycle.

#### *Singulate Mean Age at Marriage (SMAM)*

Refers to the average age at which those who marry before age 50, marry. It is computed from the proportions of persons who are in the "never married" marital status category corresponding to five-year age groups from 15-54 years.

**Crude Birth Rate (CBR)**

Ratio of live births in a specified period (usually a calendar year) to the average population in that period. The ratio is expressed as per 1,000 persons.

**Child-Woman Ratio**

The CWR (Fertility Ratio) is the number of children per 1,000 females of child-bearing age. Various ages have been used, but commonly (as is the case in this Chapter) the numerator refers to children aged 0-4 years and the denominator refers to females aged 15-49 years.

**General Fertility Rate (GFR)**

Ratio of live births in a specified period (usually a calendar year) to the average number of women of childbearing period (taken as 15-49 years). It is commonly expressed as per 1,000 women of childbearing ages 15-49 years.

**Total Fertility Rate (TFR)**

The TFR represents the average number of children that a female would have from age 15 to 49 if the prevailing age-specific fertility rates of childbearing were to persist.

**Gross Reproduction Rate (GRR)**

GRR is the average number of daughters a female would have or give birth to if she experiences a given set of age-specific fertility rates throughout the reproductive ages with no allowance for mortality over this period.

**Net Reproduction Rate (NRR)**

The average number of daughters a female would have or give birth to if the prevailing fertility and mortality patterns persist. This provides a measure of the way in which a generation of females replaces itself with daughters given a particular combination of fertility and mortality.

**Average Parity**

Also referred to as Mean Number of Children Ever Born (MNCB). Refers to the number of children ever born to females in an age group divided by the number of females in the same age group. The average parity for age group 45-49 years is called Completed Family Size.

### 8.3 NUPTIALITY

Data on the marital status is important to understand the fertility patterns in a population. Marital status in relation to age, sex, education and residence are some of the characteristics discussed in the analysis of nuptiality.

#### Marital Status

Marital status is an essential factor in population dynamics. Although it mostly affects fertility, it also affects mortality and migration to a lesser extent. The categories of marital status in 1990 Census are never married, married, widowed, separated and divorced.

Table 8.1 shows the near-universality of marriage in Copperbelt Province. At age group 45-49 only 2.9 and 2.8 percent of males and females, respectively have never been married.

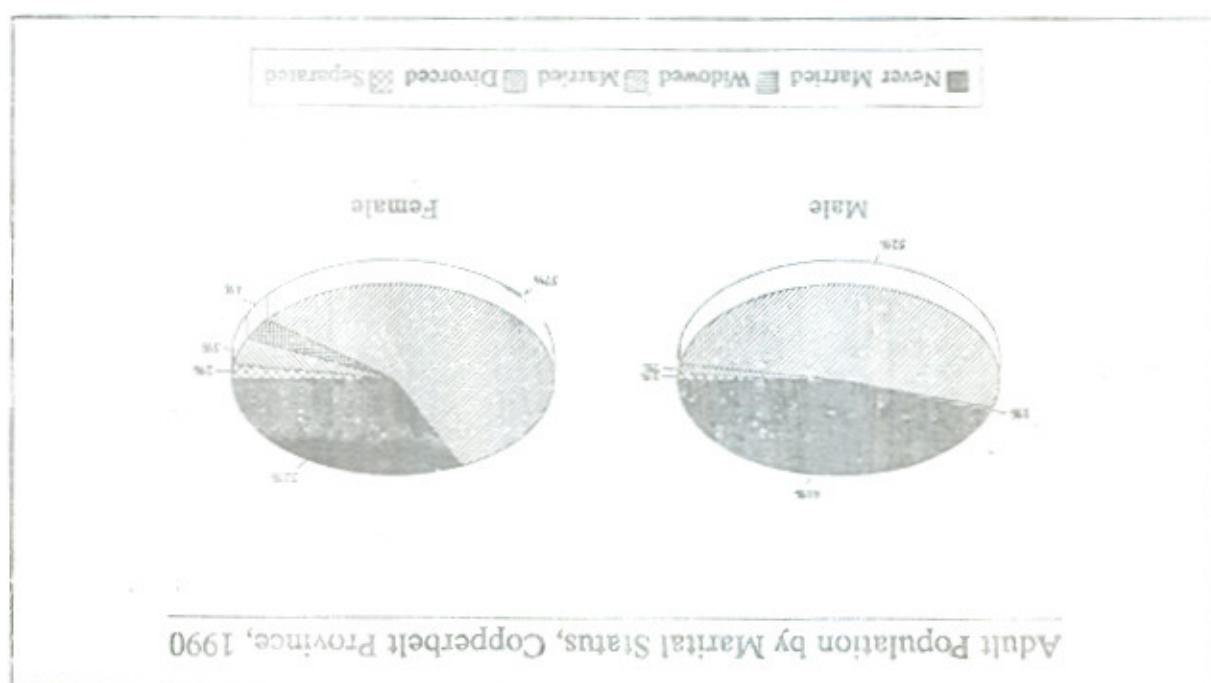
Table 8.1

Adult Population Classified by Age, Sex and Marital Status, (Percent), Copperbelt Province, 1990

Age Group	Never Married		Married		Widowed		Divorced		Separated		Total Population	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
15 - 19	98.7	80.5	1.1	18.0	0.0	0.1	0.1	0.1	0.1	0.8	83.137	93.338
20 - 24	82.2	37.0	16.8	57.5	0.1	0.4	0.5	3.0	0.4	2.1	65.962	74.542
25 - 29	41.8	14.8	55.3	76.6	0.5	1.1	1.5	4.9	1.1	2.5	51.116	55.337
30 - 34	14.6	6.2	81.5	82.8	0.4	1.9	2.2	6.3	1.3	2.9	45.061	43.575
35 - 39	6.3	3.7	89.5	82.6	0.6	3.4	2.3	7.3	1.3	3.0	34.988	30.210
40 - 44	3.6	2.7	91.9	80.8	0.9	5.5	2.4	7.6	1.2	3.4	30.020	22.915
45 - 49	2.9	2.8	91.8	76.5	1.1	8.8	2.7	8.4	1.5	3.5	23.410	15.659
50 - 54	2.7	3.3	90.5	66.0	1.8	16.3	3.3	10.2	1.8	4.1	18.300	11.991
55+	3.6	6.6	84.0	46.5	8.2	31.8	4.8	10.9	2.4	4.2	29.795	18.889
Total	44.4	32.0	52.1	57.4	0.8	3.7	1.5	4.6	1.0	2.3	381.789	366.856
Size	169,675	117,291	199,019	210,558	3,045	13,470	6,380	17,033	3,770	8,504		

Note: Total excludes not stated cases by Age and Marital Status.

Figure 8.1



The proportion of widowed, divorced and separated increase substantially after the age of 40 years. At ages above 40 years, few males and females were recorded as never married. For those aged 55 years and above, 3.6 and 6.6 percent of males and females were recorded as never married, respectively.

#### Differences by Residence

This refers to whether the respondents were residing in a rural or urban area at the time of the census. Tables 8.2 and 8.3 show rural-urban differentials in marriage pattern. In Copperbelt Province, proportions of never married are higher in rural areas for males 15-29 years and for females in all age groups (except 35-39 years). One of the factors which can help to explain this pattern is that the population in this age group, especially the youth, are expected to be attending school.

Table 8.2

Adult Male Population by Age and Marital Status, Rural-Urban Areas, (Percent), Copperbelt Province, 1990

Age Group	Never Married		Married		Widowed		Divorced		Separated		Total		
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	
15-19	96.8	99.0	1.7	0.9	0.1	0.1	0.0	0.1	0.1	11.096	11.641	11.641	
20-24	68.0	84.4	10.1	14.7	0.1	0.1	0.0	0.0	0.0	6.115	6.817	6.817	
25-29	12.9	43.3	62.4	54.1	0.5	0.4	1.9	3.9	2.0	4.817	10.714	10.714	
30-34	9.2	3.9	81.8	90.7	0.8	0.6	4.1	4.1	2.1	3.71	10.957	10.957	
35-39	6.9	3.1	83.4	92.8	1.0	0.9	4.3	2.2	2.4	3.673	26.347	26.347	
40-44	5.2	2.5	86.5	92.6	0.9	1.2	4.9	2.4	2.5	4.197	20.213	20.213	
45-49	3.9	2.4	85.6	91.8	2.4	1.7	5.5	2.7	2.6	3.333	14.547	14.547	
50-54	3.5	3.6	81.8	85.0	5.4	3.1	5.7	4.2	3.0	2.1	9.667	23.333	23.333
55-59	18.4	45.4	15.6	41.4	1.3	1.1	3.1	1.4	1.7	0.9	17.617	37.817	37.817
60-64	21.829	11.061	16.120	16.120	7.9	2.516	1.93	4.525	9.76	2.794	27.941	17.817	17.817
65-69	21.820	11.061	16.120	16.120	7.9	2.516	1.93	4.525	9.76	2.794	27.941	17.817	17.817
70-74	21.820	11.061	16.120	16.120	7.9	2.516	1.93	4.525	9.76	2.794	27.941	17.817	17.817
75-79	21.820	11.061	16.120	16.120	7.9	2.516	1.93	4.525	9.76	2.794	27.941	17.817	17.817
80-84	21.820	11.061	16.120	16.120	7.9	2.516	1.93	4.525	9.76	2.794	27.941	17.817	17.817
85-89	21.820	11.061	16.120	16.120	7.9	2.516	1.93	4.525	9.76	2.794	27.941	17.817	17.817
90-94	21.820	11.061	16.120	16.120	7.9	2.516	1.93	4.525	9.76	2.794	27.941	17.817	17.817
95-99	21.820	11.061	16.120	16.120	7.9	2.516	1.93	4.525	9.76	2.794	27.941	17.817	17.817

Total excludes 'not stated' cases of age and marital status

Table 8.3  
Adult Female Population by Age and Marital Status, Rural-Urban Areas, (Percent), Copperbelt Province, 1990

Age Group	Never Married		Married		Widowed		Divorced		Separated		Total	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
15 - 19	68.0	82.2	29.1	16.3	0.2	0.1	1.5	0.7	1.3	0.7	12.610	80.728
20 - 24	27.0	38.4	64.0	56.5	0.7	0.4	5.1	2.7	3.1	2.0	9.515	65.027
25 - 29	11.7	15.3	75.4	76.8	1.1	1.1	7.9	4.5	3.9	2.3	7.239	48.498
30 - 34	5.7	6.2	78.3	83.4	2.1	1.9	9.9	5.8	4.1	2.7	5.404	38.171
35 - 39	3.9	3.7	77.9	83.3	3.6	3.3	10.0	6.9	4.6	2.8	4.074	26.136
40 - 44	2.6	2.8	78.5	81.3	4.9	5.6	9.4	7.2	4.7	3.1	4.064	18.851
45 - 49	2.1	3.0	75.9	76.7	7.8	9.1	10.3	7.9	3.9	3.3	3.516	12.143
50 - 54	2.1	3.8	66.5	65.9	13.6	17.3	13.0	9.1	3.9	3.9	3.410	8.581
55+	4.7	7.5	49.0	45.2	28.1	33.7	13.8	9.4	4.4	4.2	6.319	12.570
Total	23.2	33.6	60.3	56.9	5.6	3.3	7.6	4.1	3.4	2.1		
Size	13,003	104,288	33,846	176,712	3,142	10,328	4,246	12,787	1,914	6,590	56,151	310,705

It is more common for both males and females to be previously married, widowed, divorced and separated in rural than in urban areas. Table 8.4 provides details on the marital status of the population of Copperbelt Province. In general, urban areas of the province have a higher proportion of never married (45.5 percent of males and 33.6 percent of females) than rural areas (38.4 percent of males and 23.2 percent of females). Urban areas also experienced lower percentages of currently married, widowed, divorced and separated levels for both males and females than rural areas. The same pattern exists for Ndola Rural and Ndola Urban districts.

Table 8.4

Adult Population (15 years and over) by Sex and Marital Status, Rural/Urban and Districts, (Percent), Copperbelt Province, 1990

Province	District	Never Married		Married		Widowed		Divorced		Separated	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Copperbelt Province	Total	44.4	32.0	52.1	57.4	0.8	3.7	1.6	4.6	1.0	2.3
	Rural	38.4	23.2	55.6	60.3	1.3	5.6	3.1	7.6	1.7	3.4
	Urban	45.5	33.6	51.5	56.9	0.7	3.3	1.4	4.1	0.9	2.1
	Districts										
	Chililabombwe	45.8	31.6	51.1	57.1	0.7	3.3	1.5	5.3	0.9	2.6
	Chingola	44.4	32.0	52.3	58.0	0.7	3.2	1.6	4.6	0.9	2.1
	Kalusha	43.5	30.6	52.4	57.6	0.8	3.7	2.2	5.4	1.1	2.6
	Kabwe	46.0	34.6	51.2	56.7	0.7	3.2	1.3	3.7	0.7	1.9
	Luanshya	46.1	32.9	50.6	56.6	0.8	3.8	1.6	4.6	0.9	2.2
	Mufuitira	44.3	33.0	52.7	57.0	0.6	3.2	1.4	4.2	0.9	2.5
	Ndola Rural	38.6	23.3	55.6	59.5	1.2	5.7	2.9	7.9	1.7	3.6
	Ndola Urban	45.1	33.3	51.8	57.2	0.7	3.5	1.4	3.9	1.0	2.0

Social practices, like the return of divorced or widowed females to their home towns and countryside, might be the cause for high rural and female widowed, divorce/separation as indicated in the above tables.

The first step towards understanding the nature of the relationship between SMAM and fertility, is identifying factors that determine and influence SMAM. Numerous factors have been cited as having an effect on raising SMAM, such as urbanisation, low mortality, female education, formal employment and predominance of nuclear family structure.

The level of education is closely related to age at first marriage. Generally, it is believed that age at first marriage increases with length of stay at school. Hence, the longer the school attendance, especially among females, the lower the expected fertility.

Table 8.6 shows that the total SMAM for Copperbelt Province steadily increases with the education level, from 20.2 years among women with no education to 22.2 years for women with secondary level of education. There is generally only a small difference in SMAM for women with no schooling and for those with primary schooling. The increase in SMAM is much greater between women with primary and secondary school. The same trend is portrayed by females in urban areas of Copperbelt Province. It should be noted, however, that there is no significant difference in age at marriage recorded among women with no formal education and those with primary level of education.

*Singulate Mean Age at Marriage by Education*

Province and Districts		SMAM	
Province and Districts		Males	Females
Copperbelt Province		27.0	21.5
- Total		25.8	20.3
- Urban		27.2	21.7
Districts			
Chililabombwe		26.8	21.6
Chingola		27.1	21.4
Kalulushi		26.8	21.3
Kitwe		27.5	22.0
Luanshya		27.3	21.5
Mutema		26.9	21.8
Ndola Rural		25.4	20.4
Ndola Urban		27.2	21.6

*Singulate Mean Age at Marriage Classified by Sex and Residence, Copperbelt Province, 1990*

**Table 8.5**

Two particular characteristics of African marriages have important implications for fertility, namely; universality of marriage and very low age at marriage, particularly for females. Age at marriage also plays an important role in the determination of the level of fertility. The lower the age at first marriage, the higher the expected fertility level. The SMAM figures for the province and districts are given in Table 8.5.

It may be observed from Table 8.5 that the total province SMAM is 27.0 years for males and 21.5 years for females. The female SMAM from the 1980 Census was 19.3 years. Thus, there has been an increase of about 2 years between 1980 and 1990. Similar increases in SMAM have been observed in rural and urban areas. The 1990 female SMAM in rural and urban areas are 20.3 and 21.7 years, respectively. The corresponding SMAM from 1980 Census were 18.3 and 19.5 years for rural and urban areas, respectively. It may be observed from Table 8.5 that what comes out significantly are the high SMAM values for males compared to those for females. This is because males marry at older ages. In most instances males marry females who are younger than themselves.

*Singulate Mean Age at Marriage (SMAM).*

Table 8.6

Singulate Mean Age at Marriage by Educational Attainment and Residence, (Females), Copperbelt Province, 1990

Residence	All Levels of Education	Level of Education			
		No Schooling	Primary	Secondary	University
Copperbelt Province					
- Total	21.2	20.2	20.6	22.2	23.1
- Rural	20.3	19	19.9	20.5	*
- Urban	21.3	20.4	20.7	22.3	23.9
Districts					
Chililabombwe	21.4	20.7	20.8	22.9	*
Chingola	21.1	20.7	20.5	21.9	25.5
Kalulushi	21.1	20.9	20.6	22.4	*
Kitwe	21.5	20.5	20.9	22.7	23.9
Luanshya	21.1	20.2	20.3	21.6	*
Mudlira	21.4	20.1	20.7	22.8	*
Ngola Rural	20.2	19.3	19.9	20.5	*
Ngola Urban	21.3	20.2	20.6	22.3	25.9

Note: \* Figures suppressed because of few cases.

#### 8.4 FERTILITY

Fertility is the most important factor in influencing the growth, size and composition of the population, the other factors being mortality and migration. A number of fertility indices including crude birth, general fertility, total fertility, gross reproduction and net reproduction rates have been calculated. These measures are used in this chapter to describe the fertility differences between the 1980 and 1990 census data for Copperbelt Province.

Some of the techniques used are the Brass P/F Ratio method and the Brass Relational Gompertz Model. For further clarifications on the application of these methods refer to United Nations (1983) and Newell (1988).

The summary fertility measure of total fertility rate which is shown in Table 8.7 has been derived by using the Brass Relational Gompertz Model. The Brass P/F Ratio method yields higher fertility estimates. Fertility measures differ in their error tolerance levels of data being used. The Brass Relational Gompertz Model has been found to yield reasonable fertility estimates.

The Gompertz function has been used by many authors to represent the cumulative fertility of a population. The function is

$$F(x)/F = A^B, \text{ where}$$

$F(x)$  is the cumulative fertility by age

$F$  is the total fertility rate by the end of the reproductive life

$A$  and  $B$  are constants and lie between zero and unity.

The  $F$  values can be taken as cumulative fertility derived from age-specific rates or parity data (United Nations, 1992).

Data on Mean Number of Children Ever Born (MNCEB) and Births in the Last one Year (BLY) contain a lot of errors. It is for this reason that methods such as Brass Relational Gompertz Model are used to obtain adjusted fertility rates. The most important error in the reported number of births is the omission of births by older women, especially those births that ended in early deaths. Women in older age groups also tend to forget grown up children, children born to another husband and children not present at home for various

reasons. There are also factors that may tend to inflate the number of births by the inclusion of step or adopted children, grandchildren, etc. Another error in the reported number of children is the inclusion of still births. The net effect of these errors is a tendency for mean number of children to steadily decrease as age of women increases. The purpose for the use of the Gompertz function is to overcome these limitations in the fertility data.

#### Fertility Levels

Table 8.7 gives results on fertility indicators. The Crude Birth Rate (CBR) for Copperbelt Province rose marginally from 1980 to 1990. The increase was pronounced for rural areas. The 1990 estimates show uniform fertility levels except for Kalusha District where CBR is significantly higher. The CBR is affected by the age-sex composition of the population. As a result of this weakness, direct comparison between sub-populations may lead to erroneous conclusions. This is also true for other measures Child-Woman Ratio (CWR) and General Fertility Rate (GFR). To overcome this limitation, the Total Fertility Rate (TFR) which is an adjusted measure, is used.

Table 8.7

Summary Fertility Measures, Copperbelt Province, 1980 and 1990

	Crude Birth Rate	Child-Woman Ratio	General Fertility Rate	Adjusted Total Fertility Rate	Adjusted Cross Reproduction Rate	Adjusted Net Reproduction Rate
Copperbelt Province	40	876	191	7.9*	3.9	3.2
Total - 1980	42	672	174	6.6	3.3	2.5
Rural - 1980	54	833	171	7.1*	3.5	2.8
- 1990	42	642	180	6.6	3.3	2.3
Urban - 1980	41	855	195	7.9*	3.9	3.2
- 1990	42	631	173	6.6	3.3	2.3
Districts - 1990						
Chitumbombwe	44	717	187	7.0	3.4	2.4
Chingola	42	684	179	6.8	3.3	2.3
Kalusha	55	658	231	7.3	3.6	2.5
Kwese	42	607	168	6.5	3.2	2.3
Luanshya	46	620	189	6.7	3.3	2.3
Mutema	40	633	166	7.1	3.5	2.5
Ndola Rural	41	653	176	6.5	3.2	2.3
Ndola Urban	40	611	159	6.3	3.1	2.2

\* These estimates extracted from Analytical Report Volume IV of the 1980 population census, CSO 1985.

