

**CENSUS OF POPULATION,  
HOUSING AND AGRICULTURE  
1990**

**VOLUME 6**

**NORTHERN PROVINCE  
ANALYTICAL REPORT**

**CENTRAL STATISTICAL OFFICE  
P. O. BOX 31908,  
LUSAKA, ZAMBIA.**

**9TH AUGUST, 1995**



# 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 Northern 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  
August 10th, 1995.

# CONTENTS

PREFACE .....	(i)
CONTENTS .....	(ii)
LIST OF TABLES .....	(v)
LIST OF FIGURES .....	(xi)
EXECUTIVE SUMMARY .....	(xiii)
MAP OF ZAMBIA .....	(xiv)

## CHAPTER 1: BACKGROUND

1.1	Geography .....	1
1.2	People .....	1
1.3	Economy .....	2
1.4	Education .....	4
1.5	Health .....	6

## CHAPTER 2: EVALUATION OF COVERAGE AND CONTENT ERRORS

2.1	Introduction .....	9
2.2	Definition of Concepts .....	9
2.3	Methods of Evaluation .....	10
2.4	Summary .....	21

## CHAPTER 3: POPULATION SIZE, GROWTH AND COMPOSITION

3.1	Introduction .....	23
3.2	Population Size and Growth .....	23
3.3	Population Composition .....	25
3.4	Summary .....	31

## CHAPTER 4: LANGUAGE OF COMMUNICATION

4.1	Introduction .....	33
4.2	Predominant Language of Communication .....	33
4.3	Predominant Language Group .....	34
4.4	Second Language of Communication .....	36
4.5	Summary .....	38



## CHAPTER 5: EDUCATIONAL CHARACTERISTICS

5.1	Introduction . . . . .	39
5.2	Concepts and Definitions . . . . .	39
5.3	Literacy Status . . . . .	40
5.4	School Attendance . . . . .	43
5.5	Previously Attended School . . . . .	51
5.6	Highest Level of Education Completed . . . . .	55
5.7	Selected Fields of Study . . . . .	57
5.8	Summary . . . . .	60

## CHAPTER 6: ECONOMIC CHARACTERISTICS

6.1	Introduction . . . . .	61
6.2	Working-Age Population . . . . .	61
6.3	Economically Active Population . . . . .	62
6.4	Economically Inactive Population . . . . .	66
6.5	Labour Force Participation Rates . . . . .	67
6.6	Employment Status . . . . .	69
6.7	Working Population by Occupation . . . . .	70
6.8	Working Population by Industry . . . . .	71
6.9	Unemployment . . . . .	74
6.10	Summary . . . . .	78

## CHAPTER 7: CHILDREN, YOUTH AND WOMEN

7.1	Introduction . . . . .	81
7.2	Population Change, Composition and Distribution of Children and Youth . . . . .	81
7.3	Social and Economic Characteristics of Children and Youth . . . . .	84
7.4	Social and Economic Characteristics of Women . . . . .	89
7.5	Summary . . . . .	94

## CHAPTER 8: NUPTIALITY AND FERTILITY

8.1	Introduction . . . . .	95
8.2	Concepts and Definitions . . . . .	95
8.3	Nuptiality . . . . .	96
8.4	Fertility . . . . .	101
8.5	Fertility Differentials . . . . .	105
8.6	Summary . . . . .	106

## CHAPTER 9: MORTALITY

9.1	Introduction . . . . .	107
9.2	Definitions and Concepts . . . . .	107
9.3	Crude Death Rate (CDR) . . . . .	108
9.4	Period Measures . . . . .	109
9.5	Mortality by Selected Background Characteristics . . . . .	111
9.6	Mortality Trends . . . . .	116
9.7	Adult Mortality . . . . .	120
9.8	Summary . . . . .	122

## **CHAPTER 10: DISABILITY**

10.1	Introduction . . . . .	125
10.2	Concepts and Definitions . . . . .	125
10.3	Distribution of Disabled Persons . . . . .	126
10.4	Characteristics of Disabled Persons . . . . .	127
10.5	Summary . . . . .	131

## **CHAPTER 11: HOUSEHOLDS AND HOUSING CHARACTERISTICS**

11.1	Introduction . . . . .	133
11.2	Concepts and Definitions . . . . .	133
11.3	Housing Characteristics . . . . .	133
11.4	Ownership Status of Housing Units . . . . .	143
11.5	Household Size and Composition . . . . .	145
11.6	Summary . . . . .	152

<b>REFERENCES . . . . .</b>	<b>153</b>
-----------------------------	------------

<b>APPENDIX I: PERSONS INVOLVED IN THE ANALYSIS . . . . .</b>	<b>157</b>
---------------------------------------------------------------	------------

<b>APPENDIX II: 1990 CENSUS QUESTIONNAIRE . . . . .</b>	<b>159</b>
---------------------------------------------------------	------------

# LIST OF TABLES

## CHAPTER 1: BACKGROUND

Table 1.1	Population, Area, Density, Percent Distribution and Annual Growth Rate by District, 1969, 1980 and 1990	1
Table 1.2	Major Crops Grown, Northern Province, 1988-90	3
Table 1.3	Livestock Population by Sector, Northern Province, 1980-1989	3
Table 1.4	Estimated Annual Fish Production in Tonnes of Major Fisheries Sources, Northern Province, 1985 - 1990	4
Table 1.5	Schools, Teachers and Enrolment, Northern Province 1980 - 1986	5
Table 1.6	Enrolment Ratios of Primary Schools, Northern Province, 1980-1987	6
Table 1.7	Number of Health Institutions, Beds and Cots by Type of Health Institution, District and year, 1986, 1988 and 1990	6
Table 1.8	Immunisations of Children Below 1 Year, Northern Province, 1985-1988	7

## CHAPTER 2: EVALUATION OF COVERAGE AND CONTENT ERRORS

Table 2.1	Population Distribution by Broad Age Groups, Northern Province, 1980 and 1990	11
Table 2.2	Dependency Ratios and Child-Woman Ratio for Northern Province, 1980 and 1990	12
Table 2.3	Myers' Index for Digit Preference in Age Data, Northern Province, 1980 and 1990	13
Table 2.4	Summary of Myers' Index for Digit Preference in Age Data by Rural/Urban, Northern Province, 1980 and 1990	13
Table 2.5	Most Preferred Digits, Northern Province, 1980 and 1990	14
Table 2.6	Sex Ratios for Northern Province, 1980 and 1990	16
Table 2.7	Population by Five Year Age Group, Sex, Age Ratio and Age-Sex Accuracy Index, Northern Province, 1980	17
Table 2.8	Population by Five Year Age Group, Sex, Age and Age-Sex Accuracy Index, Northern Province, 1990	18
Table 2.9	Cohort Survival Ratios by Sex, Northern Province, 1980-1990	19
Table 2.10	Overall Survival Ratios, Northern Province, 1980 - 1990	20

## CHAPTER 3: POPULATION SIZE, GROWTH AND COMPOSITION

Table 3.1	Population Size by Sex, Residence and District, Northern Province, 1990	23
Table 3.2	Population Size and Growth Rates Northern Province, 1969, 1980 and 1990	24
Table 3.3	Area and Population Density by District and Population Census Year, Northern Province, 1969, 1980 and 1990	25
Table 3.4	Age-Distribution of Population by Rural, Urban and Districts, (Percentage), Northern Province, 1990	27
Table 3.5	Ethnic Composition of the Population of Northern Province, 1990	27
Table 3.6	Foreign Population of Northern Province by Citizenship, 1990 and Percentage Foreign Citizen, 1980	28
Table 3.7	Crude Activity Ratio, Northern Province, 1990	29
Table 3.8	Age-Sex Specific Activity Ratio (ASSAR), Northern Province, 1990	29



## CHAPTER 4: LANGUAGE OF COMMUNICATION

Table 4.1	Predominant Language of Communication by District, (Percent), Northern Province, 1990	34
Table 4.2	Predominant Language Groups by Sex and Rural/Urban, (Percent), Northern Province, 1990	35
Table 4.3	Predominant Language Groups by Year, (Percent), Northern Province, 1980 and 1990	35
Table 4.4	Second Language of Communication by District, (Percent), Northern Province, 1990	36
Table 4.5	Second Language Groups by Sex and Rural/Urban, (Percent), Northern Province, 1990	37
Table 4.6	Second Language Groups, (Percent), Northern Province, 1980 and 1990	37
Table 4.7	Rank Order of Predominant and Second Language of Communication by District, Northern Province, 1990	38

## CHAPTER 5: EDUCATIONAL CHARACTERISTICS

Table 5.1	Literate Population by Age Group, Sex and Residence, (Percent), Northern Province, 1990	41
Table 5.2	Population Presently Attending School by Sex, Age and Residence, (Percent), Northern Province, 1990	44
Table 5.3	Population Presently Attending School by Sex, Age and Residence, (Percent), Northern Province, 1980	46
Table 5.4	Population (5 Years and Older) Presently Attending School by Age, Sex, Level of Education Completed and Residence, (Percent) Northern Province, 1990	48
Table 5.5	Population (5 Years and Older) Presently Attending School by Age, Sex, Level of Education Completed and Residence, Northern Province, 1980	50
Table 5.6	Population Previously Attended School by Sex, Age and Residence, Northern Province, 1990	52
Table 5.7	Population Previously Attended School by Sex, Age and Residence, Northern Province, 1980	57
Table 5.8	Population (15 Years and Older) by Highest Level of Education Completed, Sex and Age Group, (Percent), Northern Province, 1990	55
Table 5.9	Population (15 Years and Older) by Highest Level of Education Completed, Sex and Age Group, (Percent), Northern Province, 1980	56
Table 5.10	Selected Fields of Study by Level of Education Completed, (Percent), Northern Province, 1990	58
Table 5.11	Certificate and Diplomas by Level of Education, Sex and Rural/Urban, (Percent), Northern Province, 1990	59

## CHAPTER 6: ECONOMIC CHARACTERISTICS

Table 6.1	Population 12 Years and Over by Broad Age Groups, Residence and Sex, (Percent), Northern Province, 1980 and 1990	62
Table 6.2	Economically Active Population 12 Years and Over by Residence and Sex, (Percent), Northern Province, 1980 and 1990	63
Table 6.3	Current Economically Active Population 12 Years and Over by Age and Sex, (Percent), Northern Province, 1990	65
Table 6.4	Current Economically Inactive Population by Reason for Inactivity, Residence and Sex, (Percent), Northern Province, 1990	66
Table 6.5	Current Economically Inactive Population by Reason for Inactivity, Residence and Sex, (Percent), Northern Province, 1990	67

Table 6.6	Current Labour Force Participation Rates by Age, Sex and Residence, (Percent), Northern Province, 1980 and 1990	68
Table 6.7	Usually Working Population 12 Years and Over by Employment Status, Sex and Residence, (Percent), Northern Province, 1980 and 1990	70
Table 6.8	Usually Working Population by Occupation, Sex and Residence, (Percent), Northern Province, 1980 and 1990	71
Table 6.9	Usual Working Population 12 Years and Over by Employment Status and Industry, (Percent), Northern Province, 1980 and 1990	72
Table 6.10	Usually Working Population 12 Years and Over by Industry and Employment Status, (Percent), Northern Province, 1980 and 1990	74
Table 6.11	Current Unemployment Rates by Sex and Residence, (Percent), Northern Province, 1980 and 1990	75
Table 6.12	Current Unemployment Rates by Age, Sex and Residence, (Percent), Northern Province, 1990	76
Table 6.13	Usually Unemployed by Level of Education Completed and Age, (Percent), Northern Province, 1990	76
Table 6.14	Currently Unemployed by Marital Status, Sex and Rural/Urban, (Percent), Northern Province, 1990	77