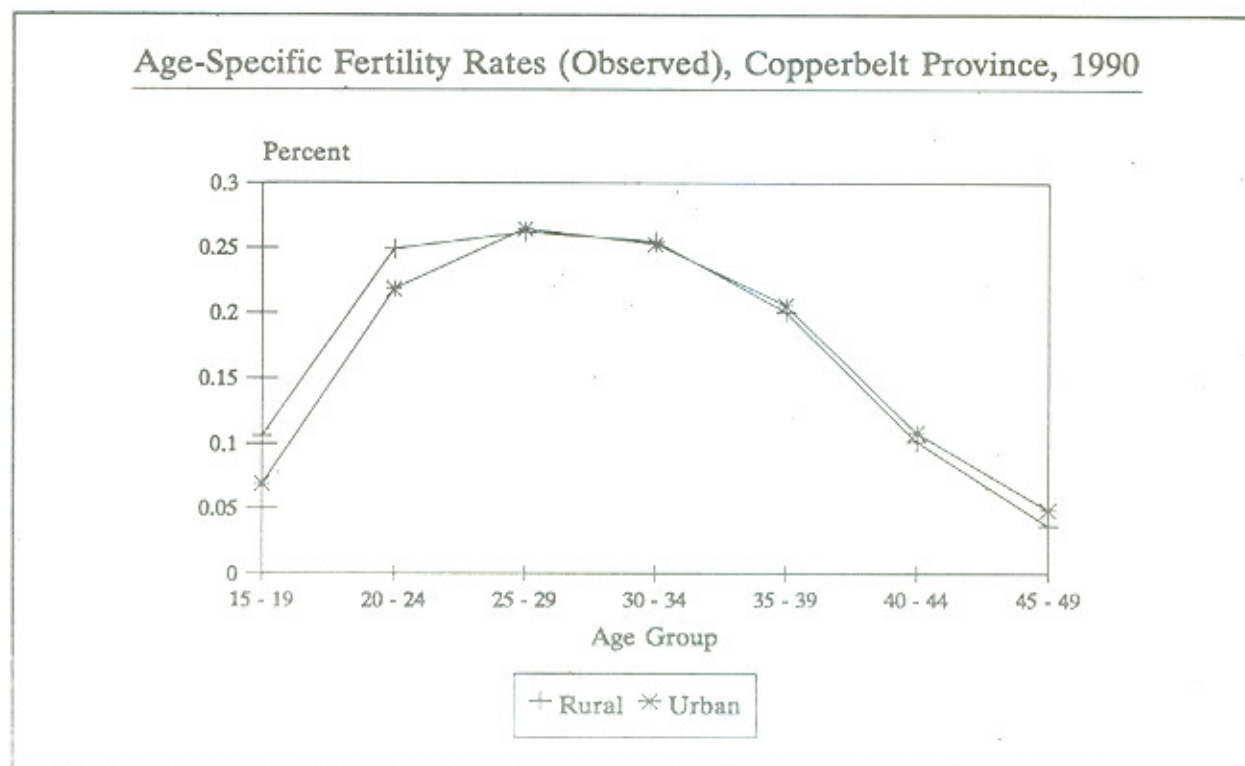
Table 8.8

## Age-Specific Fertility Rates (ASFR), Copperbelt province, 1990

Age Group	Total			Rural			Urban		
	Total Women	Births	ASFR	Total Women	Births	ASFR	Total Women	Births	ASFR
15 - 19	99,507	7,316	0.0735	13,331	1,410	0.1058	86,176	5,906	0.0685
20 - 24	77,580	17,228	0.2221	9,854	2,454	0.2490	67,726	14,774	0.2181
25 - 29	57,107	15,108	0.2646	7,502	1,965	0.2619	49,705	13,143	0.2644
30 - 34	44,410	11,234	0.2530	5,507	1,404	0.2549	38,903	9,830	0.2527
35 - 39	30,666	6,285	0.2050	4,137	830	0.2006	26,529	5,455	0.2056
39 - 44	23,301	2,501	0.1073	4,128	420	0.1017	19,173	2,081	0.1085
45 - 49	15,900	729	0.0458	3,552	130	0.0366	12,348	599	0.0485
Total	348,471	60,401	1.1713	48,011	8,613	1.2105	300,560	51,788	1.1663
Observed TFR			5.9			6.1			5.8
Adjusted TFR			6.6			6.6			6.6
Mean Age At Childbearing			30.4			29.7			30.6

Copperbelt Province has an adjusted TFR of 6.6. The fertility levels are the same for both rural and urban areas. There is a significant decline in fertility from TFR of 7.9 children per woman shown for 1980. The Gross Reproduction Rate (GRR) and the Net Reproduction Rate (NRR) shows the same pattern as the TFR. There is a decline from levels which obtained in 1980. NRRs are shown in Table 8.9

Figure 8.2



Age Group	Total Women	Children Ever Born	Average Parties Reported
15 - 19	99,507	16,387	0.1647
20 - 24	77,580	85,817	1.1062
25 - 29	57,107	154,549	2.7063
30 - 34	44,410	204,354	4.6015
35 - 39	30,666	183,509	5.9841
40 - 44	23,301	161,179	6.9173
45 - 49	15,900	11,492	7.0121

Average Parties, (Observed), Copperbelt Province, 1990

Table 8.10

CEB is based on births over the total life time (Questions F-3 and F-4) whereas TFR is a measure of current fertility, based on births in the last 12 months (Questions F-5 and F-6). This explains why it is not the same as the TFR figure.

Another fertility measure considered in this chapter is Children Ever Born (CEB). This refers to the number of children ever born by a group of women of a given age during their childbearing experience beginning from onset of reproductive life to the current ages. The quotient of the number of children ever born in an age group and the number of women in the same group yields average parity. The average parity for age group 45-49 years is usually referred to as completed family size and are mostly likened to total fertility rate under constant fertility experiences. The completed family size for women aged 45-49 years is 7.0 children per woman (refer to Table 8.11).

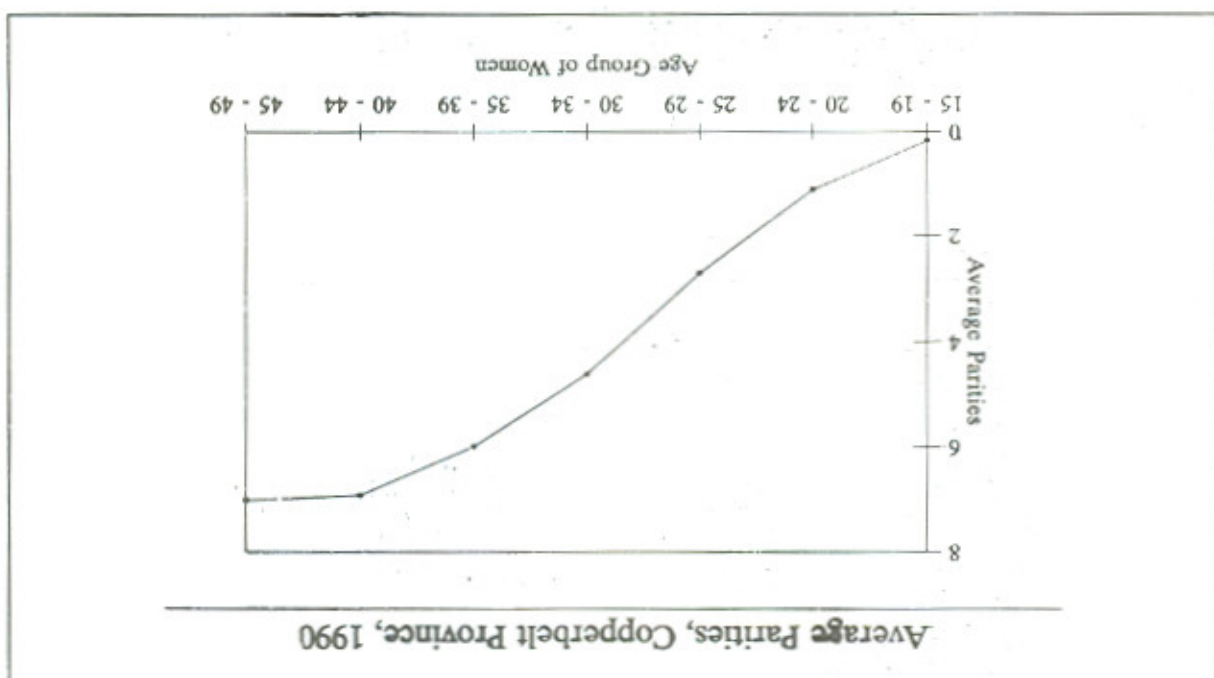
N.B. ASFR<sup>a</sup> - means Age-Specific Fertility Rates at current mortality rates.

Age Group	Total		Rural		Urban	
	Female Births still Alive	ASFR <sup>a</sup>	Female Births still Alive	ASFR <sup>a</sup>	Female Births still Alive	ASFR <sup>a</sup>
15 - 19	3,432	0.0345	650	0.0488	2,782	0.0123
20 - 24	7,988	0.1030	1,141	0.1158	6,847	0.1011
25 - 29	7,070	0.1238	879	0.1172	6,191	0.1246
30 - 34	5,208	0.1173	631	0.1146	4,577	0.1177
35 - 39	2,926	0.0954	389	0.0940	2,537	0.0956
40 - 44	1,179	0.0506	172	0.0417	1,007	0.0525
45 - 49	308	0.0137	52	0.0146	256	0.0207
Total	28,111	0.5383	3,914	0.5467	24,197	0.5445
(Observed NRR)		2.7		2.7		2.7
Adjusted NRR		2.3		2.3		2.3

Net Reproduction Rate (NRR), Copperbelt Province, 1990

Table 8.9

Figure 8.3



#### Time Trend

Fertility has declined between 1980 and 1990. The decline for Copperbelt total and urban areas is significant at 1.3 children difference in TFR. The GRR and NRR show a similar decline in fertility levels.

#### 8.5 FERTILITY DIFFERENTIALS

Fertility tends to differ among societies with diverse socio-economic background characteristics. Socio-economic background characteristics help to explain variations in fertility. The characteristics considered in this section are residence, district and education.

##### Rural-Urban Differences

In 1980, urban areas of Copperbelt Province showed higher fertility than rural areas. This is typical in early stages of urbanisation. As industrialisation and urbanisation progress, the urban population gets more educated, exposed to modern contraceptives and health facilities. This allows the fertility level to decline below that of the rural areas. In 1990, no rural-urban fertility differences are observed. The fertility level is the same at TFR of 6.6 children per female.

##### District Differences

The lowest fertility level of TFR 6.3 children per female is recorded for Ndola Urban District. Kalusha District is highest with TFR of 7.3 children per female. The position of Ndola Urban as a low fertility district may be explained by its high level of urbanisation.

The level of fertility in Copperbelt Province shows a decline during the 1980-1990 intercensal period. Similar reductions are noticed both in rural and urban areas. A total fertility rate (TFR) of 6.6 children per woman is recorded from 1990 Census data as compared to 7.9 children in 1980.

Observations of completed family size by completed educational level shows that women with primary level of education have a higher family size than those with either "no education" or "secondary and higher" education levels. This goes to show that higher levels of education are required for any significant impact on fertility to be achieved. This is in addition to other measures such as family planning and educational campaigns on the disadvantages of large families.

Marriage in Copperbelt Province is near-universal. At age group 45-49 years only 2.9 and 2.8 percent of males and females, respectively have never been married. Females marry at earlier ages than males. The 1990 Census singulate mean age at marriage (SMAM) for males and females are 27.0 and 21.5 years, respectively. This represents a significant rise from figures obtained in 1980 where females had singulate mean ages at marriage of less than 20.0 years. One of the reasons that can explain the high increase in mean age at marriage is the increase in the number of both males and females attaining at least primary school level of education. This is because the longer one stays at school, the higher the expected age at first marriage.

## 8.6 SUMMARY

Generally, those with primary level of education tend to exhibit higher fertility than those without or with little education. From primary level up to higher education, the usual inverse relationship between educational level completed and level of fertility holds. Those with higher education have the lowest fertility. In all educational categories (except secondary) women in urban areas tend to have higher fertility than those in rural areas. Mitchell (1965) observed that there were ethnic differences in fertility in the Copperbelt Province; the migrants to the province were observed to have higher fertility than the indigenous Lambas who live mostly in the rural part of the province. Perhaps, the situation Mitchell observed in 1965 still persisted up to 1990.

\* Completed Family Size (CFS) is based on age group 40-49 years.

	Copperbelt Province			
	Total	Rural	Urban	
No Education	6.8	6.7	6.8	
Primary	7.6	7.3	7.6	
Secondary	5.9	6.3	5.9	
Higher	2.6	1.0	2.6	

Completed Family Size by Level of Education of Women, Copperbelt Province 1990

Table 8.11

Table 8.11 shows fertility differences by level of education completed by women.

## Educational Differences

## CHAPTER 9

# MORTALITY

### 9.1. INTRODUCTION

Direct estimation of mortality levels using 1990 Census data is not possible because there were no questions in the Census on deaths by age, just total number of deaths in the household. Consequently, the analysis of mortality has to be done using indirect methods of estimation. The Brass Method employed here uses information on children ever born and surviving by age of mothers (United Nations, 1983). The Brass Method employs probability measures and assumes the following relationship:-

$$q_{(x)} = D_{(x)} \cdot K_{(x)},$$

where  $q_{(x)}$  = probability of dying between exact age  $x$  and  $x+1$ .

$D_{(x)}$  = proportion dead at age  $x$ , and

$K_{(x)}$  = correction factor or multiplier at age  $x$ .

The exact ages used are 1, 2, 3, 5, 10, 15, and 20. Since the information on children ever born and surviving is usually affected by the age pattern of fertility and age errors, the proportion dead is adjusted by multiplying factors at each age. Trussell's (1975) multipliers are used in the equation. In order to facilitate easy computation of these mortality indicators, the United Nations Mortality measurement package "Mortpak-Lite" was used.

Data on children ever born and children surviving yields mortality indicators on infant and child mortality rates that also include reference periods. Levels of mortality may be estimated using the probabilities of dying at exact ages.

Data that are used in analysing mortality is derived from the following:-

- Deaths in the household by sex (questions M-1 and M-2),
- Children still alive by sex (question F-3),
- Children who died by sex (question F-4),
- Females 12 years and over by age (question P-5 and P-6).

Information on deaths, particularly for young ages usually has many errors of omission because for some reason, respondents may not register some of their dead children.

## 9.2 DEFINITIONS AND CONCEPTS

### *Mortality*

Deaths in a population are termed as mortality. It also refers implicitly to the underlying conditions or causes of death, rather than to specific measures which may be affected by other factors.

### *Infant Mortality Rate (IMR)*

Refers to the rate at which persons below 1 year die. Infant mortality refers to deaths of live born babies before their first birthday.

### *Child Mortality Rate (CMR)*

Refers to the rate at which children 1-4 years die. Child mortality refers to deaths of children 1-4 years.

### *Under-Five Mortality Rate (UMR)*

The rate at which children below 5 years die. It combines infant and child mortality.

### *Crude Death Rate (CDR)*

Ratio of deaths in a year to the mid-year population. Usually, the reference period is one calendar year. The value is conventionally expressed per 1000.

### *Expectation of Life at Birth*

The average number of years that a new born is expected to live if the current existing mortality conditions were to prevail for a long time.

## 9.3 CRUDE DEATH RATE (CDR)

The observed crude death rates for Copperbelt Province are very high compared to the adjusted rates. This might be attributed to the inherent errors in the way data on deaths were solicited. There were no probing questions pertaining to deaths in the households. It might also be possible that deaths that occurred 2 or more years prior to the 1990 Census date were included by some respondents.

Table 9.1

Crude Death Rate by Sex, Copperbelt Province 1990

	Observed		Adjusted <sup>1</sup> CDR per 1000
	Deaths	CDR per 1000	
Copperbelt Province			
- Total	37,965	26.6	17.4
- Male	19,918	27.6	18.0
- Female	18,047	25.6	16.7

1. Based on Coale and Demeny Model North Life Tables, levels 13.6 for males and 13.3 for females.

The adjusted crude death rate for Copperbelt Province is 17.4 deaths per 1000 population. Rates for males and females are 18.0 and 16.7 deaths per 1000-population, respectively.

#### 9.4 PERIOD MEASURES

Information on children ever born, surviving and proportion dead from the 1980 and 1990 Censuses are used to estimate probabilities of dying in 1980 and 1990 at exact ages, 1, 2, 3, 5, 10, 15 and 20. These probabilities are used to estimate levels of child mortality. Child mortality rates include infant mortality rate (IMR), child mortality rate (CMR) and under-five mortality rate (UMR). Other indicators derived from probabilities of dying are levels of mortality and expectation of life at birth using Model Life Table systems such as United Nations (UN) and Coale-Demeny Model Life Table systems. In Zambia, mortality and fertility patterns warrant the use of Coale-Demeny North Model Life Tables.

Life tables for males and females are derived from the resulting estimates of life expectancy at age 20 ( $e^0_{20}$ ) see the section on adult mortality.

Table 9.2

Estimates of Probabilities of Dying and Surviving by Sex, Implied Mortality Levels and Reference Dates, North Model, Copperbelt Province, 1990

Age Group	Age (x)	Probabilities of Dying, $q_{xx}$ and of Surviving, $l_{xx}$				Implied Mortality Levels		Reference Date	
		Male		Female		Male	Female	Male	Female
		$q_{xx}$	$l_{xx}$	$q_{xx}$	$l_{xx}$				
15-19	1	.128	.872	.122	.878	12.7	11.6	1988.5	1988.5
20-24	2	.147	.853	.132	.868	13.6	13.3	1987.4	1987.4
25-29	3	.133	.867	.120	.880	15.4	15.1	1986.0	1986.0
30-34	5	.129	.871	.116	.884	16.6	16.4	1984.1	1984.2
35-39	10	.134	.866	.125	.875	17.3	16.9	1981.8	1982.1
40-44	15	.158	.842	.150	.850	16.8	16.2	1979.2	1979.5
45-49	20	.181	.819	.173	.827	16.3	15.6	1975.9	1976.2

Note: Estimates are based on Trussell's Coefficients. The Reference Census Date is 25<sup>th</sup> August, 1990.

In most instances, mortality estimates are derived from probabilities of dying and surviving at age 2, i.e.  $q_2$  and  $l_2$ . Thus, the mortality levels from 1990 Census for males and females are 13.6 and 13.3, respectively. Mortality rates corresponding to age 1 year are not frequently used because of distortions in the way children everborn and surviving are reported. Reference dates for the 1990 Census range from 1977 to 1989. Mortality rates derived from the 1990 Census were much higher than in 1980. The 1980 Census mortality levels for males and females were 16.5 and 15.9, respectively. The Reference Dates for 1980 Census range from 1964 to 1979.

Table 9.3

Estimates of Probabilities of Dying and Surviving by Sex, Implied Mortality Levels and Reference Dates, North Model, Copperbelt Province, 1980

Age Group	Age (x)	Probabilities of Dying, $q_{0x}$ and of Surviving, $l_{0x}$				Implied Mortality Levels		Reference Date	
		Male		Female		Male	Female	Male	Female
		$q_{0x}$	$l_{0x}$	$q_{0x}$	$l_{0x}$				
15-19	1	.093	.907	.098	.902	15.7	13.7	1978.6	1978.6
20-24	2	.103	.897	.095	.905	16.5	15.9	1977.4	1977.4
25-29	3	.101	.899	.090	.910	17.2	17.1	1975.6	1975.6
30-34	5	.119	.881	.113	.887	17.1	16.6	1973.2	1973.2
35-39	10	.151	.849	.148	.852	16.5	15.8	1970.4	1970.3
40-44	15	.173	.827	.168	.832	16.0	15.4	1967.3	1967.2
45-49	20	.202	.798	.186	.814	15.5	15.2	1963.8	1963.7

Given the values of probability of dying ( $q_x$ 's) for 1980 and 1990, it can be assumed that children had greater chances of surviving in 1980 than in 1990.

#### Infant Mortality Rate (IMR)

The infant mortality rate is usually affected by endogenous (physiological) and exogenous (environmental) factors. Diseases such as the Acquired Immune Deficiency Syndrome (AIDS) and incidences of malnutrition, etc. might increase the infant mortality rate. Recent estimate of the infant mortality rate derived from the 1990 Census is 109.3 deaths per 1000 live births. The rate refers to the period 0-4 years preceding the 1990 Census. In earlier years, 5-9 and 10-14 year periods prior to the 1990 Census, infant mortality rates were substantially below 100.

The infant mortality rate by sex of child reveals a general pattern where boys die more frequently than girls. It is estimated that the 1990 infant mortality rate for boys is 112.0 compared, to 103.7 deaths per 1000 live births of girls. For more details, refer to Table 9.4.

#### Child Mortality Rate (CMR)

Table 9.4 also provides information on child mortality in the periods 0-4, 5-9 and 10-14 years preceding both the 1980 and 1990 Censuses. The CMR for the 0-4 year period prior to the 1990 Census is 81.0 deaths as compared to 59.0 deaths per 1000 0-4 years prior to 1980. The male and female rates are 83.3 and 75.0, respectively, for the period 0-4 year preceding the 1990 Census. Figure 9.2 shows that, as for the infant mortality rate, the general increase in child mortality since 1976 has been faster between 1980 and 1990 than between 1976 and 1980.

#### Under-five Mortality Rate (UMR)

The under-five year mortality rate for children aged 5 years of age in Copperbelt Province has increased substantially in the 1980-1990 intercensal period. The rate increased from 97.0 in 1980 to 132.3 deaths in 1990 per 1000 children aged below 5 years. Boys experience slightly higher under-five mortality rate than girls. For the 0-4 year period prior to the 1990 Census, under-five year mortality rate for boys is 136.0 deaths compared to 124.7 for girls. Figure 9.3 implies that under-five mortality in the 1980-1990 intercensal period distinctly increased to a level much higher than in the period 1974-1980. Such an increase should not be allowed to continue.

The educational level of mother influences the standard of living at the household level and may cause differentials in infant and child mortality. Children born to highly educated mothers tend to experience lower mortality than those born to less educated mothers. The 1990 infant mortality rate for children whose mothers have secondary or college education is 80.0 deaths per 1000 live births. The IMR for children whose mothers have no education or only primary school education is 118. Infant mortality rates derived from the 1980 Census show a similar pattern when education is taken into consideration as that observed in the 1990 Census but at a lower level than in 1990. In the 1980s, children who were born to females without education or only attended primary level of education, experienced an infant mortality rate of 98.0 deaths whereas it was 69 when the mother had secondary or higher levels of education.

Relatively high infant mortality rates are recorded in Ndola Urban, Ndola Rural, Katulushi and Kiwe districts. Ndola Urban District recorded 124.0 deaths followed by Ndola Rural with 116.0 deaths per 1000 live births. Chililabombwe and Chingola Districts have low infant mortality rates compared to other districts in Copperbelt Province.

As mentioned above, Copperbelt Province recorded an increase in the overall infant mortality rate during the 1980s for both sexes. Rural areas recorded a very high infant mortality rate in 1990 of 123.3 deaths, compared to 107.3 deaths per 1000 live births in urban areas.

#### Infant Mortality Rate (IMR)

As mentioned above, Copperbelt Province recorded an increase in the overall infant mortality rate during the 1980s for both sexes. Rural areas recorded a very high infant mortality rate in 1990 of 123.3 deaths, compared to 107.3 deaths per 1000 live births in urban areas.

As mentioned above, Copperbelt Province recorded an increase in the overall infant mortality rate during the 1980s for both sexes. Rural areas recorded a very high infant mortality rate in 1990 of 123.3 deaths, compared to 107.3 deaths per 1000 live births in urban areas.

### 9.5 MORTALITY BY SELECTED BACKGROUND CHARACTERISTICS

Years Preceding Census	Copperbelt Province - Total		Sex of Child - Male		Sex of Child - Female	
	1980	1990	1980	1990	1980	1990
Infant Mortality (‰)	82.5	71.0	87.0	79.5	83.5	73.5
Child Mortality (‰)	55.0	44.0	59.0	46.5	55.5	46.5
Under-Five Mortality (‰)	159.5	106.0	152.0	97.0	162.0	110.0
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
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	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
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	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
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	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
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	1980	1990	1980	1990	1980	1990
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	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
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	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
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	1980	1990	1980	1990	1980	1990
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	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	1980	1990	1980	1990
	1980	1990	198			

Marital status is another important variable that can explain the existing variations in infant mortality rate. In Copperbelt Province, the 1990 Census results show that married women children recorded a relatively low infant mortality rate of 84.0 deaths. The "never married" category recorded a lower infant mortality rate of 73.0 deaths as compared to other marital status categories. The highest infant mortality rate is found in the category of widowed females with 105.0 deaths per 1000 live births. The category of "never married" females has the lowest infant mortality rate of 73.0 deaths. In many instances never married females have only one or two children. Chances of survival are higher for children whose mothers give birth to less than 5 children. Infant mortality rates increased in all marital status categories between 1980 and 1990. The pattern was approximately the same in 1980, except that infants of widowed mothers had mortality at approximately the same level as separated/divorced mothers. This could be due to the small number of cases, however. The category of "widowed" recorded the highest increase in the 1980s from 77.0 to 105.0 deaths per 1000 live births. One possible explanation of the high IMR of children whose mothers are widowed could be AIDS. If the husband had AIDS, there is a high probability that the remaining widow is also HIV positive and that she has passed on the infection to the child.

The influence of "economic activity" variable on the infant mortality rate is through the provision of adequate nutritious food, housing, clean water and sanitation facilities at the household level. It also goes through education which implies better knowledge about healthcare and when to seek a doctor/health facility. Children of mothers who are working and full-time housewives have low infant mortality rates of 88.5 and 85 deaths per 1000 live births, respectively. Categories that have infant mortality rates of over 100 are:- "unpaid family workers" (108 deaths); "unemployed" (102 deaths) and "not available for work" (105.5 deaths). Similarly, children of women in the agricultural sector experience an infant mortality rate of 108.7 as compared to 88.5 deaths per 1000 live births for women in the non-agricultural sector.

Table 9.5. Infant and Child Mortality Rates for the 5 Year Period Preceding the Census, by Selected Background Characteristics, Copperbelt Province, 1980 and 1990

Background Characteristics	Infant Mortality Rate		Child Mortality Rate		Under-Five Mortality Rate	
	%	% Increase	%	% Increase	%	% Increase
	1980	1990	1980	1990	1980	1990
Copperbelt Province - Total	87.0	109.3	25.6	59.0	81.0	37.3
Sex of Child						
Male	87.5	112.0	28.0	60.0	83.3	38.8
Female	87.0	105.7	19.2	58.5	75.0	28.2
Residence						
Rural	90.5	123.3	36.2	62.5	94.3	50.9
Urban	84.5	107.3	27.0	57.0	79.3	39.1
District						
Chitumbwe	76.0	87.0	14.5	49.0	59.3	21.0
Chingola	87.5	88.0	0.6	60.0	60.3	0.5
Kalishushi	80.0	112.0	40.0	52.5	83.3	58.7
Kabwe	94.5	111.0	17.5	66.5	83.0	24.8
Luanshya	75.5	96.3	27.5	48.5	68.3	41.2
Mutshira	65.5	98.3	50.1	39.5	70.3	78.0
Ndola Rural	91.0	116.0	27.5	64.0	87.7	37.0
Ndola Urban	99.0	124.0	25.3	70.5	95.3	35.2
Education						
None	97.5	118.0	21.0	69.5	89.3	28.5
Primary	98.0	118.3	20.7	70.0	89.7	28.1
Secondary +	69.0	80.0	15.9	42.5	52.7	24.0
Marital Status						
Never Married	75.0	75.0	-2.7	48.0	46.7	-2.7
Married	61.0	84.0	37.7	35.5	53.7	51.3
Separated	82.0 <sup>a</sup>	89.5	9.1	54.5 <sup>a</sup>	61.5	12.8
Divorced	77.0	105.0	36.4	50.0	76.5	53.0
Widowed	77.0	105.0	36.4	50.0	76.5	53.0
Economic Activity						
Working	86.0 <sup>b</sup>	88.5	2.9	58.5 <sup>b</sup>	60.5	3.4
Unpaid Family Worker	108.0	108.0	...	...	80.0	...
Unemployed	72.0 <sup>c</sup>	102.0	41.7	45.5 <sup>c</sup>	73.5	61.5
Full Time Housewife	61.0	85.0	39.3	35.5	57.5	62.0
Not Available for Work	104.5	104.5	...	...	76.5	...
Sector of Agriculture						
Agricultural Sector	108.7	108.7	...	...	80.3	...
Non-Agricultural Sector	-	-	-	-	60.5	...

Note: <sup>a</sup> = Includes female unpaid family workers  
<sup>b</sup> = Includes females not seeking work and those not available for work  
<sup>c</sup> = Includes divorced females  
 ... = Not Available

The child mortality rate is affected mostly by exogenous factors. As a result the child mortality rate is usually higher than the infant mortality rate in societies such as Zambia where women breastfeed their babies for some months after birth. Infants get adequate nutrition and protection against diseases from breast milk. However, in Copperbelt province, this is not the case. In all socio-economic groups, the CMRs are lower than 100 deaths per 1000 children aged 1-4 years. Overall, the child mortality rate increased in the 1980s. The child mortality rate for Copperbelt Province in 1990 is 81 compared to 59 in 1980. Generally, the CMR of male children is higher than that of female children; 83 for male children and 75 for female children. Similar differences exist for rural and urban areas. Rural areas have a higher CMR (94.3) than urban areas (79.3).

Variations exist in child mortality rate among districts of Copperbelt Province. Districts that have high child mortality rates are Ndola Urban, Ndola Rural, Kalushushi and Kitwe. These districts have child mortality rates ranging from 83 to 96 deaths per 1000 children. Similarly, high increases from 1980 to 1990 of more than 35 percent are recorded in Mutulira, Kalushushi, Luanshya, Ndola Rural and Ndola Urban districts. Low rates of below 70 are found in Chililabombwe, Chingola, Luanshya and Mutulira districts. However, in all districts, except Chingola, the CMR increased from 1980 to 1990.

Child care and feeding patterns of mothers with formal education generally has a positive impact in reducing child deaths among children aged below 5 years. This is evidenced by lower child mortality rate of children born to females with secondary, college and university qualifications. This category recorded a child mortality rate of 52.7 deaths per 1000 children. Females with no formal and primary education recorded child mortality rates of 89.3 and 89.7 deaths per 1000 children aged 1-4 years, respectively. Percentage increases of 28.5 and 28.1 were recorded for females with no formal and primary education between 1980 and 1990, respectively.

Children born to females who are widowed, divorced and separated, experienced high child mortality rates. Results from the 1990 Census show that these categories have child mortality rates ranging from 60 to 77 deaths per 1000 children. These categories also recorded high percentage increases of child mortality rate in the 1980-1990 intercensal period. A substantial increase of 51.3 percent in the child mortality rate of children born to married females is recorded in the same period. The rate of the "never married" category declined by 2.7 percent.

Generally, children born to full-time housewives are more likely to survive the first 5 years of life due to the provision of adequate child care. Results from the 1990 Census show that children born to full-time housewives experienced a child mortality rate of 57.5 deaths per 1000 children. With regard to economic activity, mothers whose children registered high child mortality rates are "unpaid family workers" (80.0); "not available for work" (76.5) and "unemployed" (73.5). The agricultural sector recorded a child mortality rate of 80.3 as compared to 60.5 for the non-agriculture sector.

The overall under-five mortality rate of Copperbelt Province has increased from 97.0 in 1980 to 132.3 deaths per 1000 children aged below 5 years in 1990. This represents an increase of 36.4 percent during the intercensal period. As generally expected, the 1990 male under-five child mortality rate is much higher than that of female children. Male child mortality rate is 136.0 as compared to 124.7 deaths for female children. Increases of 38.8 and 29.2 percent were recorded for male and female children, respectively, during the 1980-1990 intercensal period. Rural areas recorded high under-five mortality rate as compared to urban areas. The 1990 Census results showed that rural areas had an under-five mortality rate of 151.0 deaths compared to 129.3 deaths per 1000 children aged below 5 years.

Analysis of under-five mortality rate by district show that Ndola Urban, Ndola Rural and Kitwe districts have relatively higher rates compared to other districts in Copperbelt Province. These districts recorded under-five mortality rates of above 135.0 deaths per 1000 children. The remaining districts have recorded under-five mortality rates of between 100.0 and 107.0 deaths per 1000 children aged below 5 years. The percentage increase of above 35 percent were recorded in Luanshya, Mufulira, Ndola Rural and Ndola Urban districts during the 1980 and 1990 intercensal period.

Children born to women with primary or no education experience higher under-five mortality compared to those born to women with secondary, college or university education. Results from the 1990 Census have shown that categories of "primary" and "none" recorded 142.7 and 146.0 deaths per 1000 children, respectively. These categories also recorded high percentage increase of above 30 percent during the 1980-1990 intercensal period. The category of "secondary and over" recorded an under-five mortality rate of 96.0 in 1990 as compared to 75.0 deaths in 1980.

With regard to marital status of females, only the children born to females who were "never married" had the lowest under-five mortality rate of 91.0 deaths per 1000 children. All the other categories had high under-five mortality rates of above 110.0 deaths per 1000 children aged below 5 years. The highest increase of above 60 percent in under-five mortality rates were recorded in "widowed" and "married" categories. For more details refer to Table 9.5.

In all economic categories, children experienced high under-five mortality rates of above 110.0 deaths per 1000 children aged below 5 years. Children born to working females and full-time housewives recorded under-five mortality rates of 119.0 and 113.5 deaths per 1000 children, respectively. Other categories recorded under-five mortality rates of above 135.0 deaths per 1000 children. The highest rate is found among children born to females who were not available for work. This category had an under-five mortality rate of 142.5 deaths per 1000 children. Children born to females who were unpaid family workers experienced an equal under-five mortality rate as that of children born to females belonging to the agricultural sector. These two categories had under-five mortality rates of 135.0 and 135.7 deaths, respectively. Mortality rate of children born to females in the non-agricultural sector does not vary from that of children born to working females.

In Table 9.6, expectation of life at birth for the 5-year period preceding the 1980 and 1990 Censuses by selected background characteristics are presented. Mortality levels are also presented by selected background characteristics in the same table. Expectation of life at birth has declined in Copperbelt Province from 54.7 years in 1980 to 49.9 years in 1990. Similar declines are recorded when expectation of life at birth is examined against all background characteristics. A substantial decline is recorded for males from 54.6 years in 1980 to 49.3 years in 1990. Females are expected to live an average of 51.1 years in 1990 compared to 54.8 years in 1980. Rural areas recorded an expectation of life at birth of 46.9 years against 50.3 years in urban areas.

Results from the 1990 Census show that children in Chililabombwe, Chingola, Luanshya and Mufulira districts are expected to live an average of above 52 years with Chililabombwe recording 54.7 years. The life expectation at birth for Ndola Rural District is 46.9 years which is substantially lower than for the remaining districts Ndola Urban, Kitwe and Kalulushi. The life expectancy at birth for children born to females with "secondary or higher" education is higher at 56.4 years compared to children born to females in "none" and "primary" categories. Marital status categories that have favourable life expectancy at birth are "never married" (56.0 years); "married" (55.4 years) and "separated" (54.2 years). The "divorced" and "widowed" categories have life expectancy at birth of between 50 and 53 years.

Economic activity categories that recorded expectation of life at birth of above 54 years are "working" and "full-time housewives". A low expectation of life at birth of 49.9 years is found for children born to females who are unpaid family workers. Children born to females in the agricultural sector have the same life expectancy at birth of 49.9 years.

Overall, the mortality level, according to the North family of model life tables, has declined from 16.2 to 13.4 over the 1980-1990 intercensal period. In all socio-economic groups that recorded high infant and child mortality rates, substantial declines in mortality levels were registered (see Table 9.6).

Table 9.6

Expectation of Life at Birth for the 5 Year Period Preceding the Census, by Selected Background Characteristics, Copperbelt Province, 1980 and 1990

Background Characteristics	Expectation of Life at Birth (e)		Mortality Level	
	1980	1990	1980	1990
Copperbelt Province - Total	54.7	49.9	16.2	13.4
Sex of Child				
Male	54.6	49.3	16.5	13.6
Female	54.8	51.1	15.9	13.3
Residence				
Rural	53.9	46.9	15.8	12.5
Urban	55.3	50.3	16.3	13.6
District				
Chililabombwe	57.3	54.7	15.7	14.9
Chingola	54.6	54.5	16.4	14.6
Kalushushi	56.4	49.4	16.7	13.8
Kabwe	52.8	49.4	14.8	12.8
Luanshya	57.4	52.7	16.8	14.2
Mufulira	59.9	52.2	17.3	14.4
Ndola Urban	53.9	48.4	17.2	12.9
Ndola Rural	52.0	46.9	15.5	12.7
Education				
None	52.3	47.9	14.7	12.4
Primary	52.2	48.0	15.5	12.8
Secondary +	59.2	56.4	18.4	15.6
Marital Status				
Never Married	57.6	56.0	16.2	15.9
Married	61.2	55.4	17.2	15.5
Separated	55.9 <sup>§</sup>	54.2	16.3 <sup>§</sup>	16.6
Divorced	-	52.9	-	15.7
Widowed	57.2	50.6	15.4	13.4
Economic Status				
Working	55.0 <sup>*</sup>	54.3	16.2 <sup>*</sup>	15.0
Unpaid Family Worker	-	49.9	-	12.5
Unemployed	55.8 <sup>*</sup>	51.4	16.1 <sup>*</sup>	14.8
Full-Time Housewife	61.6	55.2	17.3	15.4
Not Available for Work	-	50.8	-	13.9
Sector of Agriculture				
Agricultural Sector	-	49.9	-	12.8
Non-Agricultural Sector	-	54.4	-	14.7

Note:

§ = Includes "divorce" category.

\* = Includes female unpaid family workers

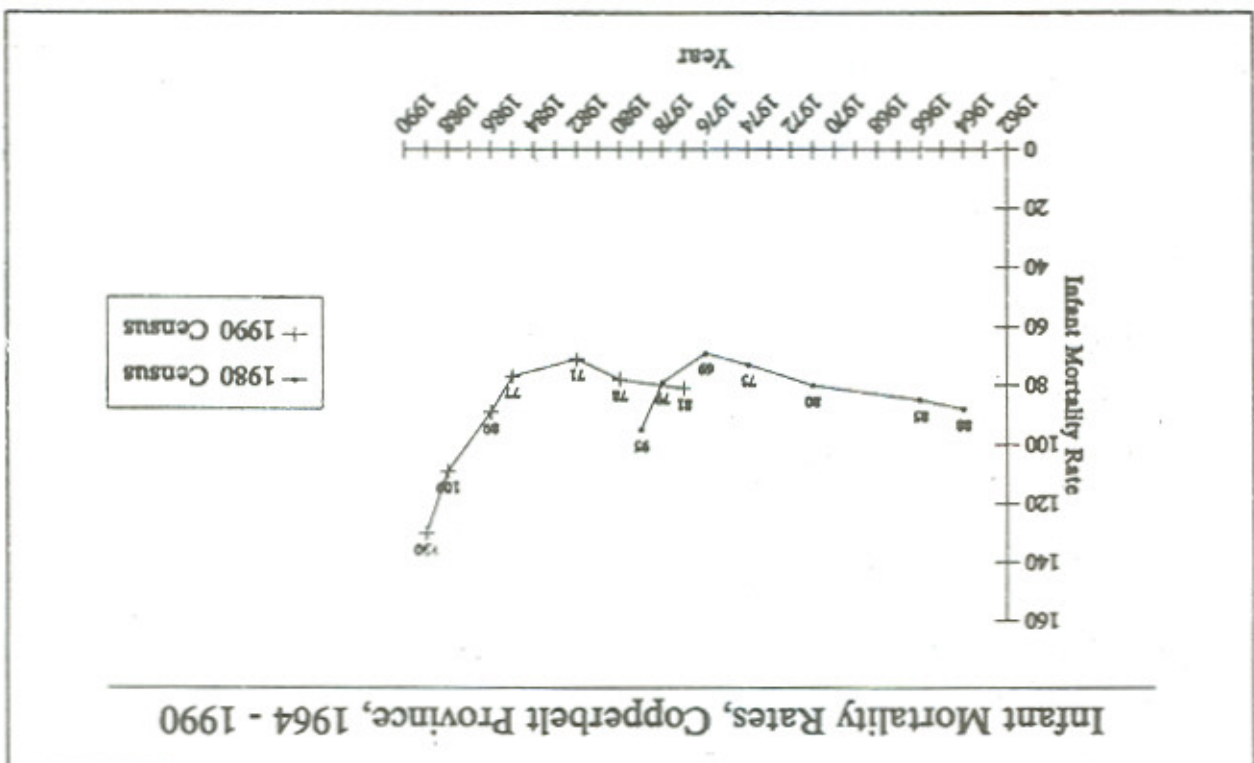
# = Includes females not seeking work and not available for work

Provision of information on mortality trends is essential for making population projections, for monitoring the development of the health status of the population and planning of social services. In this section, trends of infant, child, under-five mortality rates and expectation of life at birth are discussed. The reference period of 1990 Census ranges from 1977 to 1989. Similarly, the reference period of 1980 Census ranges from 1964 to 1979. Low mortality rates were recorded in the earlier years before 1987. Changes in the mortality rates can be discussed from Tables 9.7 and 9.8. As already mentioned, these indicators are derived using the United Nations Mortality measurement package Mortpak-Lite.

#### Infant Mortality Rate

Results from the 1980 Census showed that infant mortality rate declined from 88 deaths in 1964 to 69 deaths in 1976. Thereafter, infant mortality rate started increasing from 79 deaths in 1978 to 95 deaths in 1979. A similar pattern emerges from the 1990 Census. The IMR declined from 81 in 1977 to 71 in 1982 and then started to increase until 1990. See Figure 9.1. Substantial increases were noticed from 1985 until one year prior to the holding of the 1990 Census. IMR increased substantially during this period from 77 in 1985 to 130 in 1989. It is suspected that Acquired Immune Deficiency Syndrome (AIDS) may have contributed towards the increase. The general upward trend in the infant mortality rate since 1976 is shown in Figure 9.1. The curves do not merge because the estimates are from two different data sets. The gradient of the 1990 Census curve appears steeper than that of the 1980 Census, implying that the increase in infant mortality was rapid between 1980 and 1990 than between 1964 and 1980.

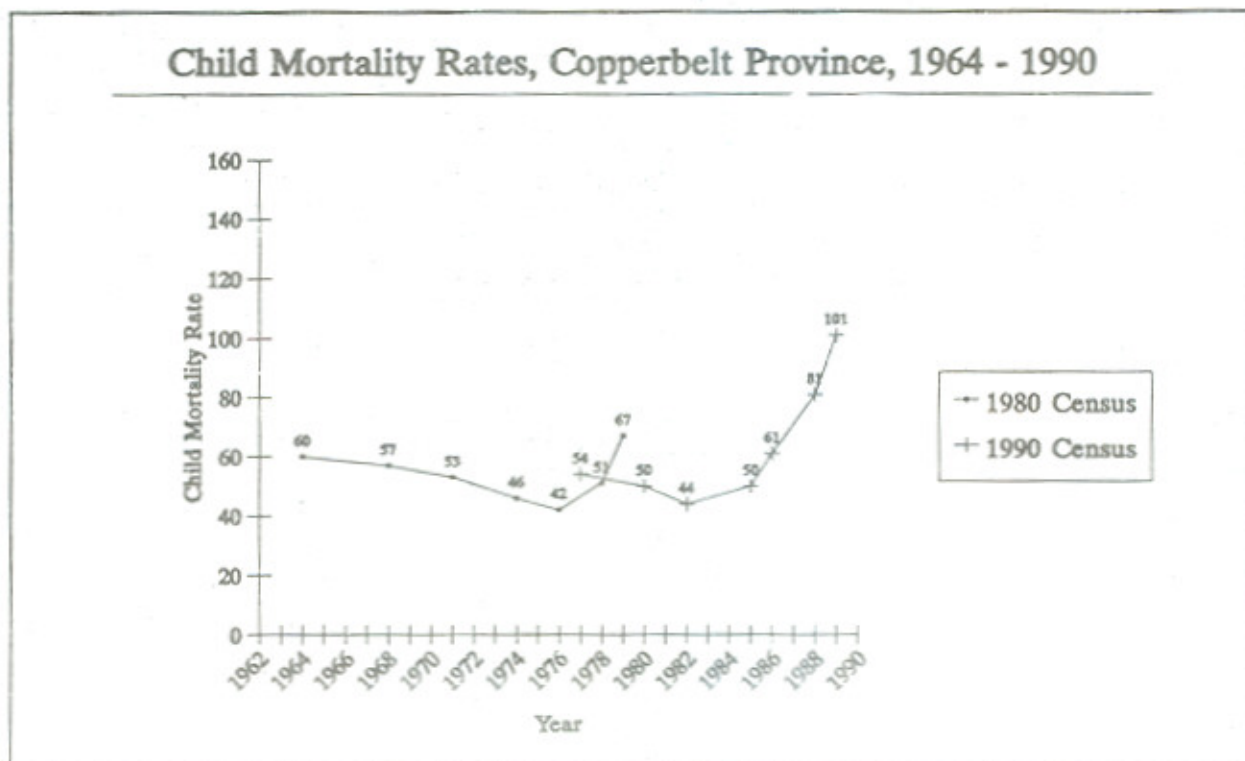
Figure 9.1



### *Child Mortality Rate*

Trends in the child mortality rate of Copperbelt Province from the 1980 Census are shown in Table 9.8. Reductions in CMR were recorded from 60 in 1964 to 42 in 1976. A similar pattern of child mortality rate reduction are registered from the 1990 Census. The results of the 1990 Census show a reduced CMR from 54 in 1977 to 44 in 1982. After this low level was reached the CMR started increasing from 51 deaths in 1978 to 67 deaths in 1979. The CMR increased from 50 deaths in 1985 to 101 deaths in 1989, that is a doubling in only four years.