## CHAPTER 7: CHILDREN, YOUTH AND WOMEN

Table 7.1	Population Size and Growth Rate of Children and Youth by Broad Age Group, Northern Province, 1980 and 1990	81
Table 7.2	Population Under 25 Years as a Proportion of Total Population by Sex and Broad Age Group, Northern Province, 1990	82
Table 7.3	Population Distribution and Sex Ratio of Children and Youth by District, Northern Province, 1990	83
Table 7.4	Youth by Age, Sex, Marital Status and Residence, (Percent), Northern Province, 1990	85
Table 7.5	Proportion of Female Youth who have had a Birth by Age and Residence, Northern Province, 1990	85
Table 7.6	Proportion of Children and Youth who can Read and Write by Age and Sex, Northern Province, 1990	86
Table 7.7	Population (15-24 Years) by Age, Sex and Highest Level of Education Completed, (Percent), Northern Province,	86
Table 7.8	Children and Youth (12-24 Years) by Age, Sex, Nature of Usual Economic Activity and Residence, (percent), Northern Province, 1990	87
Table 7.9	Unemployment Rate of Youth by Age, Sex and Residence, Northern Province, 1990	89
Table 7.10	Female Household Heads as a Proportion of Total Household Heads by Marital Status, Residence and District (Percent), Northern Province, 1990	90
Table 7.11	Population (15 Years and Above) by Highest Level of Education Completed and Sex (Percent), Northern Province, 1990	91
Table 7.12	Female Household Heads by Highest Level of Education Completed and Residence, (Percent), Northern Province, 1990	91
Table 7.13	Usually Working Females (12 Years and Older) as a Proportion of Total Usually Working Population by Employment Status and Residence (Percent), Northern Province, 1990	92
Table 7.14	Usually Working Females (12 Years and Older), as a Proportion of Total Usually Working Population by Occupation and Employment Status, (Percent), Northern Province, 1990	93
Table 7.15	Usually Working Females (12 Years and Older) as a Proportion of Total Usually Working Population by Industrial Category and Employment Status, (Percent), Northern Province, 1990	93



## CHAPTER 8: NUPTIALITY AND FERTILITY

Table 8.1	Adult Population Classified by Age, Sex and Marital Status, (Percent), Northern Province, 1990	97
Table 8.2	Adult Male Population by Age and Marital Status, Rural-Urban Areas, (Percent), Northern Province, 1990	98
Table 8.3	Adult Female Population by Age and Marital Status, Rural-Urban Areas, (Percent), Northern Province, 1990	98
Table 8.4	Total Adult Population (15-49) by Sex and Marital Status, Rural-Urban and Districts, (Percent), Northern Province, 1990	99
Table 8.5	Singulate Mean Age at Marriage Classified by Sex and Residence, Northern Province, 1990	100
Table 8.6	Singulate Mean Age at First Marriage by Educational Attainment and Residence, (Females), Northern Province, 1990	100
Table 8.7	Summary Fertility Measures, Northern Province, 1980 and 1990	102
Table 8.8	Age-Specific Fertility Rates (ASFR), Northern Province, 1990	102
Table 8.9	Net Reproduction Rate (NRR), Northern Province, 1990 <sup>3</sup>	103
Table 8.10	Average Parity, (Observed), Northern Province, 1990	104
Table 8.11	Completed Family Sizes by Level of Education of Women, Northern Province, 1990	105

## CHAPTER 9: MORTALITY

Table 9.1	Crude Death Rate by Sex, Northern Province, 1980 and 1990	108
Table 9.2	Estimates of Probabilities of Dying and Surviving by Sex, Implied Mortality Levels and Reference Dates, North Model Northern Province, 1990	109
Table 9.3	Estimates of Probabilities of Dying and Surviving by Sex, Implied Mortality Levels and Reference Dates, North Model Northern Province, 1980	109
Table 9.4	Infant and Child Mortality Rates by Five Year Period Preceding the Census, Northern Province, 1980 and 1990	110
Table 9.5	Infant and Child Mortality Rates for the 5 Year Period Preceding the Census, by Selected Background Characteristics, Northern Province, 1980 and 1990	112
Table 9.6	Expectation of Life at Birth for the 5 Year Period Preceding the Census, by Selected Background Characteristics, Northern Province, 1980 and 1990	115
Table 9.7	Trends of Infant, Child Mortality Rates and Expectation of life at Birth, Northern Province, 1990	118
Table 9.8	Trends of Infant, Child Mortality Rates and Expectation of life at Birth, Northern Province, 1980	119
Table 9.9	Coale and Demeny North Model Life Table for Northern Province - Males, 1990	121
Table 9.10	Coale and Demeny North Model Life Table for Northern Province - Females, 1990	122

## CHAPTER 10: DISABILITY

Table 10.1	Disabled Persons by Type of Disability, Sex, Residence and District, (Percent), Northern Province, 1990	126
Table 10.2	Disabled Persons as a Proportion of Total Population by Residence and Type of Disability, (Percent), Northern Province, 1990	127
Table 10.3	Sex Ratio of Disabled Persons by Residence and Type of Disability, Northern Province, 1990	128
Table 10.4	Disabled Persons by Type of Disability and Age Group, (Percent) Northern Province, 1990	128
Table 10.5	Disabled Persons (12 Years and Older) by Type of Disability and Usual Economic Activity, (Percent), Northern Province, 1990	129
Table 10.6	Disabled Household Heads Usually Active by Disability and Employment Status, (Percent), Northern Province, 1990	130
Table 10.7	Disabled Persons (5 Years and Older) by Type of Disability and Level of Education Completed, (Percent), Northern Province, 1990	130

## CHAPTER 11: HOUSEHOLDS AND HOUSING CHARACTERISTICS

Table 11.1	Households by Number of Rooms, Rural/Urban and Districts (Percent), Northern Province, 1990	134
Table 11.2	Households by Household Size, Number of Rooms and Residence, (Percent), Northern Province, 1990	135
Table 11.3	Occupied Housing Units by Construction Materials of Walls and Roofs, (Percent), Northern Province, 1990	136
Table 11.4	Occupied Housing Units by Construction Materials of Walls and Roofs, (Percent), Northern Province, 1990	137
Table 11.5	Occupied Housing Units by Construction Materials of Walls and Floors, (Percent), Northern Province, 1990	138
Table 11.6	Occupied Housing Units by Construction Materials of Walls and Floors, (Percent) Northern Province, 1990	139
Table 11.7	Households by Main Source of Water Supply, (Percent), Northern Province, 1980 and 1990	140
Table 11.8	Households by Type of Toilet and Residence, (Percent), Northern Province, 1990	141
Table 11.9	Households by Main Source of Energy used for Cooking and District, (Percent), Northern Province, 1990	142
Table 11.10	Households by Main Source of Energy for Cooking, (Percent) Northern Province, 1980 and 1990	143
Table 11.11	Housing Units by Main Source of Energy Used for Lighting, (Percent) Northern Province, 1990	143
Table 11.12	Occupied Housing Units by Ownership Status and District, (Percent) Northern Province, 1990	144
Table 11.13	Households in Rented Housing Units by Residence and Ownership, (Percent), Northern Province, 1990	144
Table 11.14	Households by Size and Sex of Head and District, (Percent), Northern Province, 1990	146
Table 11.15	Average Household Size by Residence and Sex of Head, Northern Province, 1980 and 1990	146
Table 11.16	Household Size, (Percent) Northern Province, 1980 and 1990	147
Table 11.17	Household Heads by Marital Status, Sex and Residence, (Percent), Northern Province, 1990	147
Table 11.18	Household Heads by Marital Status, Age and Sex, (Percent), Northern Province, 1990	148

Table	11.19	Household Heads by Level of Education Completed, (Percent) Northern Province, 1990 . . . . .	149
Table	11.20	Households by Size and Number of Members Economically Active, (Percent), Northern Province, 1990 . . . . .	150
Table	11.21	Households by Relationship to Household Head and Number of Persons, (Percent), Northern Province, 1990 . . . . .	151
Table	11.22	Households by Sex of Heads and Number of Members Below 12 Years of Age, (Percent), Northern Province, 1990 . . . . .	152



# LIST OF FIGURES

## CHAPTER 1: BACKGROUND

Figure 1.1	Livestock by Sector, Northern Province, 1989	4
------------	----------------------------------------------	---

## CHAPTER 2: EVALUATION OF COVERAGE AND CONTENT ERRORS

Figure 2.1	Population Distribution by Broad Age Groups, Northern Province, 1980 and 1990	11
Figure 2.2	Population Distribution of Northern Province in Single Years, 1980	14
Figure 2.3	Population Distribution of Northern Province in Single Years, 1990	15
Figure 2.4	Population Distribution of Northern Province by 5 Year Age Group, 1980	15
Figure 2.5	Population Distribution of Northern Province by 5 Year Age Group, 1990	16
Figure 2.6	Population Distribution of Northern Province by Sex Ratio, 1980 and 1990	18
Figure 2.7	Cohort Survival Ratios by Sex, Northern Province, 1980-1990	20
Figure 2.8	Overall Survival Ratios by Sex, Northern Province, 1980-1990	21

## CHAPTER 3: POPULATION SIZE, GROWTH AND COMPOSITION

Figure 3.1	Population Distribution by Districts, Northern Province, 1990	24
Figure 3.2	Population Pyramid, Northern Province, 1980	26
Figure 3.3	Population Pyramid, Northern Province, 1990	26
Figure 3.4	Age-Sex Specific Activity Ratio, Northern Province, 1990, Rural	30
Figure 3.5	Age-Sex Specific Activity Ratio, Northern Province, 1990, Urban	30

## CHAPTER 5: EDUCATIONAL CHARACTERISTICS

Figure 5.1	Literate Population by Age Group, Northern Province Rural, 1990	42
Figure 5.2	Literate Population by Age Group, Northern Province Urban, 1990	42
Figure 5.3	Population Presently Attending School, Northern Province Rural, 1990	45
Figure 5.4	Population Presently Attending School, Northern Province Urban, 1990	45
Figure 5.5	Population 15 Years and Older by Highest Level of Education Completed, Northern Province, 1980	56
Figure 5.6	Population 15 Years and Older by Highest Level of Education Completed, Northern Province, 1980	57

## CHAPTER 6: ECONOMIC CHARACTERISTICS

Figure 6.1	Economically Active Population 12 Years and Over, Northern Province, 1980	64
Figure 6.2	Current Economically Active Population 12 Years and Over, Northern Province, 1990	64
Figure 6.3	Current Labour Force Participation Rates, Northern Province, 1990, Rural	68
Figure 6.4	Current Labour Force Participation Rates, Northern Province, 1990, Urban	69
Figure 6.5	Usually Working Population 12 Years and Over by Industry Northern Province	73

Figure 6.6	Usually Unemployed by Sex, Northern Province, 1990 .....	77
Figure 6.7	Currently Unemployed by Marital Status, Northern Province, 1990 .....	78