Figure 9.2



### *Under-five Mortality Rate*

The overall mortality rate of children aged below 5 years from the 1980 Census declined from 194 in 1964 to 96 in 1976. The 1990 Census results show that the under-five mortality rate actually increased in the 14-year period prior to the 1990 Census compared to the period prior to the 1980 Census. The Under-five mortality rate declined from 177 deaths in 1977 to 123 in 1985. Thereafter, the rate started increasing to 140 in 1988. A lower rate of 130 deaths was estimated for 1989. Figure 9.3 shows that the under-five mortality rate for Copperbelt Province has increased over the 1980 and 1990 intercensal period.

Year	Infant Mortality Rate	Child Mortality Rate	Under-Five Mortality Rate	Expectation of life at Birth
1979	95	67	95	52.8
1978	79	51	99	56.6
1976	69	42	96	59.1
1974	73	46	116	58.0
1971	80	53	149	56.3
1968	85	57	170	55.3
1964	88	60	194	54.3

Trends of Infant and Child Mortality Rates and Expectation of life at Birth, Copperbelt Province, 1980

Table 9.8

Year	Infant Mortality Rate	Child Mortality Rate	Under-Five Mortality Rate	Expectation of life at Birth
1989	130	101	130	45.5
1988	109	81	140	49.8
1986	89	61	127	54.3
1985	77	50	123	57.1
1982	71	44	129	58.6
1980	78	50	154	56.9
1977	81	54	177	56.0

Trends of Infant and Child Mortality Rates and Expectation of life at Birth, Copperbelt Province, 1990

Table 9.7

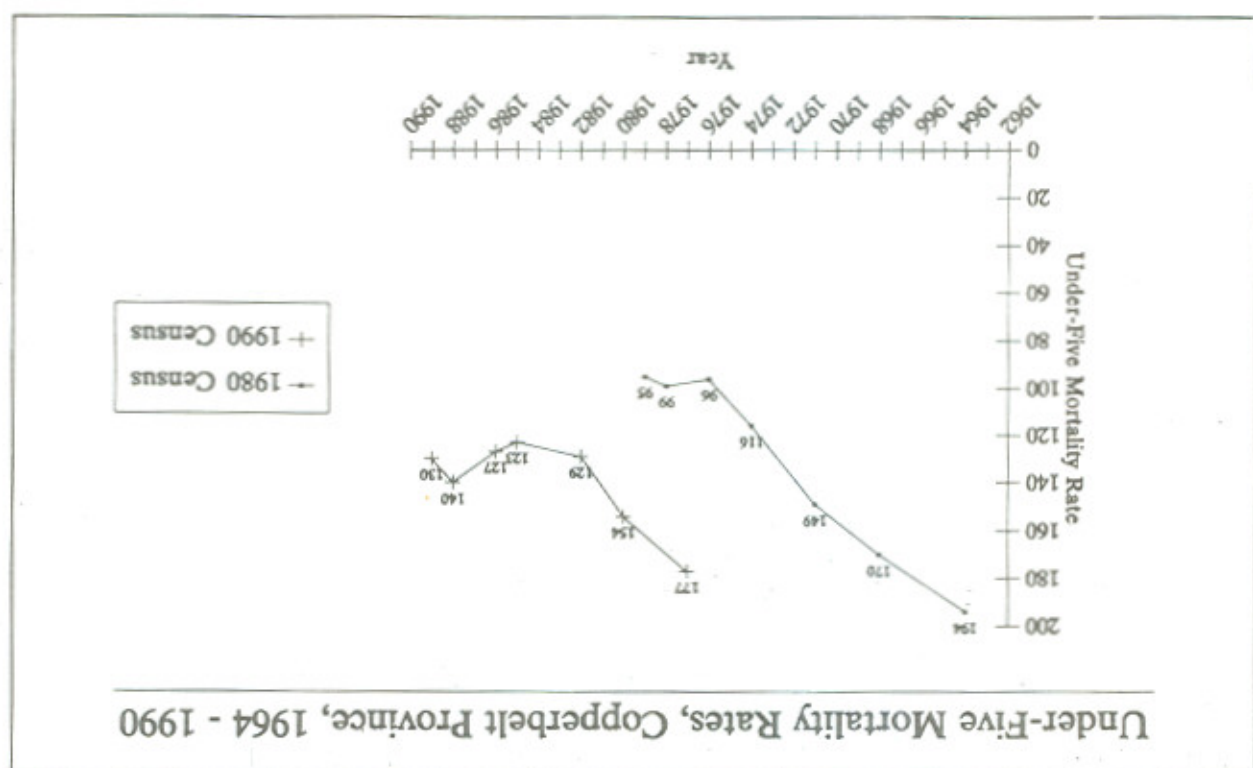
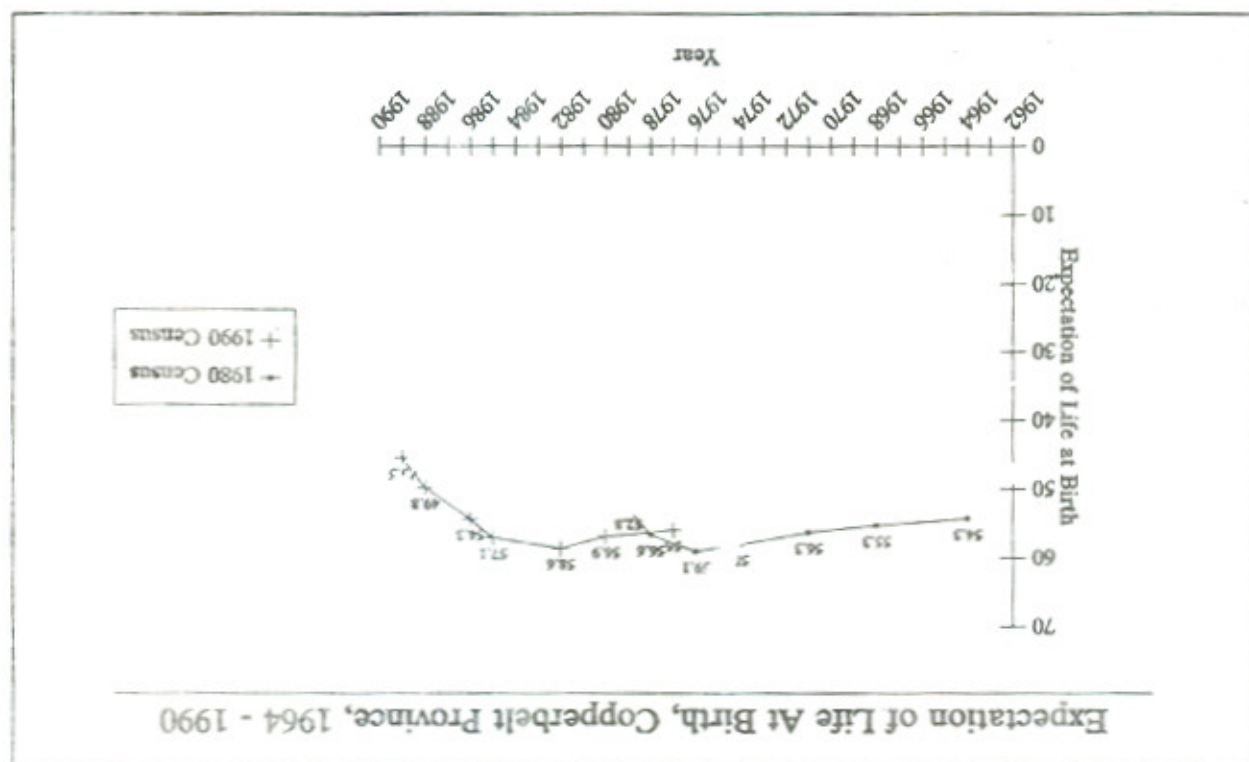


Figure 9.3

Copperbelt Province experienced a much favourable development of the life expectancy at birth in the period prior to the 1980 Census. In the period 1964 to 1976 life expectancy at birth increased. From Figure 9.4, it is noticed that life expectancy at birth declined between 1976 and 1980. The highest expectation of life at birth was recorded in 1976 at 59.1 years. The 1990 Census results show an increasing trend in expectation of life at birth during the period 1977-1982. Substantial reductions are recorded since 1985.

Figure 9.4



## 9.7 ADULT MORTALITY

Data on deaths by age were not collected in 1990 Census, consequently estimation of adult mortality rates is difficult. However, an indication of mortality rates of adults can be inferred by looking at the expectation of life at older ages by sex. This information is shown in model life tables (North Model) provided in Tables 9.9 and 9.10. These model life tables by sex were derived using three mortality parameters of expectation of life at age 20 years ( $e_{20}$ ), probabilities of surviving at ages 1, (1<sub>1</sub>) and 5 (1<sub>5</sub>) years. The United Nations "MortPak-Lite" software package of estimating mortality rates was used to generate life tables for males and females in Copperbelt Province.

The generated life table columns are as follows:-

$^n m_x$  = Central death rate between exact ages  $x$  and  $x + n$ ,

$^n q_x$  = Probability of dying between exact ages  $x$  and  $x + n$ ,

$l_x$  = Number of persons alive at exact age  $x$ ,

$^n D_x$  = Number of persons dying between exact ages  $x$  and  $x + n$ ,

$^n L_x$  = Person years lived between exact ages  $x$  and  $x + n$ ,

$^n S_x$  = Probability of surviving between exact ages  $x$  and  $x + n$ ,

$T_x$  = Total number of person years lived after age  $x$ ,

$e_x$  = Expectation of life at age  $x$  or the average number of years a person aged  $x$  will live,

$a_{(x,n)}$  = Average number of years lived by those who die.

According to the Ministry of Youth, Sport and Child Development, persons aged 15-24 years are classified as "youth". Therefore, adult mortality can be inferred starting with population aged 25 years and above. The male expectation of life at 25 years is 39.4 years as compared to 41.4 years for females. At 55 years, both males and females are expected to live for less than 20 years. The retirement age for most workers in formal employment is 55 years. Thus, it is important to assess the mortality patterns of males and females at age 55 years. By 55 years, males have 18 years and females 19 years to live. Figure 9.5 shows that the life expectancy increases up to exact age 5 and then slowly declines for both males and females.



The life expectancy of both males and females declined substantially in Copperbelt Province between 1980 and 1990. Overall, the expectation of life at birth declined from 54.7 years in 1980 to 49.9 years in 1990. Results from the 1980 and 1990 Censuses show that the expectation of life at birth for males declined by a wider margin of 5.3 years compared to 3.7 years for females. The expectation of life at birth for males was 54.6 years in 1980 while it declined to 49.3 years in 1990. The expectation of life at birth for females declined from 54.8 years in 1980 to 51.1 years in 1990.

Analysis of infant, child and under-five mortality rates by selected socio-economic background variables reveal the expected patterns. Rural areas recorded relatively high infant, child and under-five mortality rates as compared to urban areas. The mortality rates decline as the education level of mother increases. Similarly, children born to married females as well as to those who have never been married experience low mortality rates than for women of other marital status. In the case of children born to working females or full-time housewives, their mortality rates are much lower than for children of women in other economic status categories.

The 1990 adjusted crude death rate for Copperbelt Province is 17.4 deaths per 1000 population. Crude death rates for males and females are 18.0 and 16.7 deaths per 1000 population, respectively. Observed crude death rates are biased and unreliable, hence, the use of adjusted crude death rates.

Copperbelt Province has experienced an upswing in infant, child and under-five mortality rates between the 1980 and 1990 Censuses. The infant mortality rate increased from 95 in 1979 to 130 deaths per 1000 live births in 1989. Similarly, child mortality rate increased from 67 in 1979 to 101 deaths per 1000 children aged 1-4 years in 1989. A substantial increase was recorded in under-five mortality rate. The rate increased from 95 in 1979 to 130 deaths per 1000 children in 1989.

## 9.8 SUMMARY

Note: Pattern of Females Transformed to be Consistent With  $e_{gm} = 45.283$ ,  $l_{m1} = 87800$ , And  $l_{m2} = 81215$ .

/C/ Value Given is  $S(75 + .5) = T(80)/T(75)$   
/B/ Value Given is for  $S(0.5) = L(5.5)/L(0.5)$

/A/ Value Given is for Survivorship of 5 Cohorts of Birth to Age Group 0-4 =  $L(0.5)/500000$

Age	$m_{xw}$	$q_{xw}$	$k_{xw}$	$D_{xw}$	$L_{xw}$	$S_{xw}$	$T_{xw}$	$e_{xw}$	$M_{xw}$
0	.10872	.10154	100000	10154	93400	.86744/A/	5110000	51.100	.350
1	.02123	.08041	89846	7225	340318	.93593/B/	5016600	55.836	1.361
5	.00707	.03474	82621	2871	405930	.97277	4676282	56.599	2.500
10	.00393	.01945	79751	1551	394875	.97976	4270352	53.546	2.500
15	.00434	.02147	78199	1679	386881	.97662	3875477	49.559	2.548
20	.00519	.02549	76521	1951	377836	.97255	3488596	45.590	2.556
25	.00598	.02945	74570	2196	367464	.96839	3110760	41.716	2.548
30	.00689	.03386	72374	2451	355850	.96377	2743396	37.904	2.544
35	.00789	.03869	69923	2706	342958	.95871	2387445	34.144	2.539
40	.00898	.04392	67218	2952	328796	.95405	2044487	30.416	2.530
45	.00996	.04861	64265	3124	313681	.94547	1715691	26.697	2.552
50	.01276	.06189	61142	3784	296577	.92883	1402010	22.931	2.587
55	.01718	.08253	57358	4734	275469	.90042	1105432	19.273	2.609
60	.02556	.12047	52624	6339	248037	.85205	829963	15.772	2.621
65	.03965	.18105	46284	8380	211341	.77789	581926	12.573	2.604
70	.06251	.27110	37904	10276	164401	.67595	370584	9.777	2.555
75	.09663	.38868	27628	10739	111127	.46103/C/	206183	7.463	2.484
80	.17768	-----	16890	16890	95057	-----	95057	5.628	5.628

Coale and Demeny North Model Life Table for Copperbelt Province - Females, 1990.

Table 9.10

# DISABILITY

## CHAPTER 10

### 10.1 INTRODUCTION

The 1990 Census collected data on disabled persons. However, only visible disabilities were identified because it is difficult to identify invisible disabilities. Disabled persons are classified as:-

- Totally blind,
- Totally deaf/dumb,
- Crippled, or
- Mentally retarded

The above classifications do not take into account the international definition of disability which include variations in the intensity of disability. The partially blind and deaf are not included in the above classifications, though, these can be identified with the use of medical instruments by qualified medical personnel. Such an approach, however, would require a special survey.

Cultural factors may pose problems in the identification of disabled persons. In some communities, disability may be regarded as a curse and, hence, a shame for the family which should not be discussed. Census enumerators may fail to see such persons and the respondent may not provide accurate information.

Notwithstanding the above limitations in the data, the results presented in this chapter provide useful information for the understanding of the levels and patterns of disability in Copperbelt Province.

### 10.2 CONCEPTS AND DEFINITIONS

#### *Disability*

Refers to the inability to do something. In this report, disability refers to a person who is totally blind, totally dumb/deaf, crippled or mentally retarded. Hence a disabled person may have one or more of the following attributes:

#### *Totally blind*

*A person who has completely lost the sense of sight.*

#### *Totally deaf/dumb*

*A person lacking the senses of hearing and of speech.*

#### *Crippled*

*A person who has lost one or more limbs or lost the power to use one or more limbs.*

Residence and Sex	Type of Disability					
	Total Disabled	Total	Blind	Deaf/ Dumb	Crippled	Mentally Retarded
Copperbelt	10,272	100	13.2	11.7	30.2	8.9
Male	5,528	100	13.3	12.0	31.2	9.8
Female	4,744	100	13.1	11.4	29.1	7.8
Rural	2,409	100	20.5	17.6	25.5	9.3
Both sexes	1,292	100	20.4	17.8	25.7	10.2
Male	1,117	100	20.7	17.3	25.3	8.2
Female	7,863	100	11.0	9.9	31.7	8.7
Urban	4,236	100	11.2	10.2	32.9	9.6
Male	3,627	100	10.8	9.6	30.3	7.7
Female	1,138	100	2.7	8.5	70.5	3.1
Both sexes	567	100	3.5	9.9	66.5	4.4
Male	571	100	1.9	7.2	74.4	1.8
Female	840	100	6.0	11.4	27.4	9.6
Both sexes	445	100	6.5	11.9	31.5	9.4
Male	395	100	5.3	10.9	22.8	9.9
Female	325	100	14.2	11.7	22.5	14.2
Both sexes	182	100	11.5	11.0	23.1	17.0
Male	143	100	17.5	12.6	21.7	10.5
Female	1,965	100	8.0	9.9	23.9	8.5
Both sexes	1,056	100	7.1	9.8	26.4	9.5
Male	909	100	9.0	10.0	21.0	7.4
Female	901	100	15.6	10.4	26.0	7.3
Both sexes	506	100	15.2	10.1	27.1	8.5
Male	395	100	16.2	10.9	24.6	5.8
Female	795	100	14.2	9.4	24.5	12.6
Both sexes	411	100	13.6	10.7	27.7	13.6
Male	384	100	14.8	8.1	21.1	11.5
Female	1,913	100	21.9	18.8	26.3	9.9
Both sexes	1,017	100	22.0	18.9	26.8	10.4
Male	896	100	21.8	18.6	25.8	9.3
Female	2,395	100	16.8	10.4	25.0	9.4
Both sexes	1,344	100	17.5	10.6	27.1	10.1
Male	1,051	100	15.9	10.1	22.4	8.5
Female	1,051	100	15.9	10.1	22.4	8.5

The number of disabled persons in Copperbelt Province as recorded in the 1990 Census was 10,272. The percentage distribution of these persons by sex, type of disability and residence is shown in Table 10.1. The table shows that there are more disabled persons in urban than in rural areas of the province. Among the districts, Ndola Urban has the highest number of disabled while Kalulushi has the lowest number. The males comprise a larger proportion of the disabled than the females in all districts, except Chitilabombwe.

Table 10.1

Disabled Persons by Type of Disability, Sex and Residence, (Percent), Copperbelt Province, 1990

### 10.3 DISTRIBUTION OF DISABLED PERSONS

A person with more than one of the above stated disabilities.

*Multiple disabilities*

A person whose psychological functioning is defective to some degree.

*Mentally retarded*

It is also shown in the table above that at provincial level, those with multiple disabilities form the largest proportion (36 percent) followed by crippled who comprise 30 percent of the disabled. This pattern is similar to that of rural and urban areas of the province. The most common category of disability is multiple disabilities in all districts except Chililabombwe and Ndola Rural, where the most common category of disability is crippled (71 and 26 percent respectively).

The disabled in Copperbelt Province constitute less than 1 percent of the provincial population. See Table 10.2. Disability is twice as common in rural as in urban areas of the province.

Table 10.2

Disabled Persons as a Proportion of Total Population by Residence and Type of Disability, (Percent), Copperbelt Province, 1990

Residence	Type of Disability					
	Total	Blind	Dumb/Deaf	Crippled	Mentally Retarded	Multiple Disability
<b>Copperbelt</b>						
Total	0.7	0.1	0.1	0.2	0.1	0.2
Rural	1.2	0.2	0.2	0.3	0.1	0.3
Urban	0.6	0.1	0.1	0.2	0.0	0.2
<b>Districts</b>						
Chililabombwe	1.8	-	0.2	1.3	0.0	0.3
Chingola	0.5	-	0.1	0.1	0.1	0.2
Kalulushi	0.5	0.1	-	0.1	0.1	0.2
Kitwe	0.6	0.1	0.1	0.1	0.1	0.3
Luanshya	0.6	0.1	0.1	0.2	0.0	0.2
Mufulira	0.5	0.1	-	0.1	0.1	0.2
Ndola Rural	1.2	0.3	0.2	0.3	0.1	0.3
Ndola Urban	0.7	0.1	0.1	0.2	0.1	0.3

The proportion of population comprising the disabled among the districts is the largest in Chililabombwe, in which 0.2 percent are dumb/deaf, 1.3 percent crippled, 0.3 percent with multiple disabilities and a negligible proportion blind or mentally retarded. In Ndola Rural district, 1.2 percent of the total population are disabled. Chingola, Kalulushi and Mufulira have the smallest proportions of their population identified as disabled (0.5 percent).

# 10.4 CHARACTERISTICS OF DISABLED PERSONS

## Sex Ratios

Table 10.3 shows the sex ratios of the disabled persons in the province by type of disability. The sex ratio for all the disabled persons in the province is 116.5. It ranges from 102 among the multiple disabled to 145 among the mentally retarded. In both rural and urban areas of the province, the highest sex ratio is that of the mentally retarded and the lowest is that of the multiple disabled.

Table 10.3

Sex Ratio of Disabled Persons by Residence and Type of Disability, Copperbelt Province, 1990

Sex Ratio and Residence	Type of Disability				
	Total	Blind	Deaf/Deaf	Crippled	Mentally Retarded
Copperbelt	116.5	118.5	122.6	125.0	145.3
Total	115.7	114.3	119.2	117.3	143.5
Rural	116.8	121.0	124.5	127.0	145.9
Urban	99.3	181.8	136.6	88.7	250.0
Districts					
Chitumbombwe	112.7	138.1	123.3	155.6	107.7
Chingola	127.3	84.0	111.1	135.5	206.7
Katubushi	116.2	91.5	113.2	146.1	147.1
Kabwe	128.1	120.3	118.6	141.2	187.0
Luanshya	107.0	98.2	141.9	140.7	127.3
Mufusa	113.5	114.9	115.0	118.2	127.7
Ndola Rural	127.9	140.7	134.9	154.9	152.8
Ndola Urban					102.6

Among the districts, only Chitumbombwe has a sex ratio of less than 100. However, the sex ratio of the mentally retarded in this district is 250 which is the highest of all the sex ratios. In all other districts, there are usually more disabled males than females.

## Age Structure

The distribution of disabled persons in broad age groups is shown in Table 10.4. Among the disabled children (aged 0-14 years), the highest proportion (51.6 percent) comprises those with multiple disabilities. The crippled form slightly over one-third of the disabled persons aged 15-59 years.

The crippled make up the largest group of the disabled for those aged 60 years and above, followed by the crippled. It appears that as people grow older they tend to lose their senses of sight. The percent blind is 8.1 percent in persons 0 - 14 years while it increases to 29 percent in persons 60 years and above.

Table 10.4

Disabled Persons by Type of Disability and Age Group, (Percent), Copperbelt Province, 1990

Type of Disability	Age Group			
	Total	0 - 14	15 - 59	60+
Total	100.0	100.0	100.0	100.0
Blind	13.2	8.1	14.0	29.1
Deaf/Dumb	11.7	13.4	10.7	14.0
Crippled	30.2	21.5	34.4	36.0
Mentally Retarded	8.9	5.4	10.8	7.3
Multiple Disabilities	36.0	51.6	30.2	13.7

*Usually Economically Active Disabled Population*

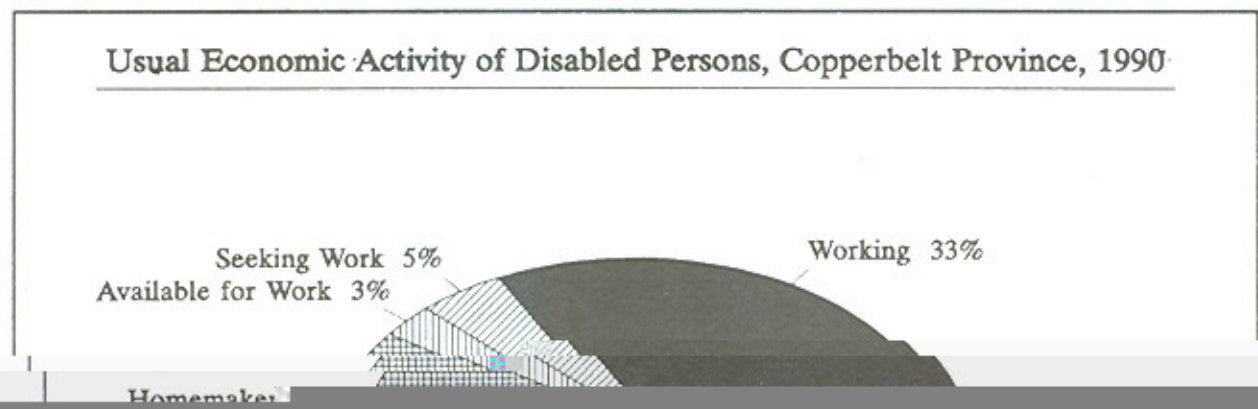
The distribution of disabled persons by type of usual economic activity is shown in Table 10.5. The majority of the economically active disabled persons work and account for 31 percent. For the mentally retarded, the largest proportion is "not available for work". About one fifth of the mentally retarded are working.

Table 10.5

Disabled Persons (12 Years and Older) by Type of Disability and Usual Economic Activity, (Percent), Copperbelt Province, 1990

Usual Economic Activity	Type of Disability					
	Total	Blind	Deaf/Dumb	Crippled	Mentally Retarded	Multiple Disabilities
Total Number	7,685	1,170	870	2,571	781	2,293
Percentage total	100.0	100.0	100.0	100.0	100.0	100.0
Working	31.3	38.5	32.6	32.7	21.6	28.8
Seeking work	4.5	2.6	7.7	5.3	3.2	5.0
Available for work	2.9	1.9	2.1	3.8	2.8	2.7
Homemaker	13.0	15.6	11.3	11.1	7.9	16.2
Student	19.1	13.7	21.3	20.0	8.7	23.8
Not available for work	25.5	24.4	25.6	24.7	47.9	19.3
Not Stated	3.7	3.3	3.2	2.4	7.9	4.2

Figure 10.1



Disabled Persons (5 Years and Older) by Type of Disability and Level of Education Completed, (Percent), Copperbelt Province, 1990

Type of Disability	Level of Education											
	Total Number	Percentage Total	No Education	Primary	Secondary	Higher	Not Stated					
Total	9220	100.0	38.4	41.4	17.1	0.2	2.9					
Blind	1288	100.0	45.0	36.3	16.4	0.2	2.0					
Deaf/Dumb	1100	100.0	51.7	37.5	7.9	-	2.8					
Crippled	2910	100.0	31.7	44.8	21.0	0.2	2.3					
Mentally Retarded	861	100.0	51.7	32.0	13.6	-	2.7					
Multiple Disabilities	3061	100.0	38.4	44.3	17.9	0.1	4.3					

None of the mentally retarded or dumb/deaf have completed higher levels of education. The majority in both groups have had no formal education and they comprise slightly over half in each case. The crippled have the largest proportion of those who have completed secondary level of education and the smallest proportion of those reported to have received no formal education.

The 1990 Census recorded a total number of 10,272 disabled persons in the Copperbelt Province, giving a proportion of 0.7 percent of the total population. The data shows that there are more disabled persons in urban than rural areas but the prevalence of disability is twice as high in rural as in urban areas. There are more male (53.8 percent) than female disabled persons (46.2 percent).

The distribution of the disabled by type of disability shows that the largest number is that of the multiple disabled. The other disabilities in order of magnitude are crippled, blind, deaf/dumb and mentally retarded. The distribution of the disabled population by educational status shows that 38.4 percent have no formal schooling. Those who have completed primary school constitute 44.4 percent.

in terms of economic activity, 31.3 percent of the disabled are working. The majority of the mentally retarded persons are not available for work but 22 percent of the mentally retarded work.

## HOUSEHOLDS AND HOUSING CHARACTERISTICS

## 11.1 INTRODUCTION

The 1990 Census collected data on housing characteristics for every housing unit and household. The following information was solicited :-

- Type of structure
- Materials used for roofing, walls and floors
- Sources of water and energy
- Type of toilet facilities
- Ownership of housing unit and type of tenancy

The last page of the 1990 Census questionnaire provides more details on the type of questions on households and housing characteristics.

## 11.2 CONCEPTS AND DEFINITIONS

*Household*

A group of persons who normally live and eat together. These people may or may not be related to each other. They make common provision for food or other essentials for living and have only one person whom they all regard as the head of household.

*Household Composition*

Description of the household according to some aspect of its membership, such as age, sex and number.

*Headship Rate*

Ratio of the number of heads of households to the total population in a specified age and sex category.

*Housing Unit*

An independent place of abode intended for habitation by at least one household. It should have its own door to the outside or a hallway.

*Conventional Housing Unit*

A structure(s) that has other facilities such as kitchen, toilet, living room, pantry, etc. in a permanent building intended for habitation by one household. The housing unit may be just one structure, several structures or part of a big structure. An unconventional housing unit is not intended for human habitation, although, it could have been used for habitation at the time of interview.

### Aqua Privy

A type of toilet in which water from a tank through pipe sweeps away human excreta in a gully that leads to a sewerage system.

## 11.3 HOUSING CHARACTERISTICS

Housing conditions constitute an important component of the standard of living in a community including the ability to avoid the occurrence of diseases.

### Number of Rooms Per Housing Unit

The number of rooms in a housing unit generally reflects the quality of housing that a household is occupying. For 1990 Census purposes, in rural areas several huts belonging to one household were treated as rooms of one housing unit. The number of rooms includes living rooms and bedrooms but not kitchen, verandas, lobbies and toilet.

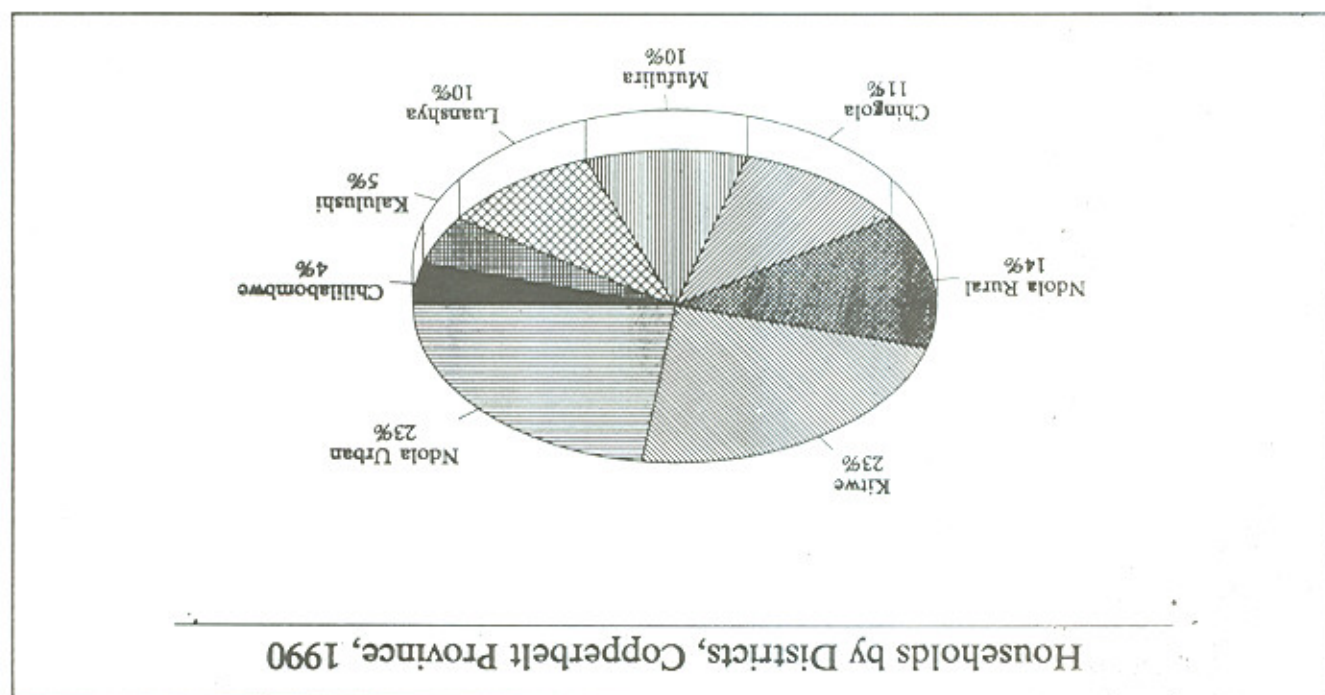
Table 11.1 displays data on households and number of rooms for the Copperbelt Province. In all, there were 236,709 households in the province in 1990 of which 41,295 and 195,414 were found in rural and urban areas, respectively. About 41 percent of households in Copperbelt Province occupy two-roomed housing units. Slightly over 90 percent of households in both rural and urban areas occupy housing units of less than five rooms.

Table 11.1

Households by Number of Rooms, Rural/Urban and Districts, (Percent), Copperbelt Province, 1990

Residence	Households	Total	Number of Rooms									
			1	2	3	4	5	6	7	8	9	10+
Copperbelt Province	236,709	100.0	7.5	40.8	28.4	15.5	4.4	1.4	0.6	0.3	0.1	0.1
Rural	41,295	100.0	14.4	47.5	22.4	9.3	3.2	1.2	0.5	0.4	0.1	0.2
Urban	195,414	100.0	6.0	39.4	29.7	16.8	4.7	1.5	0.6	0.2	0.1	0.1
Districts												
Chilabombwe	10,607	100.0	6.6	52.2	20.9	17.5	2.1	0.5	0.2	0.1	0.0	0.1
Chingola	25,814	100.0	8.9	32.8	29.9	17.9	6.0	2.1	1.3	0.2	0.3	0.1
Katshuni	12,061	100.0	5.9	39.9	28.0	17.5	4.4	2.6	0.5	0.4	0.1	0.1
Kitwe	53,834	100.0	5.2	38.4	29.8	18.0	5.2	1.4	0.5	0.2	0.2	0.1
Luanshya	23,311	100.0	6.4	34.1	39.8	14.6	3.0	0.7	0.4	0.1	0.1	0.1
Mafikisa	23,830	100.0	5.2	41.0	32.9	14.1	3.6	1.3	0.4	0.4	0.2	0.3
Ndola Rural	33,024	100.0	15.5	47.6	21.9	9.0	3.0	1.1	0.5	0.4	0.1	0.3
Ndola Urban	54,228	100.0	6.3	43.7	25.0	16.0	5.2	1.6	0.6	0.3	0.1	1.0

Figure 11.1



Among the districts, Chililabombwe has the largest proportion (52 percent) of households occupying two-roomed housing units while Chingola has the least with 33 percent. Less than 2 percent of households in each of the districts occupy housing units with seven or more rooms.

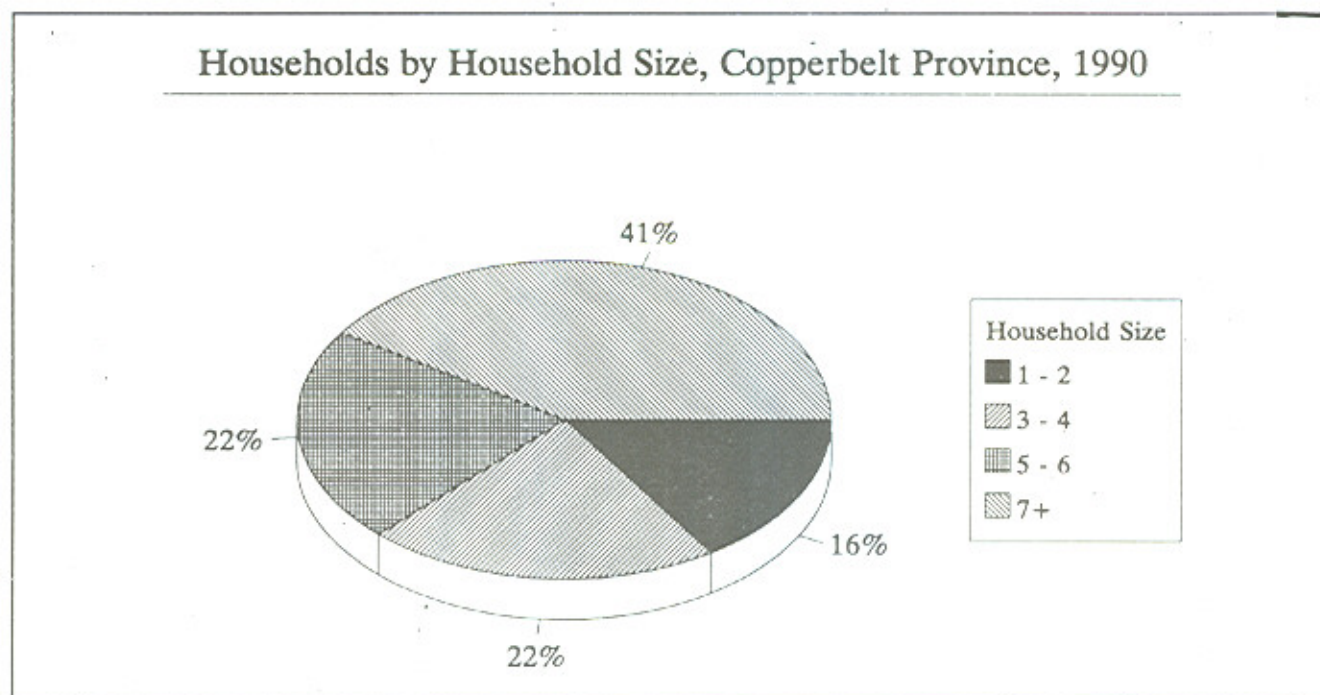
Table 11.2 sheds more light on the housing situation as it indicates household size and number of rooms per housing unit in the province as well as in rural and urban areas.

Table 11.2

Households by Household Size, Number of Rooms and Residence, (Percent), Copperbelt Province, 1990

Residence and Household Size	Households	Number of Rooms							Average No. of rooms	Average number of persons per room
		Total	1	2	3	4	5	6+		
		Not Stated								
Copperbelt Province	Total	236,709	100	7.5	40.8	28.4	15.5	4.4	2.5	0.9
	1-2	37,202	100	18.6	51.5	18.1	6.9	2.0	1.6	1.3
	3-4	50,954	100	10.8	49.4	24.6	10.0	2.8	1.7	0.8
	5-6	52,254	100	5.7	43.7	29.9	13.9	3.9	2.1	0.7
	7+	96,299	100	2.4	30.6	33.6	22.6	6.5	3.5	0.8
	Total	41,295	100	14.4	47.5	22.4	9.3	3.2	2.4	0.7
	1-2	10,333	100	22.1	54.0	16.2	4.4	1.3	1.1	0.9
	3-4	10,786	100	16.4	51.7	21.4	6.8	1.9	1.3	0.5
	5-6	8,776	100	11.9	47.5	24.9	9.8	3.2	2.3	0.5
	7+	11,400	100	7.4	37.7	27.8	15.6	6.0	5.6	0.7
Urban	Total	195,414	100	6.0	39.4	29.7	16.8	4.7	2.5	0.9
	1-2	26,869	100	17.3	50.6	18.9	7.9	2.3	1.7	1.4
	3-4	40,168	100	9.3	48.8	25.4	10.8	3.0	1.8	0.9
	5-6	43,478	100	4.3	43.0	31.0	14.8	4.1	2.1	0.7
	7+	84,899	100	1.8	29.7	34.5	23.5	6.5	3.2	0.8
	Total	195,414	100	6.0	39.4	29.7	16.8	4.7	2.5	0.9
	1-2	26,869	100	17.3	50.6	18.9	7.9	2.3	1.7	1.4
	3-4	40,168	100	9.3	48.8	25.4	10.8	3.0	1.8	0.9
	5-6	43,478	100	4.3	43.0	31.0	14.8	4.1	2.1	0.7
	7+	84,899	100	1.8	29.7	34.5	23.5	6.5	3.2	0.8

Figure 11.2



Over-crowding in the province is apparent as shown in Table 11.2. The table shows that the largest proportion of households with household size of 3 and above occupy 2 roomed housing units. When the proportion of households with 5 members and above is computed, the result indicates that 63 percent of households are in this category. The proportion of households occupying one or two roomed housing units and with 5 or more members is higher in rural than urban areas. Overcrowding is most apparent in households with at least 7 members as they have the largest number of persons per room on average.

#### *Construction Materials of Walls and Roofs*

Quality building materials for constructing walls, roofs and floors increase the durability of housing. The type and quality of walls and roof of a housing unit also have implications for the health of the occupants.

Tables 11.3 and 11.4 show the construction materials for walls and roofs of housing units in Copperbelt Province. The most common building materials of walls are concrete blocks, used in about 43 percent of housing units, while that of roofs are asbestos sheets used in about 42 percent of housing units.



Most housing units with burnt brick walls have roofs made of either asbestos sheets or iron sheets. Slightly over half of the housing units with mud brick walls have iron sheet roofs. About 74 percent and 88 percent of housing units with grass and pole/dagga walls, respectively, have grass roofs.