## CHAPTER 7: CHILDREN, YOUTH AND WOMEN

Figure 7.1	Population Distribution of Children and Youth by Residence, Northern Province, 1990 .....	84
Figure 7.2	Economic Activity of Youth (15-19 Years) by Sex, Northern Province, 1990 .....	88
Figure 7.3	Economic Activity of Youth, (20-24 Years) by Sex, Northern Province, 1990 .....	88
Figure 7.4	Usually Working Females (12 Years and Above) by Employment Status (Percent), of all working Persons, Northern Province, 1990 .....	92

## CHAPTER 8: NUPTIALITY AND FERTILITY

Figure 8.1	Adult Population by Marital Status, Northern Province, 1990 .....	97
Figure 8.2	Age-Specific Fertility Rates, (Observed), Northern Province, 1990 .....	103
Figure 8.3	Average Parity, Northern Province, 1990 .....	104

## CHAPTER 9: MORTALITY

Figure 9.1	Infant Mortality Rates, Northern Province, 1965 - 1990 .....	116
Figure 9.2	Child Mortality Rates, Northern Province, 1965 - 1990 .....	117
Figure 9.3	Under-Five Mortality Rates, Northern Province, 1965 - 1990 .....	118
Figure 9.4	Expectation of Life at Birth, Northern Province, 1965-1990 .....	119
Figure 9.5	Expectation of Life at Exact Age, Northern Province, 1990 .....	121

## CHAPTER 10: DISABILITY

Figure 10.1	Usual Economic Activity of Disabled Persons, Northern Province, 1990 .....	129
-------------	----------------------------------------------------------------------------	-----

## CHAPTER 11: HOUSEHOLDS AND HOUSING CHARACTERISTICS

Figure 11.1	Households by Districts, Northern Province, 1990 .....	134
Figure 11.2	Households by Household Size, Northern Province, 1990 .....	136
Figure 11.3	Households by Main Source of Water Supply, Northern Province .....	141
Figure 11.4	Households in Rented Housing Units, Northern Province, 1990 .....	145



## EXECUTIVE SUMMARY

Northern Province has a population of 855,177 of which 413,268 are males and 441,909 are females. The majority of the people (86 percent) live in rural areas and only 14 percent live in urban areas. The median age is 16.2 years and the 47 percent of the total population in the province is below the age of 15 years implying that the population of the province is young. Northern Province has an area of 147,825 Square Kilometres giving a population density of 5.8 persons per square kilometre in 1990. The population growth rate rose from 2.0 between 1969-80 to 2.4 percent per annum between 1980 and 1990. The growth rates were 2.8 for rural areas and 0.2 percent per annum in urban areas between 1980 and 1990.

The most spoken language in Northern Province is Bemba. Bemba is spoken by 58.5 percent of the population followed by Namwanga which is spoken by 9.1 percent, Bisa spoken by 8.0 and Mambwe which is spoken by 7.6 of the population of in the province. Although English is the official language of communication, only 0.2 percent speak it as a predominant language of communication.

Of the population aged 5 years and older, 48.4 percent are able to read and write. The respective proportions of males and females are 56.6 and 40.9 percent. In rural areas, 45.0 percent of the population aged 5 years and older is literate compared to 68.8 percent in urban areas. Of this population 32.7 percent is currently attending school. The respective proportions of males and females currently attending school are 39.8 percent and, 26.7 percent. The proportion of those currently attending school of 29.4 percent in rural areas is lower than in urban areas of where 55.1 percent are currently attending school. Of those currently attending school, 88.7 percent are in primary school and 11.3 percent are in Secondary school. The most common fields of study for males are engineering, medicine, accountancy, teacher training, secretarial training, agriculture/forestry/fishery and wood work. Females in the Northern Province mostly take up courses in nursing, teacher training and secretarial.

The working age population (12 years and above) in the Northern Province is 524,879 of which 247,549, are males and 276,523 are females. The working age is 449,657 in rural areas and 74,415 in urban areas. In 1990, the agricultural industry employed 63.1 percent of the labour force, the mining industry has employed 0.2 percent, the secondary industries have employed 2.9 percent and the tertiary industries have employed 10.6 percent. The agricultural industry is the most important employer in Northern Province. There has been a big decline in unemployment in the province from 50.6 percent in 1980 to 10.5 percent in 1990 for the province. The rate of unemployment declined from 41.9 percent in 1980 to 11.2 percent in 1990 for males and from 64.4 percent in 1980 to 9.3 percent in 1990 for females. The decline in unemployment is due to be the growing popularity of the informal sector as the employer of the last resort and the improved enumeration of the informal sector economic activities in the 1990 Census compared to the 1980 Census.

Marriage in Northern Province is widespread. At age group 45-49 years, only 2.0 percent of males and 1.5 percent of females are never married. Females marry at early ages than males. The average age at marriage is 23.9 years for males and 20.3 years for females.

Total Fertility Rate (TFR) for Northern Province declined marginally from 7.7 in 1980 to 7.5 children per woman in 1990. The decline is small and the fertility level may still be viewed as high. Fertility levels vary among women with different backgrounds. The TFR for women in rural areas is 7.7 and 6.9 children per woman for those in urban areas. Among women with different levels of education, TFR is 7.5 for women with no education, 8.2 for women with primary level, 6.6 with Secondary level and 2.7 for children per woman for women with a higher level of education.

Crude Death Rate in Northern Province increased from 15.3 in 1980 to 20 deaths per 1000 population in 1990. Infant Mortality Rate increased from 103.7 in 1980 to 137.0 deaths per 1000 children aged below 1 year in 1990. Child Mortality Rate also increased from 75.3 deaths in 1980 to 108 deaths per 1000 children aged between 1 and 4 years in 1990. Similarly, Under Five Mortality Rate increased from 126.7 deaths in 1980 to 169 deaths per 1000 children.

Life expectancy declined from 51 years in 1980 to 44.2 years in 1990. The expectation of life declined from 49.9 years in 1980 to 42.9 in 1990 for males and from 52.2 years in 1980 to 45.7 years in 1990 for females.

Out of the total population of 855,177 enumerated in Northern Province in 1990, 9,356 persons are disabled of which 4,945 are males and 4,411 are females. There are more disabled persons in rural areas (89.8 percent) compared to urban areas (10.2 percent).

Majority of the households in Northern Province occupy two roomed housing units. Two roomed housing units are occupied by 47 percent of the total 172,522 households. The average number of rooms occupied by a household is 2.6 while the average number of persons per room is 1.9. About 93 percent of the housing units in the province are owned by individuals, a small proportion by the central government district council Parastatal and private organizations. Most of the households in rented housing units in Northern Province occupy housing units rented from the individuals. (45.2 percent). The majority (60 percent) of the households in rented housing units in rural areas occupy housing units rented from the individuals while the majority (31.4 percent) of the households in urban areas live in housing units rented from the Central government and 31.3 occupy the housing units rented from individuals.

The most common source of water supply is river/stream used by 54 percent of households. As regards toilet facilities, 79 percent use pit latrines. Bucket and aqua privy are not common toilet facilities. The main source of energy for cooking and lighting are wood and paraffin used by 86 percent of the households and in 84 percent of the housing units, respectively.



# CHAPTER 1

## BACKGROUND

### 1.1 GEOGRAPHY

The Northern Province is Zambia's largest Province. The province covers an area of 147,825 sq.km representing about one fifth of the country's total area. In 1990 the province had nine administrative districts namely, Chilubi, Chinsali, Isoka, Kaputa, Kasama, Luwingu, Mbala, Mpika and Mporokoso.

The province is in the high rainfall zone of Zambia. The average annual rainfall of the province is 1200 mm. The rain season for the province is between November and April. The province has moderate temperatures ranging between 15 and 35 degrees centigrade. It lies between 8 and 12 degrees south of the equator.

The soils of Northern Province are considered not very fertile in comparison to those of the other province. This is mainly because of the acute shortage of potash and phosphates.

### 1.2 PEOPLE

The population of Northern Province was 855,177 in 1990 compared to 674,750 persons enumerated in 1980. This increase represents an average annual growth rate of 2.4 percent. Of the 855,177 enumerated population of Northern Province, 48.3 percent are males and 51.7 percent are females. The district with the smallest population in the province is Chilubi. The total population of this district is 39,874 which is 4.7 percent of the total population in the province. The reason for the small population may be the difficulty to access most parts of the area. This might be considered as a serious disincentive for people to settle in this district. Kasama is the administrative and commercial centre of Northern Province and has the biggest population of 189,360.

The average population density for the province has increased from 4.6 in 1980 to 5.8 persons per square kilometre in 1990. Table 1.1 compares population distribution among the districts.

**Table 1.1**

**Population, Area, Density, Percentage Distribution and Annual Growth Rate by District, 1969, 1980 and 1990**

District	Population			Area (Sq.km)	Density			Percentage Distribution			Growth Rate (%)	
	1969	1980	1990		1969	1980	1990	1969	1980	1990	1969-80	1980-90
Chilubi	-	66,174	39,874	4,648	-	7.2	8.6	-	9.8	4.7	-	-4.9
Chinsali	58,014	93,999	83,659	15,395	3.8	4.3	5.4	10.6	13.9	9.8	4.9	-1.2
Isoka	77,700	44,731	121,871	13,846	5.6	6.8	8.8	14.3	6.6	14.3	-5.4	10.5
Kaputa	-	147,594	49,993	13,004	-	3.4	3.8	-	21.9	5.8	-	-10.3
Kasama	107,817	52,596	189,360	20,554	5.2	7.2	9.2	19.8	7.8	22.1	-6.9	13.7
Luwingu	79,164	113,935	66,699	8,892	8.9	5.9	7.5	14.5	16.9	7.8	3.7	-5.2
Mbala	95,633	81,291	136,091	18,508	5.2	6.2	7.3	17.5	12.1	15.9	-1.6	5.3
Mpika	59,378	41,145	115,125	40,935	1.4	2.0	2.8	10.9	6.1	13.5	-3.6	10.8
Mporokoso	67,390	33,285	52,505	12,043	5.6	3.4	4.4	12.4	4.9	6.1	-6.8	4.7
Total	545,096	674,750	855,177	147,825	3.7	4.6	5.8	100.0	100.0	100.0	2.2	2.4

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.

During the 1969-80 intercensal period, the population increased in Chinsali, Kasama and Luwingu while it decreased in Isoka, Mbala, Mpika and Mporokoso districts. These decreases could be attributed to out-migration to districts and provinces with promising economic activities. During the 1980-89 intercensal period, the population increased in Isoka, Kasama, Mbala, Mpika and Mporokoso and during the same period, the districts in which the population decreased are Chilubi, Chinsali, Kaputa and Luwingu.

As regards geographical area, Mpika is the largest of the districts and the smallest is Chilubi. The 1969 Census revealed that the most densely populated district was Luwingu with 8.9 persons per square kilometre and the least densely populated district was Mpika with 1.4 persons per square kilometre. Chilubi and Kasama had the highest population densities during the 1980 Census, each having 7.2 persons per square kilometre and the least densely populated district was Mpika with 2.0 persons per square kilometre.

During the 1990 Census it was discovered that Isoka had become the most densely populated district with 8.8 persons per square kilometre and the most sparsely populated district was again Mpika with 2.8 persons per square kilometre.

As regards population growth rates, during the 1969-80 intercensal period, Chinsali had the highest rate of 4.9 percent per annum while the least growth rate of -6.9 percent per annum occurred in Kasama. However, during the 1980-90 intercensal period Kasama had the highest population growth rate of 13.7 percent per annum. During the same period the least population growth was registered in Kaputa which had a rate of -10.3 percent per annum.