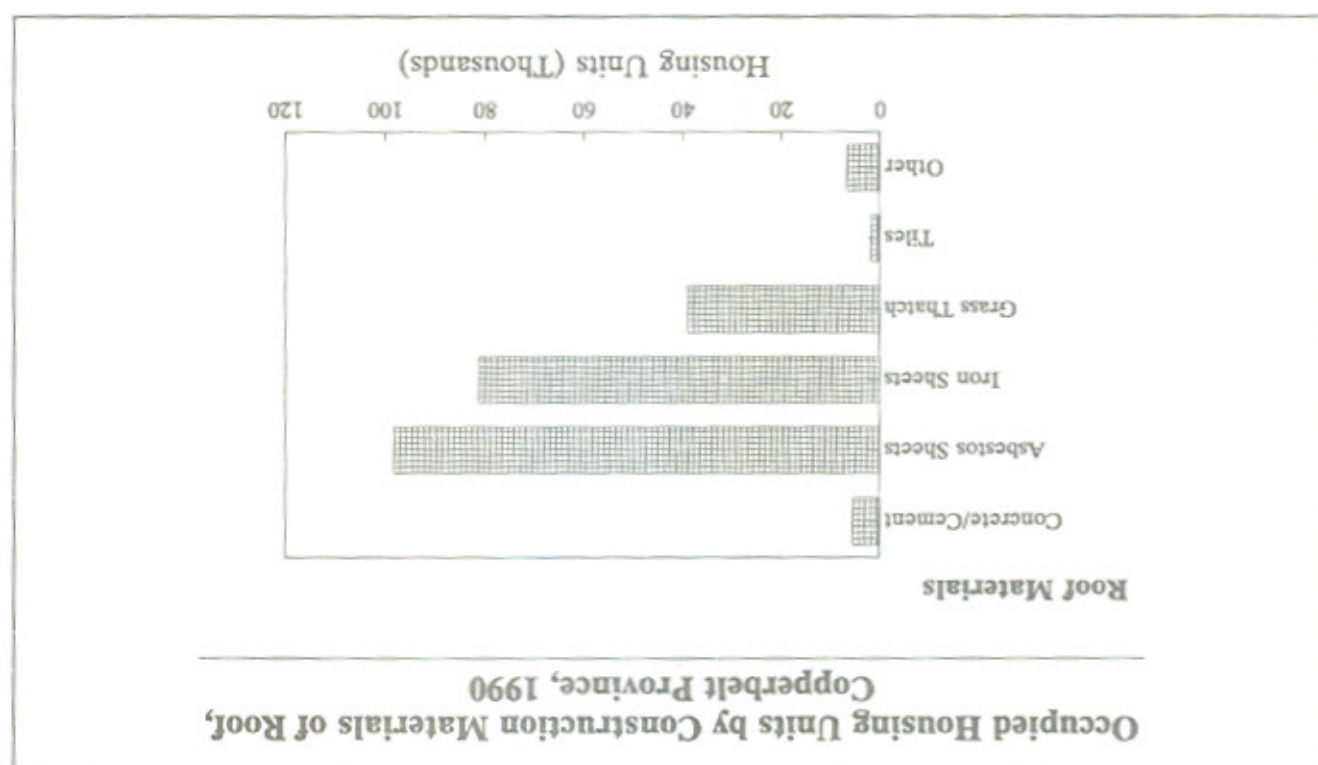


Figure 11.4

Table 11.4

Occupied Housing Units by Construction Materials of Walls and Roofs, (Percent), Copperbelt Province, 1990

Construction Materials of Walls	Total	Construction Materials of Roof						
		Cement/ Concrete	Asbestos Sheets	Iron Sheet Corrugated	Grass Thatch	Tiles	Other	Not Sited
Burnt Bricks	14.1	15.7	16.5	16.5	0.5	59.0	2.2	3.4
Mud Bricks	54.2	17.8	9.4	50.0	60.5	9.5	83.1	7.4
Concrete Blocks	42.9	45.4	73.4	30.6	0.3	28.4	3.1	5.2
Stone	0.1	0.1	0.1	0.1	0.2	0.5	0.0	0.1
Iron Sheets	0.3	0.5	0.0	0.7	0.1	0.5	1.1	2.4
Asbestos/Wood/Hardboard	0.3	0.2	0.1	0.4	0.3	-	1.5	0.9
Pole and Daga	6.6	-	0.3	1.4	35.0	1.4	5.1	1.4
Grass	0.6	-	0.1	0.1	2.6	0.2	1.4	7.6
Other	0.8	-	0.1	0.2	0.5	0.5	3.4	21.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Housing Units	233,168	5,328	98,258	81,137	38,833	1,675	6,496	1,741
Rural								
Burnt Bricks	2.8	11.6	12.7	6.2	0.5	12.7	0.5	2.2
Mud Bricks	60.6	44.8	32.8	68.1	61.7	54.4	26.0	20.5
Concrete Blocks	7.1	29.0	48.5	14.3	0.2	10.1	0.2	7.6
Stone	0.2	0.5	0.2	0.2	0.1	-	0.2	0.6
Iron Sheets	0.8	2.6	0.3	2.8	0.1	2.5	0.4	0.9
Asbestos/Wood/Hardboard	1.2	1.1	1.5	2.4	0.4	-	14.5	0.9
Pole and Daga	24.3	-	3.6	5.4	33.8	15.2	26.0	9.6
Grass	2.0	-	0.3	0.2	2.6	2.5	12.6	8.3
Other	1.0	0.6	0.2	0.4	0.6	2.5	19.6	49.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Housing Units	41,262	152	2,701	10,190	27,146	79	565	229
Urban								
Burnt Bricks	16.5	37.4	16.6	17.9	0.5	61.3	2.3	7.6
Mud Bricks	28.6	18.2	8.8	47.5	57.6	7.1	88.5	5.3
Concrete Blocks	50.6	46.6	74.1	32.9	0.5	29.3	3.4	5.6
Stone	0.1	0.3	0.1	0.1	0.2	0.6	0.0	0.1
Iron Sheets	0.2	0.5	0.0	0.4	0.1	0.4	0.1	1.8
Asbestos/Wood/Hardboard	0.1	0.1	0.1	0.2	0.2	-	0.3	0.9
Pole and Daga	2.8	-	0.2	0.8	37.8	0.7	3.2	0.7
Grass	0.3	-	0.1	0.1	2.6	0.1	0.4	7.5
Other	0.8	0.2	0.1	0.2	0.5	0.4	1.8	24.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Housing Units	192,206	4,967	95,557	70,947	11,687	1,596	5,931	1,512

Common construction materials of walls other than concrete blocks are mud bricks and burnt bricks which are used in 34.2 and 14.1 percent of the housing units, respectively. The majority of housing units with concrete or asbestos sheet roofs have concrete block walls. Half of the housing units with iron sheet roofs and about 60 percent of those with thatched roofs have mud brick walls.

In the rural areas, 54.8 percent of the housing units with concrete roofs have mud brick walls followed by those with concrete block walls which make up 29 percent. None of these housing units had grass or pole and dagga walls. Of the housing units with asbestos roofs 48.5 percent have concrete block walls. Over half of those with either iron sheet or grass roofs have mud brick walls. These make up 68.1 and 61.7 percent, respectively.

In urban areas about 47 percent of housing units with concrete roofs have concrete walls while those with walls made of stone, iron sheets and asbestos are less than 1 percent in each case. About three-quarters of the structures with asbestos roofs have concrete walls. The majority of housing units with iron sheet roofs have walls made of mud bricks, burnt bricks or concrete blocks. Mud bricks and pole and dagga are the most common building materials of walls for housing units with grass roofs. The most common construction materials of walls for housing units with roofs made of tiles are burnt bricks.

The majority of housing units in rural areas (60.6 percent) are made of mud brick walls while concrete blocks are the most common (50.6 percent) building materials of walls in urban areas. Pole and dagga walls are more common in rural than in urban areas.

#### Construction Materials of Walls and Floors

Construction materials of walls and floor are shown in Tables 11.5 and 11.6. The most common building materials of floors is concrete or cement which is used in 70.2 percent of housing units.

Table 11.5

Occupied Housing Units by Construction Material of Walls and Floors, (Percent), Copperbelt Province, 1990

Construction Materials of Walls	Housing Units	Total	Construction Material of Floor					
			Concrete/Cement	Mud	Wood (not Wooden Tile)	Marble	Other	Not Stated
Burnt Bricks	32,818	100.0	94.7	1.9	1.8	0.5	1.0	0.3
Unburnt/Mud Bricks	79,961	100.0	40.6	58.4	0.3	0.1	0.3	0.3
Concrete Blocks/Slab	100,240	100.0	97.9	0.6	0.8	0.1	0.3	0.3
Stone	253	100.0	62.5	31.6	0.8	1.6	2.0	1.6
Iron Sheets	757	100.0	68.7	26.8	1.1	0.1	2.6	0.7
Asbestos/Hardboard/Wood	674	100.0	58.9	38.4	0.9	0.1	0.9	0.7
Pole and Dagga	15,412	100.0	5.7	93.3	0.2	0.1	0.3	0.4
Grass	1,389	100.0	6.9	78.3	0.4	0.1	4.2	10.2
Other	1,964	100.0	14.0	16.6	0.4	-	5.4	63.5
Total	233,468	100.0	70.2	27.5	0.7	0.2	0.5	0.9

Table 11.5 shows that less than 1 percent of the housing units in the province have wood or marble floors while about 28 percent of the housing units have mud floors. Over 90 percent of housing units with burnt brick or concrete walls have concrete floors in each case. Common construction materials of floors for housing units made of unburnt/mud brick walls are concrete and mud which account for 40.6 and 58.4 percent of housing units, respectively. Mud and concrete are also common construction materials of floors for housing units with stone, iron sheet and asbestos walls. Mud floors are found in 93.3 percent of housing units with pole and dagga walls and in 78 percent of those with grass walls.

Table 11.6

Occupied Housing Units by Construction Material of Walls and Floors, (Percent), Copperbelt Province, 1990

Construction Materials of Walls	Total	Construction Material of Floor					
		Cement/Concrete	Mud	Wood (not Wooden Tile)	Marble	Other	Not Stated
Rural	Burnt Bricks	14.1	18.9	34.2	40.0	29.9	4.3
	Unburnt/Mud Bricks	34.2	19.8	72.6	12.2	31.4	13.0
	Concrete Blocks/Slab	42.9	59.9	1.0	21.0	25.0	12.5
	Stone	0.1	0.1	0.1	1.1	0.5	0.2
	Iron Sheets	0.3	0.3	0.3	0.3	1.9	0.2
	Asbestos/Hardboard/Wood	0.3	0.2	0.4	0.3	0.6	0.2
	Pole and Daga	6.6	0.5	22.4	5.6	5.0	2.6
	Crass	0.6	0.1	1.7	0.3	5.5	6.8
	Other	0.8	0.2	0.5	0.5	10.2	60.2
	Total	100.0	100.0	100.0	100.0	100.0	100.0
Housing Units		233,468	163,961	64,302	1,698	372	1,055
Total		2,080					
Urban	Burnt Bricks	2.8	10.6	0.6	4.1	3.8	1.3
	Unburnt/Mud Bricks	60.6	48.4	64.8	49.5	63.5	21.3
	Concrete Blocks/Slab	7.1	30.1	0.4	16.5	1.9	2.6
	Stone	0.2	0.2	0.1	1.0	0.6	0.9
	Iron Sheets	0.8	2.6	0.3	2.1	7.3	0.9
	Asbestos/Hardboard/Wood	1.2	2.8	0.7	4.1	1.8	0.4
	Pole and Daga	24.3	4.6	30.2	17.5	13.9	15.7
	Crass	2.0	0.2	2.4	3.1	28.5	8.3
	Other	1.0	0.4	0.7	2.1	36.4	48.7
	Total	100.0	100.0	100.0	100.0	100.0	100.0
Housing Units		41,262	9,255	31,463	97	52	165
Total		230					
Urban	Burnt Bricks	16.5	19.4	1.4	36.0	45.9	4.7
	Unburnt/Mud Bricks	28.6	18.1	80.2	9.9	26.3	12.0
	Concrete Blocks/Slab	50.6	61.6	1.6	52.1	24.1	13.8
	Stone	0.1	0.1	0.1	0.1	0.9	0.1
	Iron Sheets	0.2	0.2	0.4	0.4	0.4	0.1
	Asbestos/Hardboard/Wood	0.1	0.1	0.1	0.1	0.3	0.2
	Pole and Daga	2.8	0.3	14.9	0.9	1.9	1.0
	Crass	0.3	0.1	1.0	0.2	0.3	6.6
	Other	0.8	0.2	0.3	0.4	5.3	61.4
	Total	100.0	100.0	100.0	100.0	100.0	100.0
Housing Units		192,206	154,706	32,839	1,601	320	890
Total		1,850					

Concrete blocks, burnt and unburnt bricks are common in the construction of walls for housing units with concrete, wood or marble floors as shown in Table 11.6. Over 70 percent of housing units with mud floors have unburnt brick walls.

Of the housing units with concrete floors in the rural areas of the province, 48.4 percent have mud brick walls while 30 percent have concrete walls. Of the structures with mud floors, almost two-thirds have mud brick walls. About 64 percent of housing units with marble floors have mud brick walls while none of them has walls made of iron sheets, asbestos or grass.

In urban areas, the majority of housing units have concrete walls. The proportion of housing units with concrete floors and concrete walls is 61.6 percent. However, of the housing units with mud floors, 80 percent have mud brick walls and 46 percent of those with marble floors have burnt brick walls.

#### Water Supply and Sanitation

The availability of clean water helps to prevent the occurrence of waterborne diseases such as dysentery, cholera, diarrhoea and bilharzia. Piped water inside or outside housing units, boreholes and protected wells are among the sources of clean water supply.

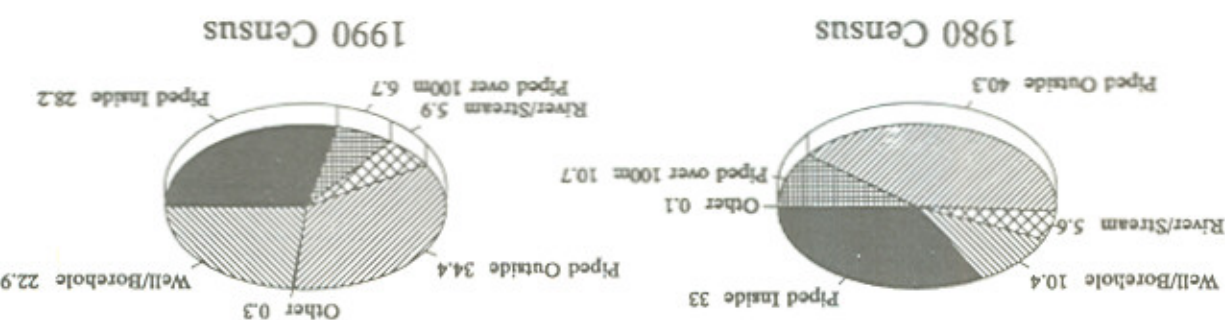
The most common source of water supply as shown in Table 11.7 for Copperbelt Province is piped water outside the housing unit and within 100 meters of the housing unit. This source is used by about 34 percent of households. The pattern of sources of water supply for 1990 is similar to that of 1980 except that the proportion of households that depend on well/borehole as their source of water supply has more than doubled during the inter-censal period. There has been an increase in the number of households on the Copperbelt without a corresponding increase in the number of households supplied with piped water both inside and outside the housing unit. Supply of water by pipe accounted for 84 percent of households in 1980 while in 1990 the figure dropped to less than 70 percent. On the contrary, the proportion of households having the main source of water from river/stream and well/borehole increased from 16 percent in 1980 to 28.8 percent in 1990. Thus, the quality of water supply has deteriorated between 1980 and 1990.

Table 11.7

Households by Main Source of Water Supply, (Percent), Copperbelt Province, 1980 and 1990

Main Source of Water Supply	1980	Province - 1990										
		Total	Rural	Urban	Chilabombwe	Chingola	Kalusha	Katima	Luanshya	Mufusa	Ndola Rural	Ndola Urban
Piped Water inside Housing Unit	15.0	28.2	2.0	33.7	23.9	31.8	23.5	35.0	41.3	30.6	19.9	31.0
Piped Water outside Housing Unit	40.5	34.4	6.1	40.4	51.1	39.5	32.2	36.0	33.8	40.4	5.3	42.9
Piped Water Beyond 100m	10.7	6.7	2.3	7.6	5.9	4.9	2.5	4.7	4.7	2.8	2.7	13.9
Well/Borehole	10.4	22.9	59.5	15.1	12.8	18.1	16.7	20.0	16.5	22.1	56.5	9.4
River or Stream	5.6	5.9	27.4	1.4	5.2	3.4	3.4	1.2	1.9	2.4	30.6	0.9
Mountain	0.1	0.3	1.4	0.1	-	0.1	0.4	0.1	0.1	0.1	1.8	0.0
Not Scaled	-	1.6	1.2	1.7	1.0	1.3	1.3	1.3	2.1	1.6	1.2	1.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Households	218059	236,709	41,295	195,414	10,607	25,814	12,061	53,834	23,111	21,830	33,024	54,228

Households by Main Source of Water Supply, Copperbelt Province



There are large disparities between rural and urban areas with regard to the main source of water supply. Urban areas are much better served with piped water than rural areas. The proportions of households that have access to piped water are 81.7 percent in urban areas and only 10.4 percent in rural areas. Well/borehole is the most common source of water in rural areas and accounts for about 60 percent of the households. The second most common source is river/stream which accounts for 27 percent of the households. In urban areas, only 15 percent and 1 percent depend on well/borehole and river/stream as a main source of water, respectively.

In Katlushi and Ndola Rural, unlike other districts, well/borehole is the most common source of water supply and constitutes 36.7 percent and 56.5 percent, respectively. The proportions of households that use water from the river/stream range from 0.9 percent in Ndola Urban to 30.6 percent in Ndola Rural. In order to fulfil the policy of supplying safe drinking water to all, it is necessary to extend the coverage of safe piped water supplies to the rural population.

Households drawing water from rivers/streams or wells in areas where the most common toilet facility is the pit-latrines run the risk of drawing contaminated water. This makes the population vulnerable to various forms of water borne diseases because seepage containing germs from the pit latrines may contaminate the water in the rivers/streams or wells. Table 11.8 shows the type of toilet facilities available in the province. The flush toilet is the most common type of toilet facility, used by 48.7 percent of the households, closely followed by pit latrine which is used by 42.9 percent.

Main source of Energy for cooking	Total	Residence		Districts									
		Rural	Urban	Chilabambwe	Chingola	Katoshit	Xitwe	Lusumbwa	Mufumbira	Ndola Rural	Ndola Urban	Total	Households
Electricity	21.8	1.1	26.2	27.0	31.5	21.5	26.8	22.9	29.6	0.9	20.2	20.2	100.0
Gas	0.4	0.4	0.5	0.2	0.4	0.4	0.4	0.5	0.5	0.4	0.6	0.6	100.0
Kerosene	2.1	2.8	2.0	1.2	1.7	1.7	2.4	1.6	1.5	2.7	2.4	2.4	100.0
Wood	19.6	26.5	1.8	12.2	12.7	20.9	4.9	11.2	2.9	84.9	6.9	6.9	100.0
Charcoal	55.2	18.8	65.1	45.2	43.2	25.2	61.5	63.0	59.8	10.4	69.2	69.2	100.0
Coal	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	100.0
Other	0.7	0.2	0.7	0.6	0.6	0.4	1.0	0.7	0.6	0.5	0.6	0.6	100.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Households	256,799	41,295	195,414	10,607	25,814	12,061	53,834	25,311	23,830	33,024	54,228	54,228	100.0

Households by Main Source of Energy used for Cooking and District, (Percent), Copperbelt Province, 1990

Table 11.9

The six main sources of cooking energy in the Copperbelt Province are shown in Table 11.9. These are electricity, gas, kerosene/paraffin, wood charcoal and coal. The degree of consumption of these energy sources varies between rural and urban areas.

### Domestic Energy

About three quarters of rural households use pit latrines, while the 'other' category comes second with almost 20 percent. The 'other' toilet facilities may include the bush. The flush toilet is used by only 5 percent of the households. In urban areas 58.3 percent use flush toilets while 36 percent use pit latrines.

In the Copperbelt Province, Mufumbira District has the highest proportion, among the districts, of households that use flush toilets and they are used by for 58.6 percent of households in the district while in Ndola Rural they are used by the least proportion of 2.3 percent of the household. About 95 percent of households in Ndola Rural use pit latrine and other types of toilet facilities. The bucket and aqua-privy are not common toilet facilities throughout the province.

Type of Toilet	Total	Rural	Urban	Districts									
				Chilabambwe	Chingola	Katoshit	Xitwe	Lusumbwa	Mufumbira	Ndola Rural	Ndola Urban	Total	Households
Flush	48.7	2.9	78.3	65.8	66.0	43.0	51.8	61.6	68.6	2.3	50.6	50.6	100.0
Bucket	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	100.0
Aqua-Privy	2.1	0.7	2.5	0.2	0.2	0.3	0.5	0.2	0.2	0.3	0.2	0.2	100.0
Pit Latrine	42.9	71.4	31.0	28.5	30.2	47.5	38.7	32.1	26.2	74.3	46.7	46.7	100.0
Other	4.9	19.3	1.8	4.7	3.7	1.5	1.7	4.0	2.0	20.8	1.1	1.1	100.0
Not stated	1.2	2.1	2.1	1.0	1.0	1.0	1.5	1.1	1.5	2.1	1.1	1.1	100.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Households	236,799	41,295	195,414	10,607	25,814	12,061	53,834	25,311	23,830	33,024	54,228	54,228	100.0

Households by Type of Toilet and Residence, (Percent), Copperbelt Province, 1990

Table 11.8

Table 11.10 shows that the proportion of households using electricity for cooking increased from 16.6 percent in 1980 to 21.8 percent in 1990. Wood, charcoal and coal were combined in previous censuses unlike in the 1990 Census (refer to Table 11.9 for disaggregation of wood, charcoal and coal for 1990). Wood fuel and coal were used by 81.4 percent of households according to the 1980 Census. This proportion decreased to 75 percent in 1990. Sources of energy used for lighting are shown in Table 11.11. Paraffin is the most common source of energy used for lighting in both rural and urban areas, though proportions vary considerably.

Energy Source	1980	1990
Electricity	16.6	21.8
Gas and Kerosene	1.9	2.5
Wood, Charcoal, Coal	81.4	75.0
Other	0.1	0.7
Total	100.0	100.0
Households	218,059	236,709

Households by Main Source of Energy for Cooking, (Percent), Copperbelt Province, 1980 and 1990

Table 11.10

Over half of the households in the province depend on charcoal as their main source of cooking energy. The second most common source is electricity which accounts for about 22 percent of the households. Wood is used by 19.6 percent of the households. The most common source of cooking energy in rural and urban areas is wood and charcoal, respectively. Electricity is used by 1.1 percent of rural households and 26.2 percent of urban households. In rural and urban areas, only 0.1 percent of households depend on coal in each case as shown in Table 11.9. The proportions of households that use electricity for cooking range from 0.9 percent in Ndola Rural to 31.3 percent in Chingola. Gas, paraffin and coal are not very common sources of cooking energy. The high proportion of households using charcoal and wood indicates a high level of forest wood consumption.