### 1.3 ECONOMY

The major economic activities in the province are farming and fishing. The province has within its bounds three of Zambia's most important fisheries. These are Mweru-wa-ntipa, Tanganyika and Bangweulu (North). The Agricultural sector in the province has had some very encouraging performance, although in many places the natural vegetation cannot keep pace with the traditional farming system.

Northern Province has a tourism potential especially at Lake Tanganyika where the airstrip at Kasaba Bay has reopened. It also has National Parks namely Luangwa, Luvashi, Isangano, Mweru-wa-ntipa and Sumbu.

#### *Agriculture*

The crop production in Northern Province has been quite encouraging of late, despite the soil which is not very fertile. The province has a lot of potential for irrigated crop production because of the abundance of water. The major crops produced in the province are maize, tobacco, cotton, sunflower, soya beans and groundnuts. Table 1.2 shows the production and marketing of some crops in the province for selected years.

Table 1.2

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

Crops	Unit	Production and Marketing (90kg Bags)					
		1988		1989		1990	
		Produced	Marketed	Produced	Marketed	Produced	Marketed
Maize	90kg Bags	1,829,868	1,586,424	1,675,294	1,446,615	1,147,348	666,860
Tobacco	Kgs	-	-	17,541	17,541	34,200	3,025
Cotton	Kgs	1,984	1,984	2,967	2,967	27,160	4,247
Sunflower	50Kg Bags	16,681	16,326	14,188	6,585	24,549	4,577
Soyabean	90Kg Bags	17,627	15,744	15,151	-	19,726	11,248
Groundnut	80Kg Bags	5,751	4	365	0	3,648	0
Wheat	90Kg Bags	-	13,492	0	0	-	-

Source: 1989/90 Agricultural Statistics Bulletin.

Live stock are mainly reared traditionally. There isn't much commercial livestock production done in the province. The livestock reared are Cattle, Sheep, Goats and Pigs, see Table 1.3 and Figure 1.1.

Table 1.3

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

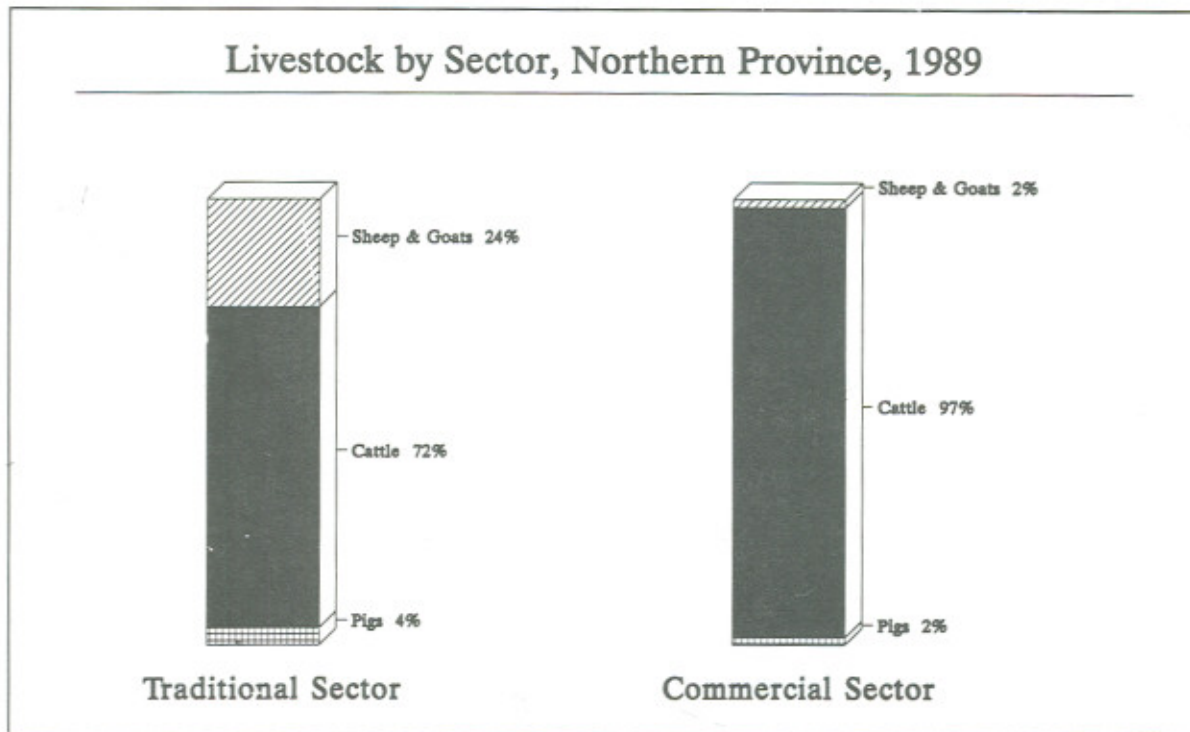
Sector	Year					
	1980	1985	1986	1987	1988	1989
<b>Traditional</b>						
Cattle	92,317	89,397	91,185	93,009	87,983	90,659
Sheep & Goats	12,570	17,614	18,495	19,419	20,390	30,269
Pigs	-	1,838	2,022	2,224	2,446	4,941
<b>Commercial</b>						
Cattle	-	-	-	-	11,929	16,269
Sheep & Goats	-	-	-	-	-	305
Pigs	-	-	-	-	-	280

Note: (-) Figures not Available.

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



Figure 1.1



#### *Fisheries*

Northern Province contributes more than a third of the country's total fish catch every year. This is mainly from the Mweru-wa-ntipa, Tanganyika and Bangweulu (North) lakes. Apart from these lakes, Northern Province is also endowed with numerous rivers, swamps and dambos whose potential for fisheries is large. The fish yields from these small fisheries are estimated to be about 3,500 metric tonnes per annum. The fish industry is basically the net employer and the source of wealth for most rural dwellers in the province.

The province has four fish culture stations. These are in Kasama, Mpika, Chinsali and Isoka. These stations are meant to provide fish to prospective fish farmers. Progress in the sector has been retarded by lack of equipment, transport and personnel to undertake intensive fish culture extension service and fish stocking exercises.

Northern Province shares the Bangweulu and Mweru-wa-Ntipa fisheries with Luapula Province. Table 1.4 shows the output of fish in the province.

Table 1.4

Estimated Annual Fish Production in Tonnes of Major Fisheries Sources, Northern Province 1985-1990.

Year	Bangweulu	Mweru-Wa-Ntipa	Tanganyika
1985	17,900	10,900	20,600
1986	16,800	7,500	16,300
1987	11,992	9,497	12,452
1988	10,059	8,249	10,629
1989	9,019	7,039	14,386
1990	9,101	8,490	15,418

### Communication

Northern Province is served with two major tarred roads and these are the Great North road and the Mpika-Mbala road. Four of the nine districts in the province do not have tarred roads. The Tanzania Zambia Railway Line (TAZARA) passes through three districts of the province, Mpika, Kasama and Isoka.

All the districts in the province have airstrips.

The province has important water transport on lake Tanganyika and Lake Bangweulu. In the north is an important trade outlet to neighbouring countries, the port of Mpulungu. The handling capacity of the port has recently been increased.

The energy generation and supply and the telecommunications infrastructure in the province is relatively developed with the exception of Chilubi and Kaputa districts.

### 1.4 EDUCATION

The primary school enrolment in the province stood at 172,955 in 1986. This is an increase from 133,448 in 1980. A similar situation exists for secondary school enrolment which increased from 10,304 in 1980 to 17,114 in 1986. Generally, the enrolment of both boys and girls has increased, see Table 1.5.

Table 1.5

Schools, Teachers and Enrolment, Northern Province 1980 - 1986

School/Teachers/ Enrolment	Year		
	1980	1983	1986
<b>Schools</b>			
-Primary	513	527	567
-Secondary	14	17	-
<b>Teachers</b>			
-Primary	1,261	3,071	3,319
-Secondary	447	482	660
<b>Enrolment</b>			
Primary - Total	133,448	152,745	172,955
- Boys	74,535	85,510	96,065
- Girls	58,913	67,175	76,886
Secondary - Total	10,304	12,387	17,114
- Boys	6,810	7,941	10,882
- Girls	3,494	4,448	6,232

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

Note: (-) Figures not available

Enrolment ratios in Table 1.6 show how the primary education has evolved over the years. It can be noticed that enrolment for boys is higher than that for girls for all the given years apart from 1987.

Table 1.6

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

Sex	1980	1983	1986	1987
Primary				
- Total	96.0	99.2	105.5	89.8
- Boys	105.5	113.0	118.1	79.0
- Girls	85.4	85.8	93.2	103.9

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

## 1.5 HEALTH

In 1990, Northern Province had at least one hospital in all the districts except for Kaputa and Chilubi districts. Most of these hospitals are government owned. All in all, there are nine hospitals in the province. There are also a lot of health centres in the province. The number of health centres in 1990 was 110.

Table 1.7 shows that the number of hospitals increased from 6 in 1986 to 9 in 1990. The number of health centres increased from 96 in 1986 to 113 in 1988 and decreased to 110 in 1990. The total number of beds and cots increased from 2,276 in 1986 to 2,662 in 1990.

Table 1.7

## Number of Health Institutions, Beds and Cots by Type of Health Institution, Districts and year, 1986, 1988 and 1990

Year and District	Hospitals		Health Centres		Total	
	Number	Beds/Cots	Number	Beds/Cots	Number	Beds/Cots
<b>Year</b>						
1986	8	1,212	96	1,064	104	2,276
1988	8	1,272	113	1,390	121	2,662
1990	9	1,412	110	1,250	119	2,662
<b>Districts -</b>						
Chilubi	0	0	10	92	10	92
Chinsali	1	84	13	228	14	312
Isoka	1	62	16	167	17	229
Kaputa	0	0	7	72	7	72
Kasama	2	540	21	267	23	807
Luwingu	1	55	6	89	7	144
Mbala	1	314	15	175	16	489
Mpika	2	271	15	114	17	385
Mporokoso	1	86	7	46	8	132

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

*Diseases*

According to the Ministry of health, 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 of age in Northern Province. Similarly, the same type of diseases affect between 50 and 60 percent of adults. Malnutrition and diarrhoeal diseases usually trigger off other diseases among children and are the major causes of deaths. Health institutions often receive serious cases of malnutrition and diarrhoea.

Child deaths that occur among children below 5 years are sometimes due to preventable diseases such as polio, tuberculosis, diphtheria, measles, pertussis and tetanus. There are vaccines available for these diseases. Information on immunizations is provided in Table 1.8. Over the period 1985-1988, BCG immunisations increased while those for polio and measles decreased and there was a slight rise in DPT Third Dose immunisation.

**Table 1.8**

**Immunisations of Children Below 1 Year, Northern Province, 1985-1988**

Year	BCG	Polio Third Dose	DPT Third Dose	Measles
1985	11,464	16,134	14,322	24,251
1986	31,003	14,331	13,511	19,527
1987	26,768	16,502	16,095	19,556
1988	20,644	14,156	14,370	14,200

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





## CHAPTER 2

### EVALUATION OF COVERAGE AND CONTENT ERRORS

#### 2.1 INTRODUCTION

Checks and controls are always taken during census enumeration. Despite this, there are usually errors in the census data. Data evaluation identifies the errors that are inherent in the data. 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, and
- Children dead.

#### 2.2 DEFINITION OF CONCEPTS

Below are the definitions of the major concepts which are used in this chapter.

##### *Age Ratio*

Ratio of the population in a given age group to one-third of the sum of the population in the given age group, the preceding age group and the following age group, multiplied by 100.

##### *Census of Population*

Complete enumeration of all persons at a specified time 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 and economic activity 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 above, per 100 persons in the age-group 15-64 years.

### ***Digit Preference***

Reporting of age by respondents often ending in digits they prefer. This results in heaping of population in ages ending with certain digits.

### ***Sex Ratio***

Number of males per 100 females in a population.

## **2.3 METHODS OF EVALUATION**

During census of population, some people may be completely omitted while others may be enumerated more than once or several characteristics of an individual such as age, sex, fertility and economic activity may be incorrectly reported or tabulated. In general, there are two approaches used to evaluate the quality of data, the direct and indirect methods.

The direct method basically involves carrying out a Post Enumeration Survey (PES). In a PES, a sample of households is revisited after the census and data is again collected 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, PES was undertaken in December 1990. The PES evaluation is available in a separate report.

Indirect method usually employs 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***

The distribution of the population in Northern Province in broad age groups is shown in Table 2.1 and Figure 2.1 for 1980 and 1990 Censuses.

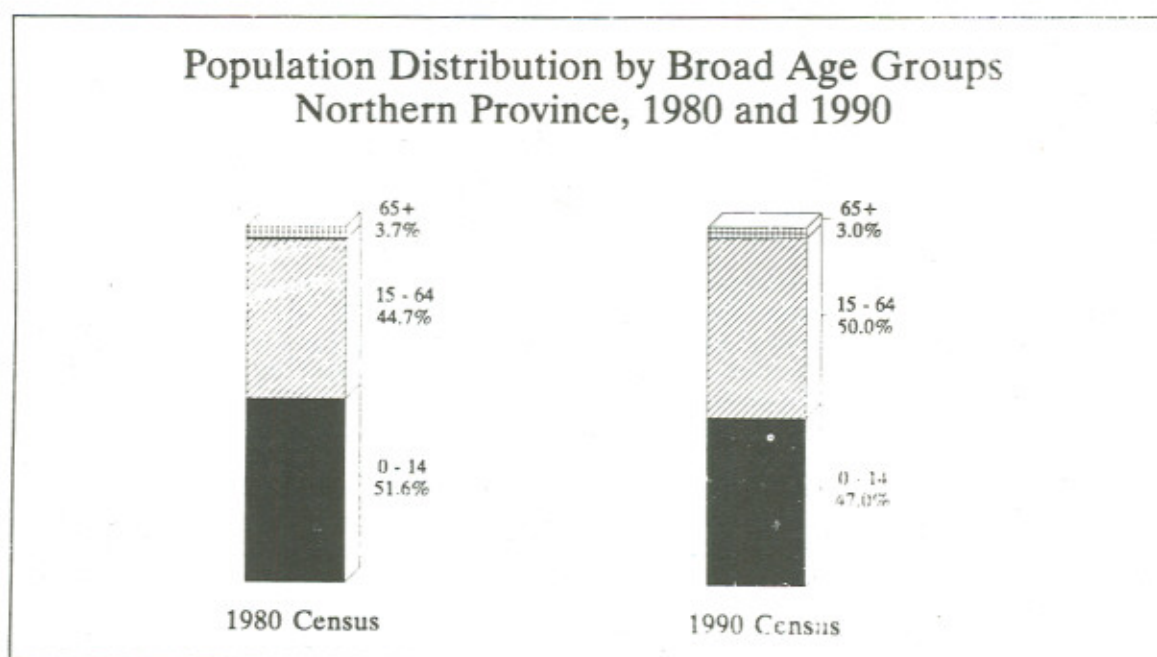
The proportion of persons aged 0-14 years for 1980 is more than that of 1990. One reason for this could be as a result of an increase in child mortality, a decline in fertility between 1980 and 1990 or an under coverage of children especially those aged between 0 and 4. The proportion of those aged 15-64 years rose from 44.5 percent in 1980 to 50 percent in 1990. However, the proportion of those who did not state their age dropped from 0.3 percent to a negligible figure, see Table 2.1 and Figure 2.1.

Table 2.1

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

Age Group	Population Distribution			
	1980 Population	1980 Percent	1990 Population	1990 Percent
0 - 14	347,248	51.5	401,496	47.0
15 - 64	300,618	44.7	427,778	50.0
65 +	24,828	3.7	25,781	3.0
Age Not Stated	2,056	0.3	122	0.0
Total	674,750	100.0	855,177	100.0

Figure 2.1

*Child-Woman Ratio*

The child-woman ratio, which is the number of children aged 0-4 years in a population per 1000 women aged 15-49 years in the same population, is given in Table 2.2. It declined from 853.6 per 1000 in 1980 to 735.3 in 1990. This decline in the child-woman ratio could be due to the increase in mortality levels coupled with a decline in fertility between 1980 and 1990 in Northern Province. See Chapter 8 and 9.



### *Dependency Ratio*

The dependency ratios are shown in Table 2.2. The overall dependency ratio for Northern Province in 1980 was 123.8 and 99.8 in 1990. The people in the age range of 15-64 years are potential producers or the active population. This shows that in 1990, the number of potential producers was almost the same as the dependents since the dependency ratio shows the number of dependents per 100 producers. The dependency ratios have declined. The decline in the dependency ratios could be as a result of an increase in mortality among those aged 0-14 years and those above 65 years of age.

Table 2.2

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

Ratios	1980	1990
Northern Province		
- Overall Dependency Ratio	123.8	99.8
- Child Dependency Ratio	155.5	93.9
- Aged Dependency Ratio	8.3	6.0
- Child-Woman Ratio	853.6	735.3

### *Digit Preference*

The tendency of respondents to report certain ages as ending in certain digits even if they do not is called age heaping or digit preference. Age heaping is most prevalent among illiterate persons who do not know their exact ages. An assessment of age heaping in Northern Province has been done through the calculation of Myers' Index. Myers' Index is calculated for persons aged from 10 to 69 or 79 years. The sum of those with ages ending in zero is done separately from those ending in 1, 2, 3 up to 9. Ten summations are therefore, obtained. This may be done by sex. Weights are then applied to the 10 summations to get the blended population. The blended population is then distributed in percent for each digit 0 to 9. Then deviations are obtained from 10 for each digit 0 to 9. The deviations are summed up irrespective of sign and the sum is divided by 2 to get Myers' Index. Refer to Shryock H.S., et al (1976) for more details about Myers' Index. The index is scaled from 0 to 90. An index lower on the scale implies that the age reporting for the population with that index is better than for the population with an index higher up on the scale.

Myers' Index has been calculated for 1980 and 1990 Censuses and the results are shown in Tables 2.3 and 2.4. Table 2.3 shows a breakdown of the index while Table 2.4 is a summary of the index for 1980 and 1990 Census data. The index is also presented for rural and urban areas. Results from Table 2.4 shows that Myers' index in 1990 is lower than that in 1980 except for the male index in the rural areas of Northern Province which remained at 8.4 in 1980 and 1990. In urban areas of Northern Province, the index for males dropped from 8.0 in 1980 to 7.3 in 1990 whereas that of females declined from 7.8 in 1980 to 7.6 in 1990. The results from Tables 2.3 and 2.4 show that the quality of age data for 1990 has improved compared to that of 1980 and the male data are slightly better than that for females.

Table 2.3

Myers' Index for Digit Preference in Age Data, Northern 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	13.2	3.2	13.4	3.4	14.6	4.6	13.8	3.8
1	8.1	-1.9*	8.1	-1.9	8.4	-1.6	8.4	-1.6
2	11.5	1.5	11.3	1.3	11.4	1.4	11.3	1.3
3	8.4	-1.6	8.2	-1.8	8.0	-2.0	7.7	-2.3
4	9.0	-1.0	9.1	-0.9	9.0	-1.0	9.2	-0.8
5	10.3	0.3	10.8	0.8	9.9	-0.1	10.3	0.3
6	11.3	1.3	10.4	0.4	10.5	0.5	10.8	0.8
7	7.7	-2.3	8.5	-1.5	7.4	-2.6	8.0	-2.0
8	12.0	2.0	12.2	2.2	12.4	2.4	12.4	2.4
9	8.5	-1.5	8.0	-2.0	8.4	-1.6	8.0	-2.0
Myers' Index		8.3		8.1		8.9		8.6

Table 2.4

Summary of Myers' Index for Digit Preference in Age Data by Rural/Urban, Northern Province, 1980 and 1990

Northern Province		1980	1990
Total	Male	8.3	8.1
	Female	8.9	8.6
Rural	Male	8.4	8.4
	Female	9.1	9.0
Urban	Male	8.0	7.3
	Female	7.8	7.6

The most preferred digits during 1980 and 1990 censuses among males and females are shown in Table 2.5 in decreasing order of preference. There was rounding of ages during both the 1980 and 1990 censuses as shown in Table 2.5. This is indicated by the relatively high preference for digits 0, 2, 6 and 8 among males and females. Using Myers' Index in assessing the digit preference shows that in 1980 and 1990, the digits 0, 2, 6 and 8 were the most preferred in Northern Province. Refer to Table 2.5 for more details.

Table 2.5

## Most Preferred Digits, Northern Province, 1980 and 1990

Sex/Year	Most Preferred Digits		
	Total	Rural	Urban
Male - 1980	0,8,2,6	0,8,2 & 6	0,8,2
Male - 1990	0,8,2	0,8,2	0,8,2
Female - 1980	0,8,2	0,8,2	0,8,2
Female - 1990	0,8,2	0,8,2	0,8,2,6

Age misreporting errors are also presented in Figures 2.2 to 2.5. Comparing Figures 2.2 and 2.3 with Figures 2.4 and 2.5 shows that grouping age data in 5 year age groups helps minimise age misreporting errors. This is evidenced by the fluctuations which are more pronounced in Figures 2.2 and 2.3 than in Figures 2.4 and 2.5.