Table 11.11

Housing Units by Main Source of Energy Used for Lighting, (Percent), Copperbelt Province, 1990

Main source of energy for lighting	Total	Rural	Urban	Districts							
				Chibombo	Chingola	Katolusha	Karwe	Leanshya	Mufilira	Ndola Rural	Ndola Urban
Electricity	36.2	2.9	43.3	52.3	46.2	42.5	41.8	51.7	49.5	2.4	29.5
Gas	0.8	1.1	0.8	0.6	0.7	0.8	0.7	0.8	0.7	1.0	0.9
Paraffin	59.5	91.9	52.6	44.6	50.6	54.4	52.2	45.4	47.1	92.4	66.1
Candle	1.7	0.4	1.9	0.6	0.9	0.7	3.3	0.8	1.3	0.4	2.3
Other	1.0	3.1	0.6	1.3	0.9	1.0	0.7	0.6	0.6	3.1	0.5
Not Stated	0.8	0.7	0.8	0.7	0.7	0.5	1.0	0.7	0.7	0.7	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Housing Units	233,468	41,262	192,206	10,549	25,249	12,036	52,811	23,198	23,572	33,008	53,045

In rural areas, 92 percent of the households use paraffin for lighting, compared to 53 percent in urban areas. The second most common source in urban areas is electricity, which is used by 43.3 percent of the households. Only 3 percent of rural households use electricity for this purpose.

In all districts, the most common source of lighting energy is either electricity or paraffin. The differences in proportions of households using electricity and paraffin are within the range of 2.4 percent in Mufilira and 11.9 percent in Katolusha. Ndola Rural and Ndola Urban districts however, have a large difference in proportions in using electricity and paraffin. While 92.4 percent of households in Ndola Rural use paraffin, only 2.4 percent use electricity. In Ndola Urban, 29 percent of households use electricity while 66 percent use paraffin. Gas and candle are not common sources of lighting energy in the province.

#### 11.4 OWNERSHIP STATUS OF HOUSING UNITS

Table 11.12 presents data on housing units by ownership status for rural, urban and districts in the Copperbelt Province. The provision of housing units is usually done by various institutions and individuals. Households may thus occupy a housing unit under different conditions and terms. In the Copperbelt like in other parts of the country housing units are occupied by the owners, rented from a private landlord, central government, district council or employer. This section describes the housing units in terms of ownership by various persons and institutions.

About half of the housing units in the province are owned by individuals. Of the remaining half, Parastatal Organisations own 23.7 percent while the District Councils, Central Government and Private Organisations own 25.2 percent. Housing units belonging to individuals account for almost 90 percent in the rural areas as compared to 41 percent in the urban areas. In both rural and urban areas, privately owned housing units need further examination as to their quality and location. In the Copperbelt towns, most of the privately owned housing units are concentrated in the unplanned settlements which developed after independence with the removal of laws restricting people's movements from rural to urban areas.

During the 1980s, the government encouraged individual ownership of houses on a self-help basis in what were called site and service residential areas in towns and cities. The scheme together with unplanned settlements account for the bulk of individually owned housing units in the Copperbelt Province.

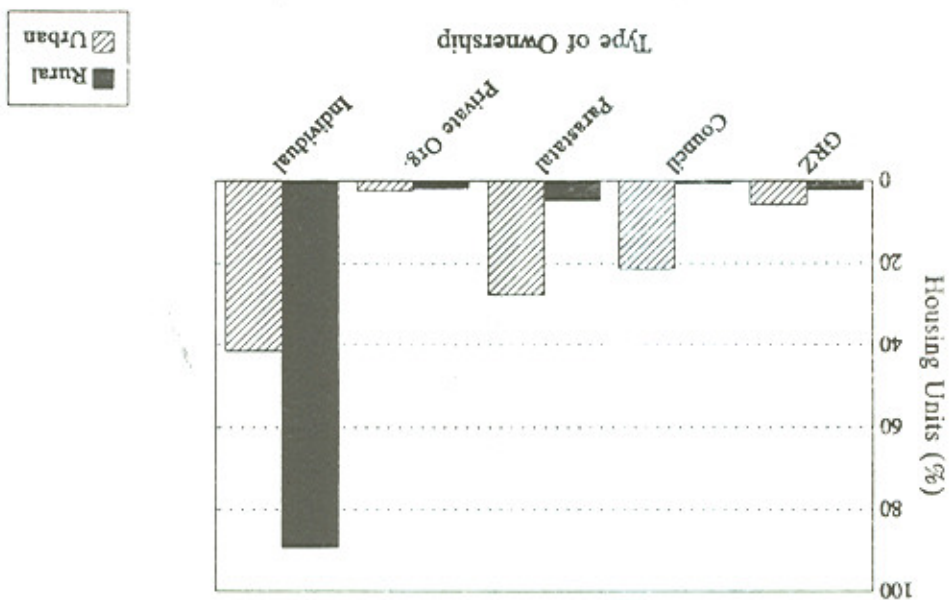
Table 11.12

Occupied Housing Units by Ownership Status and District, (Percent), Copperbelt Province, 1990

Ownership Status	Total	Rural	Urban	District											
				Central Govt	17.7	0.7	21.4	5.8	2.8	17.7	8.5	21.8	4.1	5.4	2.4
				District Council	23.7	4.7	27.7	2.7	43.1	34.3	36.7	23.9	42.1	38.4	4.4
				Private Org.	2.3	1.8	2.4	0.4	2.0	0.5	3.7	1.7	0.5	0.5	2.5
				Individual	49.9	89.3	41.4	36.6	41.2	50.4	42.9	33.5	35.5	88.9	52.7
				Not Stated	1.2	1.3	1.3	1.5	1.1	0.5	1.8	0.9	1.3	1.2	1.3
Total	100.0	100.0	100.0												
Housing Units	233,468	41,262	192,206												
				Chililabombwe	10,549										
				Chingola	25,249										
				Kafulush	12,036										
				Kabwe	52,811										
				Luanshya	23,198										
				Mufumbira	23,572										
				Ndola Rural	33,008										
				Ndola Urban	53,045										

Figure 11.6

Housing Units by Ownership Status, Copperbelt Province, 1990



Residence	Rented From						
	Households	Total	Central Government	District Council	Parastatal	Private Organisation	Individual
Copperbelt Province	- Total	97,310	5.1	33.8	36.3	1.7	19.7
	- Rural	3,090	12.2	5.2	24.5	2.9	48.4
	- Urban	94,220	4.9	34.7	36.7	1.7	18.8
	Districts						
	Chililabombwe	5,974	3.2	23.5	64.9	0.5	5.5
	Chingola	11,804	2.8	28.5	50.8	0.8	14.5
	Kahusha	5,701	4.8	9.3	54.6	0.5	27.1
	Kitwe	22,780	4.2	46.5	22.7	2.6	21.2
	Luanshya	14,563	5.0	23.5	58.5	1.3	7.8
	Mufutira	11,945	6.1	30.2	51.1	0.4	9.0
	Ndola Rural	1,943	18.1	6.4	7.9	4.9	57.2
	Ndola Urban	22,600	6.2	43.4	10.5	2.8	32.8
		100					4.3
		100					5.6
		100					3.2
		100					3.9
		100					2.8
		100					3.6
		100					2.5
		100					2.4
		100					3.3
		100					6.8
		100					3.4

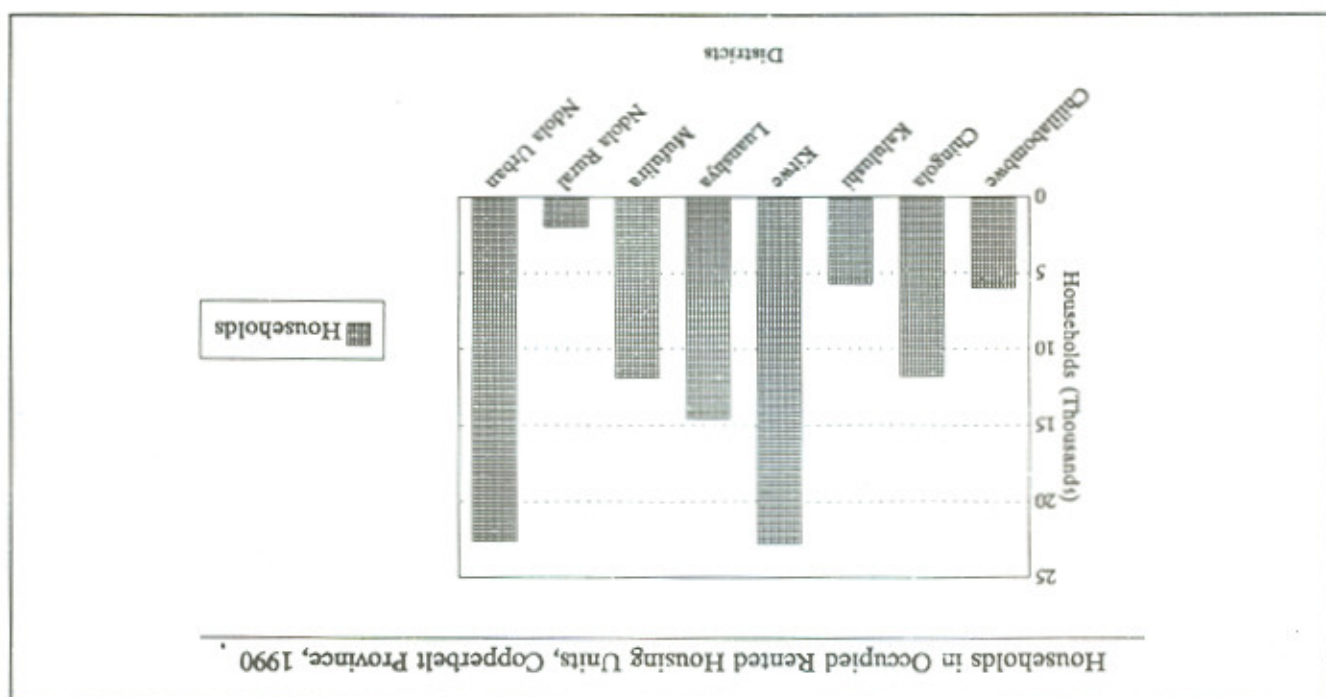
Households in Rented Housing Units by Residence and Ownership, (Percent), Copperbelt Province, 1990

Table 11.13

Table 11.13 presents data for the households that rent housing units from various landlords. Out of 236,709 households in the province, 97,310 live in rented housing units. Of these, about 20 percent occupy housing units rented from individuals. The largest proportion of households (36.3 percent) occupies housing units rented from Parastatal Organisations. This is closely followed by those renting from the District Council which account for 33.8 percent of households. In Kitwe and Ndola Urban districts, the highest proportion of households rent housing units from the District Council while the majority in Ndola Rural rent from individuals. In the rest of the districts the highest proportions rent from Parastatal Organisations. In Ndola Rural District, few households rent their housing units (1,943 out of 33,024 households in the district) because in rural settings households often own housing units. The remaining districts are highly urbanized where Parastatal Organisations have constructed houses for rent mostly to their employees.

Most of the housing units owned by Parastatal Organisations can be attributed to the Zambia Consolidated Copper Mines which at the time of the 1990 Census was the largest parastatal organisation on the Copperbelt. The proportions of housing units owned by the Central Government are less than 10 percent in each district while those owned by the District Councils range from 0.6 percent in Ndola Rural District to 26.3 percent in Ndola Urban. In Chililabombwe, Luanshya and Mufutira, the proportion of individually owned housing units is lower than the proportion owned by parastatal organisations. The opposite is true for the rest of the districts.

Figure 11.7



# 11.5 HOUSEHOLD SIZE AND COMPOSITION

## Household size

Household size by sex of household head is shown in Table 11.14. In the province, there are more male headed female headed households. Generally, the proportion of female headed households is higher than male headed households for households with five members or less. This suggests that there is a tendency for male headed households to be larger than those headed by females.

Table 11.14

Households by Size and Sex of Head, (Percent), Copperbelt Province, 1990

Sex of Household Head and	Households	Total	Household Size										
			1	2	3	4	5	6	7	8	9	10+	
Copperbelt	Male	207,110	5.5	9.0	11.1	11.1	12.9	11.1	10.9	10.1	9.2	7.4	15.4
	Female	29,544	12.6	11.5	12.4	12.1	10.1	8.4	6.4	4.8	8.7		
Chibabombwe	Male	9,147	6.9	9.2	9.6	10.1	10.9	11.4	10.1	8.1	7.7	15.1	
	Female	1,459	13.6	13.2	12.3	12.6	12.7	9.5	8.5	5.3	4.2	8.5	
Chingola	Male	23,056	5.8	8.8	8.8	10.4	10.6	10.5	10.5	9.6	7.7	17.1	
	Female	2,758	8.3	10.6	10.9	11.3	11.6	10.8	10.1	7.3	5.6	10.7	
Katolusha	Male	10,571	7.5	9.5	10.4	11.8	10.9	10.5	10.1	9.1	6.9	13.3	
	Female	1,488	16.7	14.2	12.5	13.0	11.8	9.8	7.1	5.8	2.8	6.2	
Kabwe	Male	48,319	3.8	7.4	9.0	10.6	11.1	11.3	11.3	9.7	8.3	17.8	
	Female	5,517	3.6	9.0	11.4	12.7	12.7	11.0	10.1	7.3	5.9	11.2	
Lusumbashi	Male	20,566	5.6	8.5	9.5	10.6	10.7	10.9	10.1	9.6	8.1	16.2	
	Female	2,744	10.6	10.9	12.6	14.5	12.0	11.0	8.1	6.9	4.8	8.1	
Mutitara	Male	21,081	4.9	8.6	9.4	10.9	11.2	10.9	10.1	9.5	7.9	16.4	
	Female	2,746	11.5	11.3	12.4	13.0	12.6	10.0	8.1	6.8	4.7	9.2	
Ndola Rural	Male	26,596	4.1	14.1	13.8	12.5	11.8	10.0	9.5	6.7	4.6	9.3	
	Female	6,433	9.5	15.0	14.4	12.8	10.8	8.7	6.1	4.6	3.4	5.1	
Ndola Urban	Male	47,825	4.7	8.3	9.6	11.2	11.4	11.1	10.1	8.9	7.4	15.3	
	Female	6,395	9.2	10.1	11.9	13.3	12.9	10.3	8.2	7.1	5.6	10.2	

Table 11.15 shows that average household size for Copperbelt Province increased from 5.7 in 1980 to 6.0 persons in 1990. There has been an increase in the average household size in both rural and urban areas. The average household sizes for male and female headed households stand at 6.1 and 5.6, respectively, among the districts. Kabwe has the highest average household size of 6.4 persons while Ndola Rural has the least with 5.0 persons.

Table 11.15  
Average Household Size by Residence and Sex of Head, Copperbelt Province,  
1980 and 1990

Sex of Household Head and Residence	1980	1990
Copperbelt Province	5.7	6.0
Total	5.9	6.1
Male	5.9	6.1
Female	4.8	5.0
Rural	4.5	5.0
Urban	6.1	6.2
Districts		
Chililabombwe	-	5.9
Chingola	-	6.2
Kalusha	-	5.6
Kitwe	-	6.4
Luanshya	-	6.1
Mufubira	-	6.1
Ndola Rural	-	5.0
Ndola Urban	-	6.1

The increase in the household size in the 1980s is influenced by the availability of housing units and the willingness of the society to have large family sizes. It is shown in Table 11.16 that the proportion of households with one member decreased from 9.2 percent in 1980 to 6.3 percent in 1990.

Table 11.16 also shows that the proportions of households with 2-3 and 4-6 members also decreased although by smaller margins. Households with seven or more members increased from 38.8 percent in 1980 to 40.7 percent in 1990.

Table 11.16

Household Size, (Percent), Copperbelt Province, 1980 and 1990

Number of Household Members	1980	1990
1	9.2	6.3
2-3	19.8	19.6
4-6	32.2	33.4
7+	38.8	40.7
Total	100.0	100.0

## Household Composition

Household composition in this report is described in terms of marital status of household heads, education level of household heads, usually economically household members, relationship to household head, children below 12 years old, and headship rates.

### Marital status of Household Heads

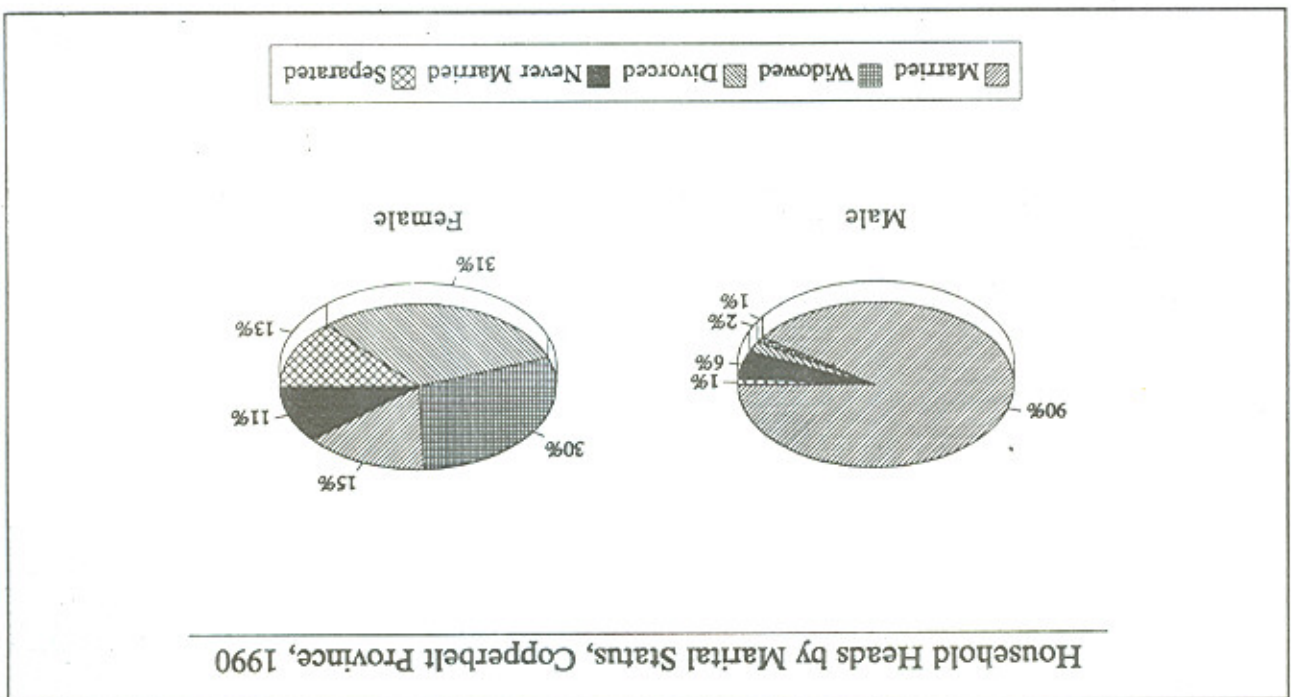
Table 11.17 shows that the highest proportion of male household heads are married, making up 86 percent of all male heads of households. Married female household heads however, only make up about 14 percent. Female heads of households are concentrated in the widowed and divorced categories in which they account for 28.5 and 29.4 percent, respectively. The pattern of marital status of household heads at provincial level can be generalised to both rural and urban areas. However, the proportion of female heads of households who have never been married in rural areas is about half that of their urban counterparts.

Table 11.17

Household Heads by Marital Status, Sex and Residence, (Percent), Copperbelt Province, 1990

Marital Status	Copperbelt Province		Rural		Urban	
	Male	Female	Male	Female	Male	Female
Never Married	5.3	10.5	4.4	6.2	5.5	12.0
Married	85.9	13.8	82.2	12.7	86.7	14.1
Widowed	1.0	28.5	1.3	28.8	1.0	28.4
Divorced	1.9	29.4	2.9	35.0	1.7	27.5
Separated	1.1	12.8	1.8	13.8	1.0	12.5
Not Stated	4.8	5.0	7.4	3.6	4.1	5.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

Figure 11.3



The distribution of heads of households by age sex and marital status is shown in Table 11.18. The table shows that marriage among household heads is almost universal. This is reflected by the small proportions of the never married-male and female heads of households. The majority of male household heads (85.9 percent) are married while most of the female heads are either widowed (28.5 percent) or divorced (29.4 percent). In the young age groups, the largest proportions of the household heads have never been married for both males and females. In older age groups, largest proportions of male household heads are married while most of the female household heads are widowed or divorced.

Table 11.18

Households Heads by Marital Status, Age and Sex, (Percent), Copperbelt Province, 1990

Age of Household Head	Marital Status and Sex of Household Head													
	Total		Never Married		Married		Widowed		Divorced		Separated		Not Stated	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
12-14	0.0	0.1	0.2	0.1	0.5	0.1	0.0	0.1	0.0	0.1	-	0.2	0.1	0.1
15-19	0.4	1.0	4.1	5.4	23.1	4.0	8.2	0.5	2.7	4.4	3.8	5.7	3.8	0.5
20-24	5.3	6.0	29.0	23.1	12.7	4.0	8.2	0.5	2.7	4.4	3.8	5.7	3.8	0.5
25-29	13.8	10.7	38.3	29.8	12.7	3.0	2.8	0.8	8.7	10.5	11.9	12.1	10.9	6.7
30-34	17.6	13.2	14.4	16.8	18.2	15.9	6.1	6.1	13.9	16.7	15.1	16.8	14.6	9.1
35-39	15.4	13.0	4.8	8.9	16.3	14.0	7.4	9.1	12.7	17.0	12.8	16.1	13.6	10.6
40-44	13.9	12.5	2.7	4.1	14.7	14.2	10.3	12.0	12.9	14.4	11.0	15.0	13.5	10.8
45-49	11.1	10.6	1.9	3.0	11.6	11.0	10.2	12.5	11.9	11.4	11.5	10.7	11.3	10.2
50-54	8.7	10.6	1.5	2.2	8.9	8.7	13.0	16.1	10.6	10.1	11.0	8.9	10.4	9.4
55-59	5.6	7.6	1.0	1.6	5.7	5.7	11.3	12.9	8.5	6.6	7.7	5.9	7.0	6.3
60-64	3.6	6.0	0.7	1.7	3.5	3.8	10.5	11.6	6.3	4.3	5.1	3.6	5.4	4.4
65+	4.4	7.4	1.2	2.7	4.1	4.1	27.4	15.8	11.5	4.0	9.6	4.3	5.7	5.6
Not Stated	0.3	1.3	0.2	0.1	0.1	0.2	0.3	0.3	0.1	0.1	0.4	0.2	3.3	22.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Education level of household head

Most of the household heads have either completed primary or secondary levels of education making up 35.7 percent and 41.3 percent respectively. Rural household heads are concentrated in the 'no schooling' and 'primary' categories while their urban counterparts are concentrated in the 'primary' and 'secondary' categories. Disparities also exist between male and female heads of households. The proportion of heads of households who have never received any formal education is higher for females than males. Among the household heads who have completed the primary or secondary levels of education, proportions are higher for males than females.