Figure 2.2

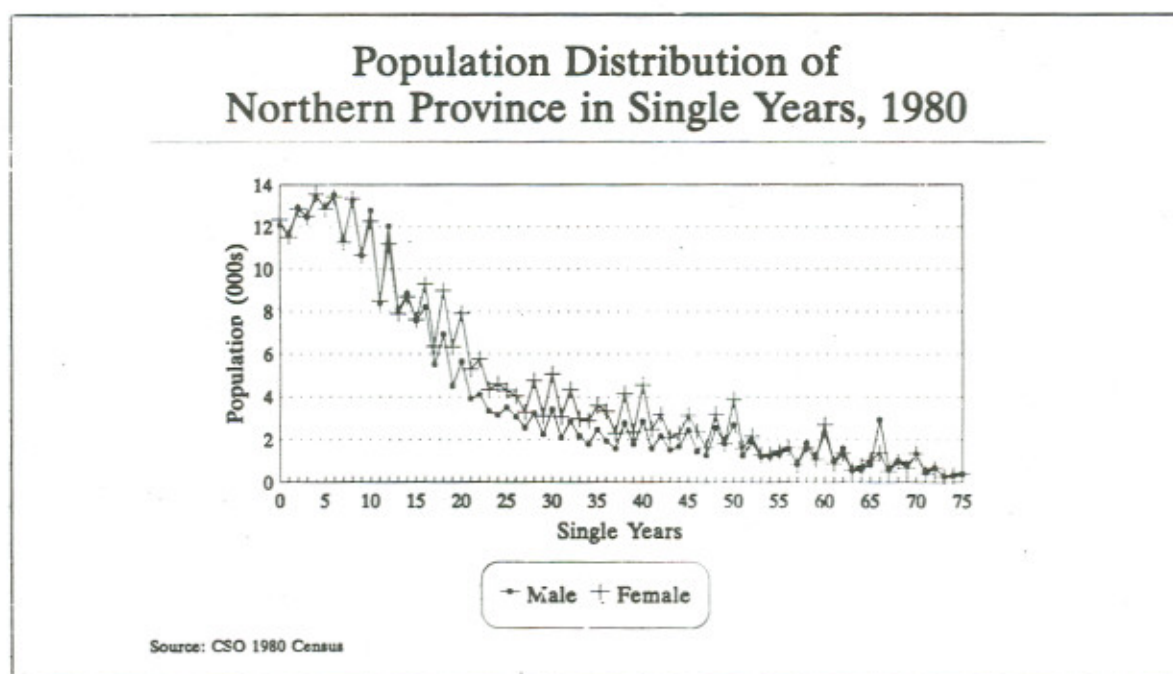




Figure 2.3

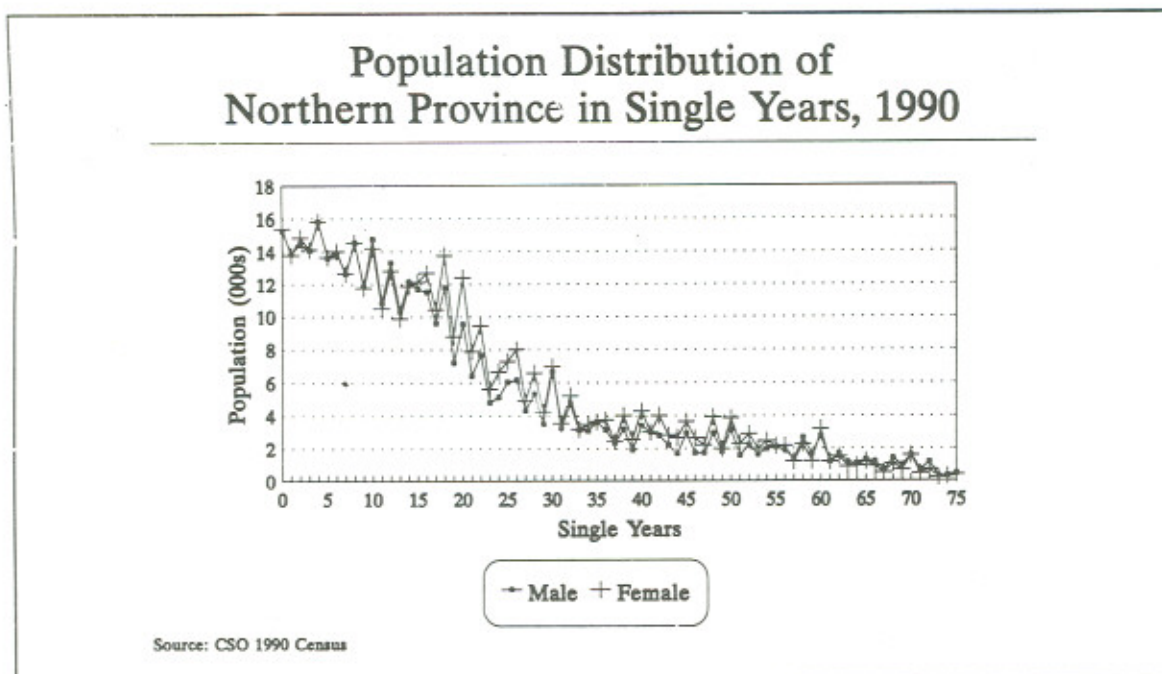


Figure 2.4

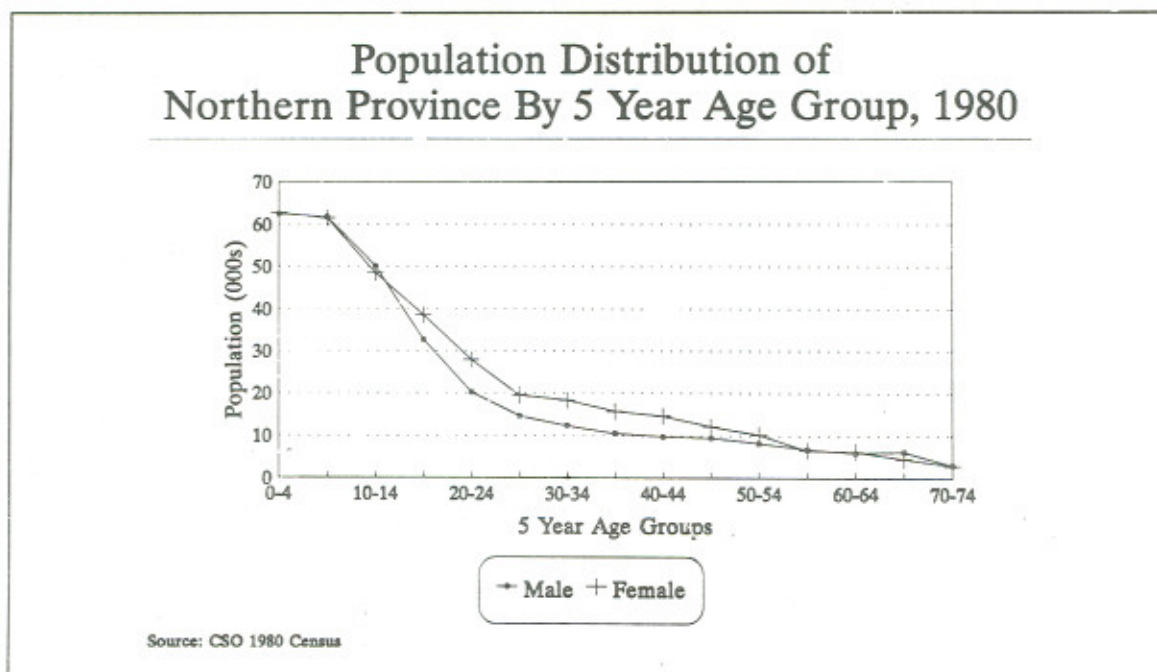
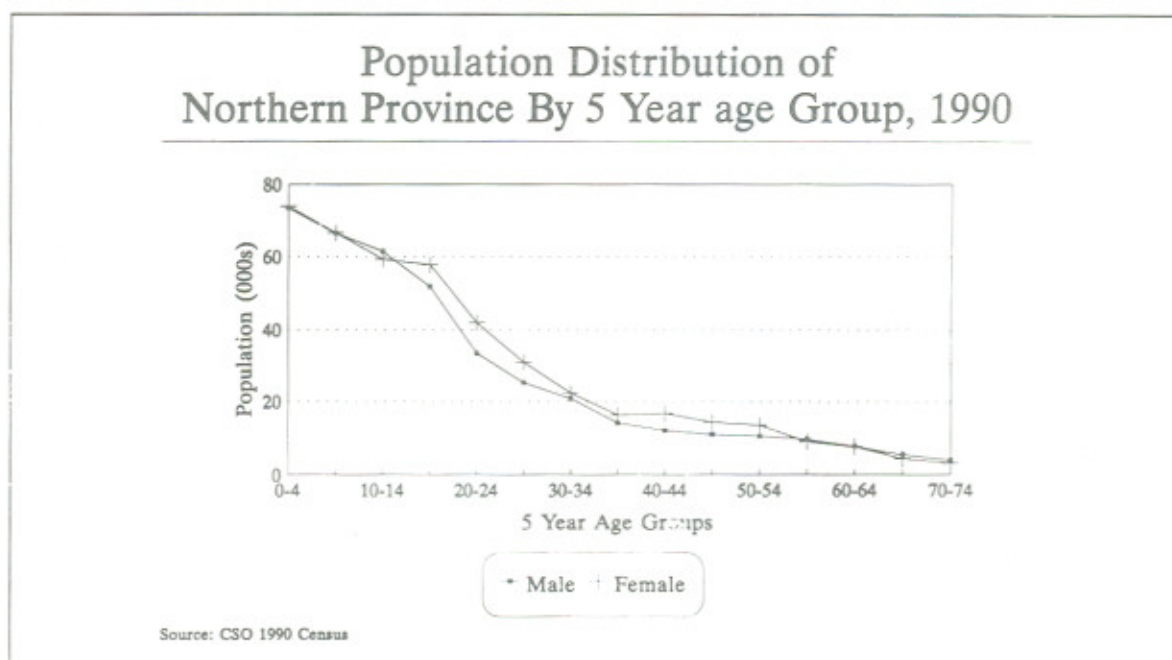


Figure 2.5



#### Sex Ratios

In order to detect the presence of errors of omission and age misreporting and also in or out-migration, it is ideal to use sex ratios. A sex ratio of more than 100 indicates an excess of males and a sex ratio of less than 100 shows a deficit of males. Information on sex ratio for Northern Province during 1980 and 1990 Censuses are given in Tables 2.6, 2.7, 2.8 and Figure 2.6. Results from Table 2.6 show that there are more females than males in Northern Province. The major reason for this could be the out-migration of the economically active male population. Another reason could be as a result of high male child mortality or high adult male mortality in Northern Province.

Table 2.6

Sex Ratios for Northern Province, 1980 and 1990

Northern Province	1980	1990
Total	90.0	93.5
Rural	89.7	93.2
Urban	91.9	95.5

An assessment of age specific sex ratios for Northern Province in 1980 and 1990 has been done and the results are presented in Tables 2.7 and 2.8. Results from Table 2.7 show that in 1980, the sex ratio in the age range of 0-4, 15-54 and 60-64 years was less than 100. In 1990, the age groups with a sex ratio of less than 100 are 0-4, 5-9 and from 15-19 to 50-54.

## Age Ratios

Age ratios are presented in Tables 2.7 and 2.8. In normal circumstances when there are no major changes in fertility, mortality, or migration, age ratios do not deviate from 100. Therefore, any substantial deviation is explained in terms of age misreporting. In 1980, the average age ratio for males was 5.7 whereas that of females was 4.8. The average age ratios in 1990 were 4.0 for males and 7.2 for females. This shows that in 1980, age data were better reported by females while in 1990, age data was better reported by males. The average sex ratio differences were 12.6 in 1980 and 9.1 in 1990. The Age-sex Accuracy index declined from 48.3 in 1980 to 38.5 in 1990. The United Nations defines age-sex data as "accurate, inaccurate and highly inaccurate" if the index is less than 20, from 20-40 and above 40, respectively.

Table 2.7

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

Age Group	Population		Age Ratio		Deviation		Sex Ratio	Difference
	Male	Female	Male	Female	Male	Female		
0-4	62,480	2,739	-	-	-	-	99.6	-
5-9	61,787	61,526	106.3	106.8	6.3	6.8	100.4	-0.8
10-14	50,141	48,575	104.0	98.0	4.0	-2.0	103.2	-2.8
15-19	32,759	38,606	95.4	100.7	-4.6	0.7	84.9	-18.3
20-24	20,160	27,866	89.5	97.3	-10.5	-2.7	72.3	12.6
25-29	14,621	19,467	93.1	89.0	-6.9	-11.0	75.1	-2.8
30-34	12,317	18,318	98.5	102.7	-1.5	2.7	67.2	7.9
35-39	10,559	15,716	97.0	96.9	-3.0	-3.1	67.2	0.0
40-44	9,790	14,598	98.4	103.2	-1.6	3.2	67.1	0.1
45-49	9,511	12,129	103.5	98.4	3.5	-1.6	78.4	11.3
50-54	8,267	10,256	100.9	106.2	0.9	6.2	80.6	-2.2
55-59	6,797	6,593	96.7	85.5	-3.3	-14.5	103.1	-22.5
60-64	6,012	6,276	94.5	107.9	-5.5	7.9	95.8	7.3
65-69	6,275	4,587	122.4	99.3	22.4	-0.7	136.8	-41.0
70-74	3,088	2,997	-	-	-	-	103.0	33.8
Total	314,564	350,249			74.0*	63.1*	89.8	163.4
Mean					5.7	4.8		12.6

Note: \* Denotes Total irrespective of sign.

$$\begin{aligned}
 \text{Age-Sex Accuracy Index} &= 3 \times \text{Mean Difference in Sex Ratios} + \text{Mean Deviations of Male and Female Age Ratios} \\
 &= (3 \times 12.6) + 5.7 + 4.8 \\
 &= 48.3
 \end{aligned}$$



Figure 2.6

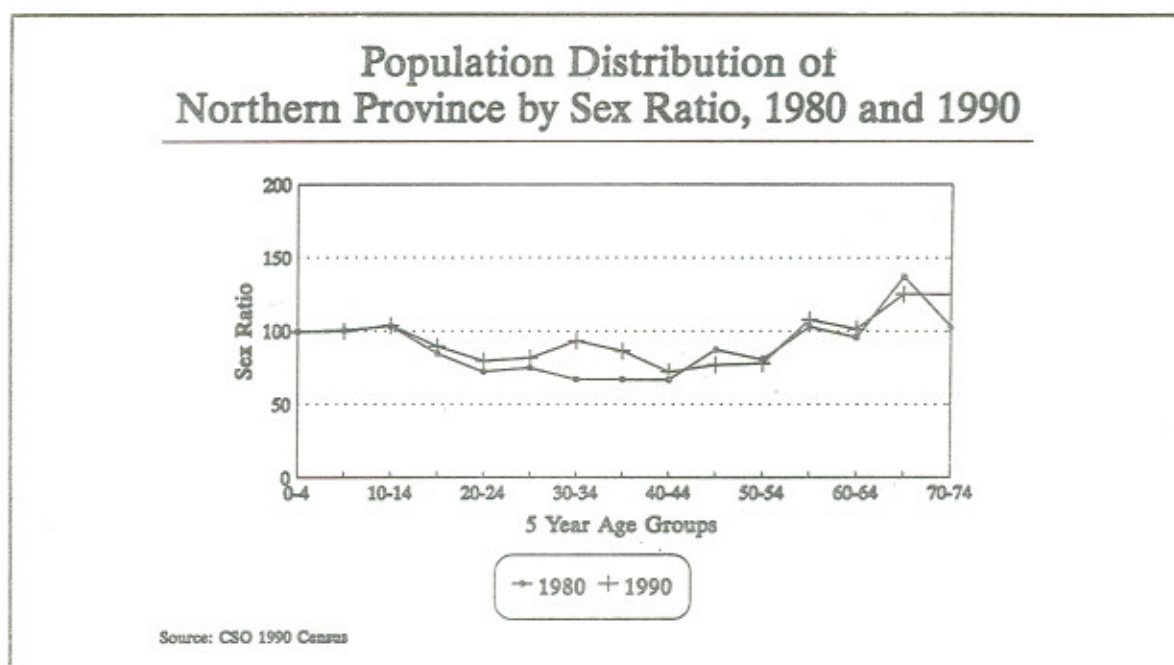


Table 2.8

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

Age Group	Population		Age Ratio		Deviation		Sex Ratio	Difference
	Male	Female	Male	Female	Male	Female		
0-4	73,535	74,022	-	-	-	-	99.3	
5-9	66,587	66,658	99.1	100.0	-0.9	0.0	99.9	-0.6
10-14	61,403	59,291	102.5	96.8	2.5	-3.2	103.6	-3.7
15-19	51,805	57,818	105.9	109.0	5.9	9.0	89.6	14.0
20-24	33,554	42,037	91.0	96.4	-9.0	-3.6	79.8	9.8
25-29	25,314	30,985	95.2	97.4	-4.8	-2.6	81.7	-1.9
30-34	20,896	22,372	103.8	96.2	3.8	-3.8	93.4	-11.7
35-39	14,172	16,382	90.2	88.6	-9.8	-11.4	86.5	6.9
40-44	12,092	16,734	97.2	105.8	-2.8	5.8	72.3	14.2
45-49	11,055	14,345	98.5	96.5	-1.5	-3.5	77.1	-4.8
50-54	10,537	13,497	101.0	109.8	1.0	9.8	78.1	-1.0
55-59	9,701	9,024	103.9	89.7	3.9	-10.3	107.5	-29.4
60-64	7,779	7,675	101.7	109.2	1.7	9.2	101.4	6.1
65-69	5,476	4,388	95.0	86.0	-5.0	-14.0	124.8	-23.4
70-74	4,032	3,237					124.6	0.2
Total	407,938	438,465			52.6*	86.2	93.0	127.7*
Mean					4.0	7.2		9.1

Note: \* Denotes Total irrespective of sign.

$$\begin{aligned}
 \text{Age-Sex Accuracy Index} &= 3 \times \text{Mean Difference in Sex Ratios} + \text{Mean Deviations of Male and Female Age Ratios} \\
 &= (3 \times 9.1) + 4.0 + 7.2 \\
 &= 38.5
 \end{aligned}$$

### 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 is among the many uses of survival ratios. Evaluation from two censuses is achieved only under certain assumptions. The population should be closed to migration. Influence of abnormal mortality through wars, disasters, diseases, etc., over a 10 year period should be absent. The more erratic the census survival ratios are, the more inconsistency the age and sex data are.

Tables 2.9 and 2.10 and Figures 2.7 and 2.8 show the survival ratios in Northern Province during 1980 and 1990 intercensal period. Table 2.9 and Figure 2.7 show the cohort survival ratios whereas Table 2.10 and Figure 2.8 show the overall survival ratios according to sex and in 5 year age groups. Cohort survival ratio refers to the probability of surviving from a given age group to the next age group whereas the overall survival ratio shows the probability of surviving of the population in an open age group to the next open age group.

Cohort survival ratios are expected to be high at age group 10-14 where mortality is assumed to be lowest and then to decline continuously thereafter. Results from Table 2.9 and Figure 2.7 show some irregularities. Just like the cohort survival ratios, the overall survival ratios are expected to decline continuously as we go up to older ages. However, the female ratios should be higher than the male ratios because females usually have lower mortality than males. Results from Table 2.10 and Figure 2.8 show irregularities than the expected pattern. For example, the overall survival ratios for females are higher than those of males at ages 15+, 25+ and 80+.

The irregularities observed in both the cohort and the overall survival ratios show that there was age misreporting and under or over enumeration in some age groups. It is also possible that mortality had risen in Northern Province between 1980 and 1990, thus, affecting the survival ratios. Out-migration could also be another contributing factor for the observed irregularities in the survival ratios.

Table 2.9

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

Age Group	Male	Female
10-14	0.9828	0.9450
15-19	0.6692	0.8654
20-24	0.7727	0.8026
25-29	1.0365	0.8028
30-34	0.9693	0.8415
35-39	0.9817	0.9137
40-44	1.0470	0.9128
45-49	1.0763	0.9246
50-54	1.0200	0.7440
55-59	0.9410	0.7483
60-64	0.8056	0.6656
65-69	0.6707	0.5158
70-74	0.5198	0.3772
75-79	0.3455	0.2890
80-84	0.4200	0.4408
85+	0.4628	0.4267