The majority of households have one or two members who are usually economically active (see Table 11.20). In the province, 6.6 percent of households have no members that are usually economically active. The highest proportion of households without a usually economically active member is that of households with one or two members (13.9 percent). In rural and urban areas, proportions of households without usually economically active members are 11.1 and 5.6 percent, respectively. For households with seven or more members in both rural and urban areas, the majority have only 1 or 2 members that are usually economically active.

#### *Usually economically active household members*

Luanshya District has the highest proportion of household heads who have completed secondary level of education. In all districts, the majority of household heads have completed primary or secondary levels of education except for Ndola Rural in which most household heads have either had no schooling or only completed primary level of education. The proportion of household heads who have completed higher levels of education is highest in Katulushi and lowest in Ndola Rural, with 1.1 percent and 0.2 percent respectively.

Residence	Level of education					Total	Sex of Head	Districts	Copperbelt
	No Schooling	Primary	Secondary	Higher	Not Stated				
Total	19.8	35.7	41.3	0.6	2.6	100			
Rural	37.5	43.8	15.8	0.1	2.8	100			
Urban	16.1	34.0	46.6	0.7	2.5	100			
Male	16.3	36.5	44.0	0.6	2.5	100			
Female	44.5	30.7	21.9	0.2	2.7	100			
Chililabombwe	24.0	33.8	40.1	0.4	2.2	100			
Chingola	21.1	31.1	44.8	0.9	2.2	100			
Katulushi	16.6	37.6	43.1	1.1	1.6	100			
Kabwe	14.6	35.4	46.0	0.9	3.0	100			
Luanshya	14.8	34.6	48.1	0.3	2.2	100			
Mufusa	17.3	33.2	47.1	0.5	1.9	100			
Ndola Rural	38.6	43.0	15.5	0.2	2.7	100			
Ndola Urban	16.2	35.5	44.9	0.5	2.9	100			

Household Heads by Level of Education Completed, (Percent), Copperbelt Province, 1990

Table 11.19

Table 11.20

Households by Size and Number of Members Economically Active, (Percent), Copperbelt Province, 1990

Residence and Household Size	Members usually economically active						Total	
	0	1	2	3	4	5	6+	
Copperbelt Province	6.6	53.4	23.8	9.4	4.0	1.6	100	Total
	13.9	70.2	15.9	-	-	-	100	1-2
	7.5	62.1	22.0	7.0	1.4	-	100	3-4
	5.7	54.9	25.7	9.0	3.3	1.2	100	5-6
	3.8	41.4	26.7	14.4	7.2	3.4	100	7+
	11.1	47.2	22.9	9.1	4.5	2.3	100	Total
Rural	18.0	64.5	17.5	-	-	-	100	1-2
	11.0	51.5	26.1	9.1	2.2	-	100	3-4
	8.8	44.0	25.6	12.1	6.1	2.7	100	5-6
	6.6	29.8	22.7	15.1	9.6	6.3	100	7+
	5.6	54.7	24.0	9.4	3.8	1.5	100	Total
	12.3	72.3	15.3	-	-	-	100	1-2
Urban	6.6	65.0	20.8	6.4	1.2	-	100	3-4
	5.1	57.1	25.7	8.4	2.8	0.9	100	5-6
	3.4	43.0	27.3	14.4	6.8	3.0	100	7+
	6.6	54.7	24.0	9.4	3.8	1.5	100	Total
	12.3	72.3	15.3	-	-	-	100	1-2
	6.6	65.0	20.8	6.4	1.2	-	100	3-4

*Relationship to household head*

The distribution of households by relationship of household members to household head shows that 98.4 percent of household heads are in monogamous unions, (see Table 11.21). Household heads that have more than one spouse make up 1.6 percent. The proportion of household heads in polygamous/polygynous union is more or less the same in rural and urban areas constituting about 2 percent in each case.

Table 11.21

Households by Relationship to Household Head and Number of Persons, (Percent), Copperbelt Province, 1990

Relationship to Head and Residence	Number of Households	Total	Number of Persons					
			1	2	3	4	5	6+
Copperbelt Total	183,110	100	98.4	1.4	0.1	0.0	0.0	0.0
Spouse	186,805	100	16.3	16.1	14.7	13.4	11.6	27.9
Step son/daughter	8,177	100	50.8	22.5	11.9	7.0	3.6	4.3
Other relations	115,092	100	41.0	25.1	14.1	8.1	4.7	7.0
Unrelated	9,568	100	60.3	18.3	7.6	4.0	2.4	7.4
Not stated	1,100	100	66.7	7.7	4.6	4.1	2.5	14.4
Rural	29,447	100	98.3	1.4	0.2	0.1	0.0	0.0
Spouse	29,060	100	20.9	18.0	15.4	13.1	10.6	22.0
Step son/daughter	1,994	100	46.3	22.6	13.1	8.6	4.8	4.6
Other relations	15,057	100	44.4	22.4	12.7	7.8	4.8	7.9
Unrelated	1,554	100	57.9	17.0	6.4	2.9	2.4	13.4
Not stated	113	100	69.9	13.3	7.1	1.8	1.8	6.2
Urban	153,663	100	98.4	1.4	0.1	0.0	0.0	0.0
Spouse	157,745	100	15.4	15.7	14.5	13.5	11.8	29.0
Step son/daughter	6,183	100	52.2	22.4	11.5	6.4	3.3	4.2
Other relations	110,035	100	40.4	25.5	14.4	8.2	4.7	6.9
Unrelated	8,014	100	60.8	18.5	7.8	4.2	2.4	6.2
Not Stated	987	100	66.4	7.1	4.4	4.4	2.5	15.3

In Copperbelt Province, the bulk of household members are own sons/daughters to the household heads followed by spouse and other relations. Households with 6 or more own sons/daughters account for 27.9 percent in Copperbelt Province. Rural and urban areas recorded 22.0 and 29.0 percent, respectively.

Table 11.21 also shows that the proportions of households with at least 6 members who are unrelated to the head of household in rural and urban areas are 15.4 and 6.2 percent, respectively. The presence of the unrelated persons to household head could be explained by the way data were collected. A household was defined as "a group of people who live and eat together". Arising from this definition, housing units provided by employers may have been identified as one household, with one of several unrelated employees being identified as the head of the household.

#### Children below 12 years old

Table 11.22 shows that male headed households with 4 or more members that are below 12 years of age make up 34.6 percent while female headed households make up 21.3 percent. Female headed households have higher proportions with 1 or 2 members who are less than 12 years of age than male headed households. The opposite holds true for households with 3 or more members who are less than 12 years old. This implies that there is a tendency for male headed households to have more children below 12 years of age than female headed ones.

Table 11.22

Households by Sex of Heads and Number of Members Below 12 Years of Age, (Percent), Copperbelt Province, 1990

Sex of Household Head and Residence	Members below 12 years of age			
	Total	1	2	3
Copperbelt Province	100	21.1	22.7	21.5
Rural	100	26.1	24.1	21.0
Male	100	31.3	27.6	19.8
Female	100	21.1	22.7	21.5
Urban	100	20.3	22.5	21.6
Male	100	30.7	27.6	20.0
Female	100	20.3	22.5	21.6
Chililabombwe	100	18.7	20.7	22.4
Male	100	29.8	27.6	20.4
Female	100	18.7	20.7	22.4
Chingola	100	18.2	21.7	21.4
Male	100	28.9	26.2	20.9
Female	100	18.2	21.7	21.4
Katilusha	100	21.9	22.3	21.5
Male	100	35.2	27.4	18.3
Female	100	21.9	22.3	21.5
Kitwe	100	20.8	22.6	21.7
Male	100	28.8	28.5	20.7
Female	100	20.8	22.6	21.7
Luanshya	100	20.4	22.2	21.2
Male	100	32.7	29.4	18.0
Female	100	20.4	22.2	21.2
Mufumbira	100	20.3	21.7	21.4
Male	100	32.5	27.3	18.9
Female	100	20.3	21.7	21.4
Ndola Rural	100	26.0	24.2	20.8
Male	100	33.0	27.8	18.6
Female	100	26.0	24.2	20.8
Ndola Urban	100	21.5	23.8	21.8
Male	100	31.4	26.7	20.9
Female	100	21.5	23.8	21.8

There are no major variations between rural and urban areas and among districts regarding the proportion of household members below the age of 12 years. The pattern at provincial level can be generalised to rural and urban areas as well as to districts.

### Headship Rates

Economic hardships do not offer avenues for setting up households. This is especially true in urban areas where households depend on meager salaries and wages in order to survive. Consequently headship rates for the young age groups have declined between 1980 and 1990 as shown in Table 11.23 and Figure 11.9.

Female headship rates are generally low as compared to the rates of their male counterparts. Headship rates increase with increasing age for both males and females. However, the headship rates for males start to decline after the age of 54 years. Table 11.23 and Figure 11.9 at higher age groups, male headship rates decline while those of females show an increase.

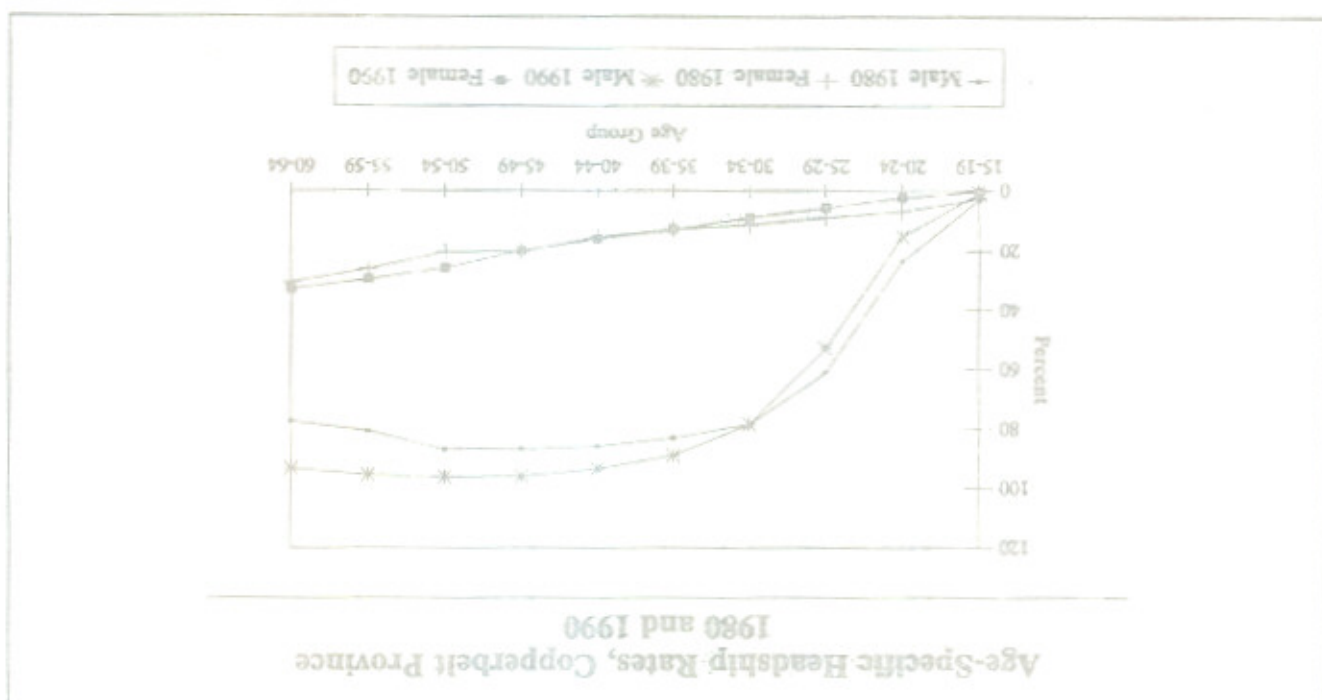


Figure 11.9

Age Group of household heads	1990 Population		Male headship rates		Female headship rates	
	Male	Female	1980	1990	1980	1990
15-19	92.781	99.507	2.9	0.8	2.7	0.3
20-24	72.123	77.580	23.3	15.1	6.8	2.3
25-29	53.81	57.107	61.2	53.0	8.9	5.6
30-34	46.501	44.410	78.4	78.5	11.3	8.9
35-39	35.828	30.666	83.0	88.9	12.8	12.7
40-44	30.766	23.301	85.0	93.5	15.1	16.0
45-49	23.866	15.900	86.8	96.0	20.1	19.8
50-54	18.737	12.269	87.0	96.3	20.3	25.7
55-59	12.147	7.697	80.7	95.6	26.0	29.4
60-64	7.912	5.405	77.4	91.4	30.5	32.7
65+	10.598	6.587	73.7	85.8	28.5	33.1

Age-Sex Specific Headship Rates, Copperbelt Province 1980, 1990.

Table 11.23

The analysis of households and housing characteristics for Coppebelt Province has shown that the majority of households occupy two-roomed housing units. It is also observed that the most common construction materials are asbestos sheets for roofs and concrete blocks for walls and floors.

Piped water outside the housing unit found within 100 metres radius is the most common source of water supply. As regards toilet facilities, most households use flush toilets (49 percent). The proportion of households using flush toilets is quite close to that of those using pit-latrines (43 percent). The main source of energy for cooking and lighting are charcoal and paraffin respectively. About 55 percent of households use charcoal for cooking and 60 percent use paraffin for lighting. About half of the housing units in the province are owned by individuals. The proportion of housing units owned by individuals is over 90 percent in rural areas and about 40 percent in urban areas. The majority of households in rented housing units in the province occupy housing units rented from the District Councils and Parastatal Organisations. However, in rural areas the majority of households occupy housing units rented from individuals.

There are considerably more male household heads than female heads in the province. Male headed households tend to be larger than female headed ones. The average male headed household has 6 persons while an average female headed household has 5 persons. Most of the male household heads are married while the majority of their female counterparts are widowed, separated or divorced. Slightly over two-fifths of household heads have completed secondary school education.

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## **APPENDIX I**

### **PERSONS INVOLVED IN THE ANALYSIS**

#### **1990 CENSUS ANALYSIS SECRETARIATE**

Mr. David S. Diangamo  
Mr. Emmanuel M. Silanda  
Mr. Modesto F.C. Banda  
Mr. Richard Zulu  
Mr. Kumbutso Dzekedzeke  
Mr. Chola H. Mulenga  
Mr. Patrick M. Chewe  
Ms. Margaret Tembo

#### **LIST OF EDITORS**

Mr. Modesto F. C. Banda  
Mr. Kumbutso Dzekedzeke  
Mr. Richard Zulu  
Ms. Margaret Tembo  
Mr. Patrick M. Chewe  
Mr. Emmanuel M. Silanda  
Mr. Chola H. Mulenga

#### **LIST OF PROGRAMMERS**

Mr. Keith Chipako  
Mr. Martin Kakar (UNFPA - DPA)  
Mr. Robert Kaonga  
Mr. Chrispin Sapele  
Mr. Lackson Mitti  
Mr. George Namasiku  
Mr. Elija Kashona  
Ms. Samantha Mulendema

#### **LIST OF ANALYSTS**

Mr. Modesto F. C. Banda  
Mr. Richard Zulu  
Mr. Patrick M. Chewe  
Ms. Margaret Tembo  
Mr. Gandson Moyo  
Ms. Sheila M. Shimwambwa  
Ms. Loveness Maambo  
Mr. Emmanuel M. Silanda  
Ms. Nchimunya Nkombo

#### **CONSULTANTS**

Dr. Helge Brumborg  
Mr. Moulie A. Gibril  
Mr. Anders Falnes  
Mr. Halvard Skiri

#### **LIST OF DESKTOP SPECIALISTS**

Mr. Anthony M. Nkole  
Mr. Webster S. Chileshe

# APPENDIX II



REPUBLIC OF ZAMBIA

STRICTLY CONFIDENTIAL

CENTRAL STATISTICAL OFFICE  
P.O. BOX 31908  
LUSAKA

QUESTIONNAIRE SERIAL NO:

FORM C P H A 9 0 0 1

## 1990 CENSUS OF POPULATION, HOUSING AND AGRICULTURE

QUESTIONNAIRE NO  OF

QUESTIONNAIRE IDENTIFICATION	
1. PROVINCE NAME	<input type="text"/>
2. DISTRICT NAME	<input type="text"/>
3. CSA NUMBER	<input type="text"/>
4. RURAL/URBAN	<input type="text"/>
5. SEA NUMBER	<input type="text"/>
6. CENSUS BUILDING NUMBER (CBN)	<input type="text"/>
7. HOUSING UNIT NUMBER (HUN)	<input type="text"/>
8. HOUSEHOLD NUMBER (HHN)	<input type="text"/>
AREA IDENTIFICATION	
9. VILLAGE/LOCALITY NAME	<input type="text"/>
10. RESIDENTIAL ADDRESS/VILLAGE NAME	<input type="text"/>
11. CHIEF'S AREA	<input type="text"/>
12. WARD	<input type="text"/>
13. INSTITUTION/COLLECTIVE QUARTER	<input type="text"/>
ASSIGNMENT RECORD	
Name	<input type="text"/>
Date	<input type="text"/>
Enumerator	<input type="text"/>
Supervisor	<input type="text"/>
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Editor	<input type="text"/>
INTERVIEW STATUS	
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FOR ALL PERSONS									
GENERAL CHARACTERISTICS									
NAME									
(a) What is the name of the head of household?									
(b) What are the names of persons who spent last night here (other than the head of household)?									
(c) What are the names of usual household members who didn't spend last night here (other than the head of household)?									
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GENERAL CHARACTERISTICS		PEOPLE	
LANGUAGE AND ETHNICITY		MIGRATION	
What is your language of communication? A. DOMINANT B. SECOND		Where was your family staying in August last year? 1. This part of the district (rural or urban)? 2. Urban 3. Rural 4. Not applicable (outside Zambia or outside Zambia or outside less than 1 year) 5. Enter Code (Enter Code)	
What is your ethnic group? 1. African 2. European 3. Asian 4. American 5. Other		What is your ethnic group? 1. African 2. European 3. Asian 4. American 5. Other	
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FOR PERSONS 5 YEARS AND OVER				
EDUCATION				
5	Can read and write in any language?	1 - Yes 2 - No	P - 14	56
4	Does ... go to any institution of learning?	1 - Yes (Full time) 2 - Yes (Part time) 3 - Yes (Correspondence) 4 - No	P - 15	57
3	Did ... previously learn to go to any institution of learning?	1 - Yes (Full time) 2 - Yes (Part time) 3 - Yes (Correspondence) 4 - No - Go to P-18	P - 16	58
2	What highest level of academic education has ... completed?	P - 17	59 - 60	61
1	What highest professional or vocational education has ... completed?	P - 18	62 - 63	64
	(Write level and field of study, then enter code - 1 - Certificate 2 - Diploma 3 - Degree in the first box and two digit code from the list of educational programs)			
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ECONOMIC ACTIVITY		EMPLOYMENT STATUS	OCCUPATION	INDUSTRY
1. Working for pay or profit	1. an employer?	1. an employer?	What was occupation since 1987?	What kind of main product or service is (was) produced there?
2. Unpaid work on household or business	2. Unpaid work on household or business	2. an employee?	What was occupation since 1987?	What kind of main product or service is (was) produced there?
3. Working for pay or profit	3. an employer?	3. an employee?	What was occupation since 1987?	What kind of main product or service is (was) produced there?
4. Unemployed and seeking work	4. unemployed and seeking work	4. unemployed and seeking work	What was occupation since 1987?	What kind of main product or service is (was) produced there?
5. Available for work but not seeking work	5. Not seeking work but available for work	5. Not seeking work but available for work	What was occupation since 1987?	What kind of main product or service is (was) produced there?
6. Full-time housewife	6. Full-time housewife	6. Full-time housewife	What was occupation since 1987?	What kind of main product or service is (was) produced there?
7. Full-time student	7. Full-time student	7. Full-time student	What was occupation since 1987?	What kind of main product or service is (was) produced there?
8. Not available for work for other reasons	8. Not available for work for other reasons	8. Not available for work for other reasons	What was occupation since 1987?	What kind of main product or service is (was) produced there?
9. (Enter Code)	9. (Enter Code)	9. (Enter Code)	What was occupation since 1987?	What kind of main product or service is (was) produced there?
10 - 22	10 - 22	10 - 22	What was occupation since 1987?	What kind of main product or service is (was) produced there?

[illegible]

FERTILITY (own children ever born alive)		CHILDREN BORN IN LAST 12 months		Of the children born to you/alive since ..... 1989 ?		a. How many are living elsewhere in some other household ? b. How many of these are male and how many are female ? c. How many of these are male and how many are female ?		F - 5		F - 6	
1 - Yes (to next question) or No	2 - Yes (to next question) or No	3 - Yes (to next question) or No	4 - Yes (to next question) or No	5 - Yes (to next question) or No	6 - Yes (to next question) or No	7 - Yes (to next question) or No	8 - Yes (to next question) or No	9 - Yes (to next question) or No	10 - Yes (to next question) or No	11 - Yes (to next question) or No	12 - Yes (to next question) or No
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