Figure 2.7

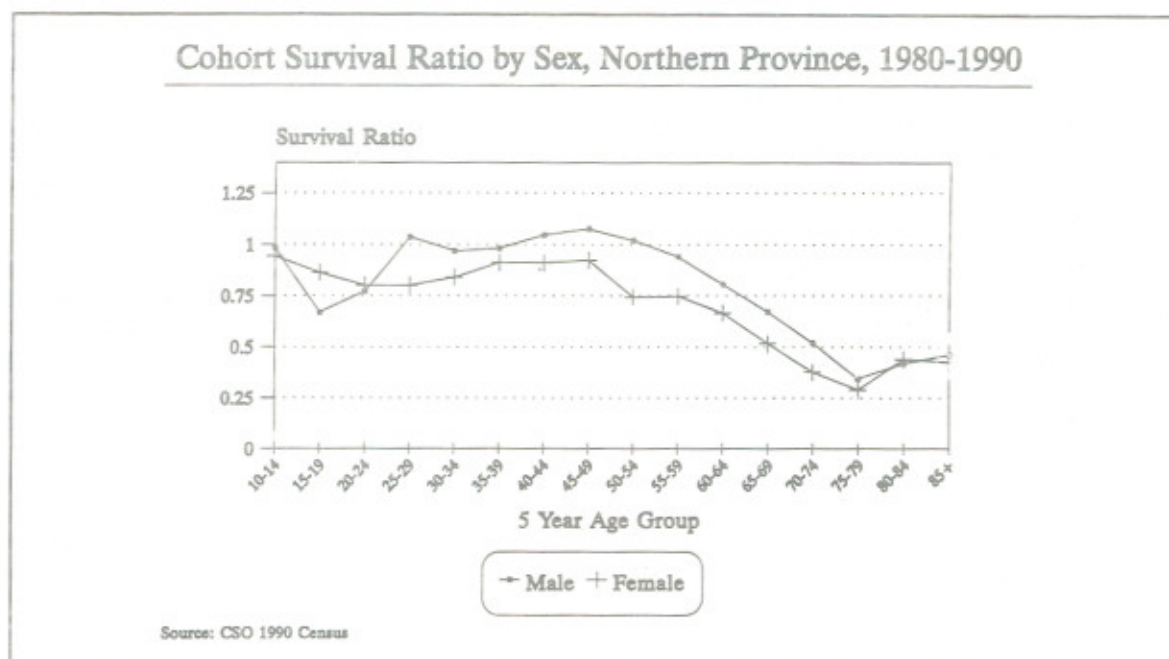


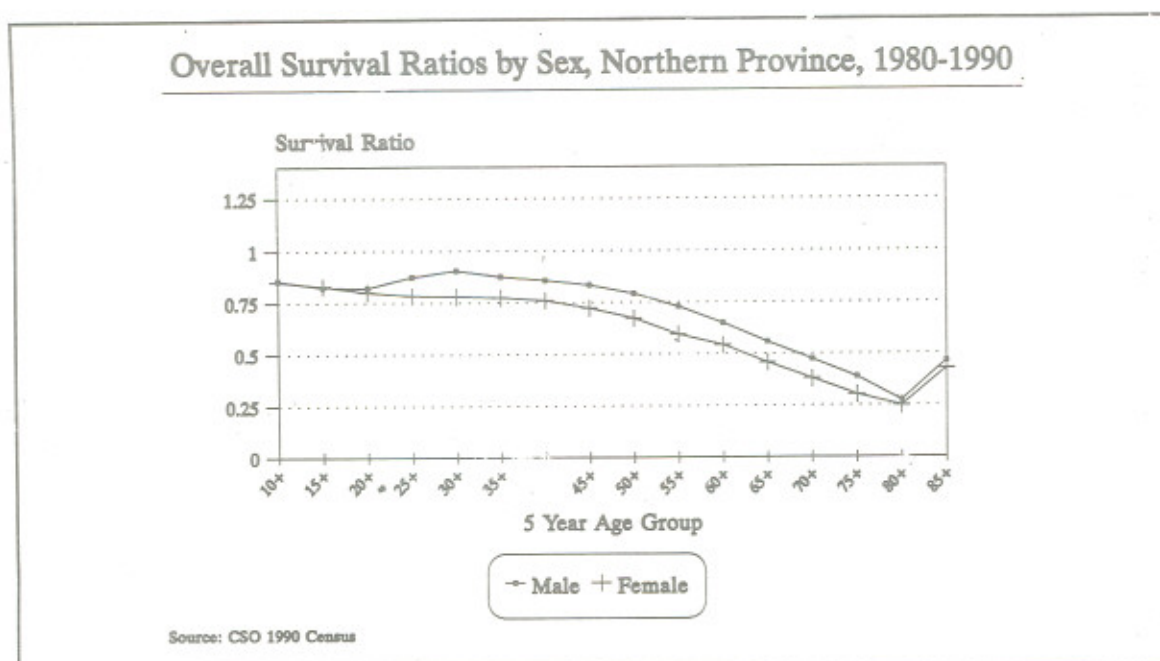
Table 2.10

Overall Survival Ratios, Northern Province, 1980-1990

Age Group	Male	Female
10+	0.8566	0.8510
15+	0.8258	0.8308
20+	0.8218	0.8016
25+	0.8748	0.7845
30+	0.9047	0.7796
35+	0.8757	0.7739
40+	0.8579	0.7601
45+	0.8342	0.7234
50+	0.7926	0.6747
55+	0.7298	0.5962
60+	0.6502	0.5440
65+	0.5592	0.4570
70+	0.4738	0.3784
75+	0.3868	0.3016
80+	0.2730	0.2494
85+	0.4623	0.4267



Figure 2.8



## 2.4 SUMMARY

In 1980, 674,750 people were enumerated in Northern Province while 855,177 were enumerated in 1990. Of those enumerated in 1980, 2,056 did not state their age compared to 122 in 1990. The proportion of those aged 15-64 rose from 44.5 percent in 1980 to 50.0 percent in 1990 while that of those aged 0-14 declined from 51.5 percent in 1980 to 47.0 percent in 1990. The decline in the proportion of the children aged 0-14 could be due to a decline in fertility levels, an increase in mortality levels and/or an under count of children especially those aged 0-4 years in 1980. The overall dependency ratio declined from 123.8 in 1980 to 99.8 in 1990.

There was age heaping in Northern Province. The digits 0,2,6 and 8 were the most preferred in 1980 and 1990. In 1990, age reporting among males was better than among the females. This is shown by using Myers' Index and the age-ratio method for age data analysis. In 1990, Myers' Index for males was 8.1 while that for females was 8.6. The average age ratio deviation for males was 4.0 while that for females was 7.2 in 1990.

Out-migration took place between 1980 and 1990 especially among the active men. There are more males than females in Northern Province. The ratios further suggest that men have a tendency to over state their age while women have a tendency to under state their age. This is shown by the high sex ratios in the old age groups. The analysis of the 1980 and 1990 Census data using the Age-Sex Accuracy Index shows that the 1990 Census data were better than the 1980 Census data. The Age-Sex Accuracy Index declined from 48.3 in 1980 to 38.5 in 1990.



## CHAPTER 3

# POPULATION SIZE, GROWTH AND COMPOSITION

### 3.1 INTRODUCTION

Censuses of population in Zambia have been designed to collect the de facto population data. However, in the 1990 population census, both the de facto and de jure counts were employed. Nevertheless, results presented in this chapter refer to the de facto count. The de facto population constitutes people actually present at the time of the census with the exception of foreign diplomatic personnel accredited to Zambia. The de jure population constitutes usual household members present and usual household members temporarily absent from their homes at the time of the 1990 Census.

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

- Demographic characteristics such as age and sex,
- Social characteristics such as ethnicity and citizenship, and
- Economic characteristics such as Crude Activity Ratio and labour force participation ratio.

### 3.2 POPULATION SIZE AND GROWTH

A population of 855,177 persons is recorded in Northern Province in the 1990 Census, of which 413,268 are males and 441,909 are females. More details are presented in Table 3.1.

Table 3.1

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

District	Total			Rural		Urban	
	Both Sexes	Male	Female	Male	Female	Male	Female
Chilubi	39,874	18,263	21,611	17,647	20,861	616	750
Chinsali	83,659	40,638	43,021	37,009	39,141	3,629	3,880
Isoka	121,871	58,829	63,042	52,381	56,009	6,448	7,033
Kaputa	49,993	24,332	25,661	21,809	23,045	2,523	2,616
Kasama	189,360	92,353	97,007	68,568	72,378	23,785	24,629
Luwingu	66,699	32,143	34,556	29,644	31,943	2,499	2,613
Mbala	136,091	65,662	70,429	59,017	63,218	6,645	7,211
Mpika	115,125	55,789	59,336	45,242	48,933	10,547	10,403
Mporokoso	52,505	25,259	27,246	22,867	24,543	2,392	2,703
Total	855,177	413,268	441,909	354,184	380,071	59,084	61,838

Zambia has held three censuses in the post-independence era. These were conducted in 1969, 1980 and 1990. Annual growth rates for the two intercensal periods, namely 1969-80 and 1980-90 have been calculated by the geometric method. The sizes of the population as enumerated and corresponding annual rates of growth of the population are presented in Table 3.2.



Table 3.2

## Population Size and Growth Rates, Northern Province, 1969, 1980 and 1990

Province/District	1969	Annual Growth Rate 1969-80	1980	Annual Growth Rate 1980-90	1990
Northern Province					
- Total	545,096	2.0	674,750	2.4	855,177
- Rural	530,890	0.4	556,475	2.8	734,255
- Urban	14,206	21.2	118,275	0.2	120,922
Districts					
Chilubi	-	-	33,285	1.8	39,874
Chinsali	58,014	1.2	66,174	2.4	83,659
Isoka	77,700	1.7	93,999	2.6	121,871
Kaputa	-	-	44,731	1.1	49,993
Kasama	107,817	2.9	147,594	2.5	189,360
Luwingu	79,164	-3.6	52,596	2.4	66,699
Mbala	95,633	1.6	117,935	1.8	136,091
Mpika	59,378	2.9	81,291	3.5	115,125
Mporokoso	67,390	-4.4	41,145	2.5	52,505

Note: Chilubi and Kaputa were part of other districts in 1969, thus the blank spaces for that particular year.

It may be observed from the table above that the annual growth rate of the population of Northern Province grew at moderate rates of 2.0 and 2.4 for the intercensal periods 1969-80 and 1980-90, respectively. However, a spectacular annual growth rate of 21.2 percent was recorded for the urban area of the province in the 1969-80 intercensal period, but the growth rate fell to a negligible 0.2 for the 1980-90 intercensal period. Negative growth rates were recorded in the 1969-80 intercensal period for Luwingu and Mporokoso districts. This may be attributed to out-migration to other areas. However, this situation was reversed in the 1980-90 intercensal period. Figure 3.1 gives a visual presentation of the population share of each district.

Figure 3.1

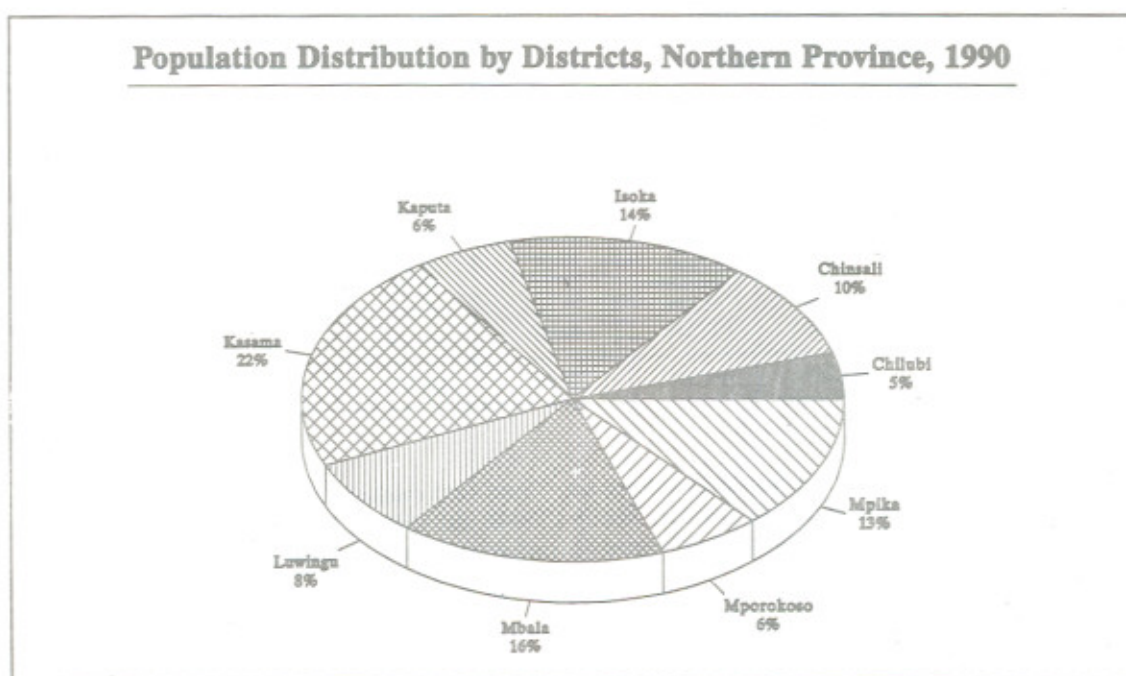


Table 3.3 shows the population density which is another way of observing population growth over time.

**Table 3.3**

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

District	Area (Sq Km)	Population Density/Census Year (Population Per sq.km)		
		1969	1980	1990
Northern Total	147,826	3.7	4.6	5.8
Chilubi	4,648	-	7.2	8.6
Chinsali	15,395	3.8	4.3	5.4
Isoka	13,846	5.6	6.8	8.8
Kaputa	13,004	-	3.4	3.8
Kasama	20,554	5.2	7.2	9.2
Luwingu	8,892	8.9	5.9	7.5
Mbala	18,508	5.2	6.2	7.3
Mpika	40,935	1.4	2.0	2.8
Mporokoso	12,043	5.6	3.4	4.4

Population density is defined as the number of persons per square kilometre of land. The population density of the province has increased over the three censuses. However, the population densities for Luwingu and Mporokoso districts for 1980 are lower than those for 1969.

### 3.3 POPULATION COMPOSITION

#### *Age Composition*

In demographic analysis, age is a very important element in the sense that it helps in explaining other processes. For instance the number of births depend on the number of females in the reproductive age range 15-49 years. Migration is also age-selective while the school going population and labour force are concentrated in specific age groups.

The median age is considered the best basis for describing a population as "young" or "old". The median age is defined as the age which divides the population into two equal groups, one of which is younger and the other of which is older than the median. Northern Province recorded a median age of 16.2 years for the 1990 population census. The population of the province is one which may be described as young. However, there is a rise of about 2 years over the 1980 median age of 14.4 years.

An age pyramid is a graphical representation which one may use to observe as to whether or not a population of a country or region is young, see Figures 3.2 and 3.3.

Figure 3.2

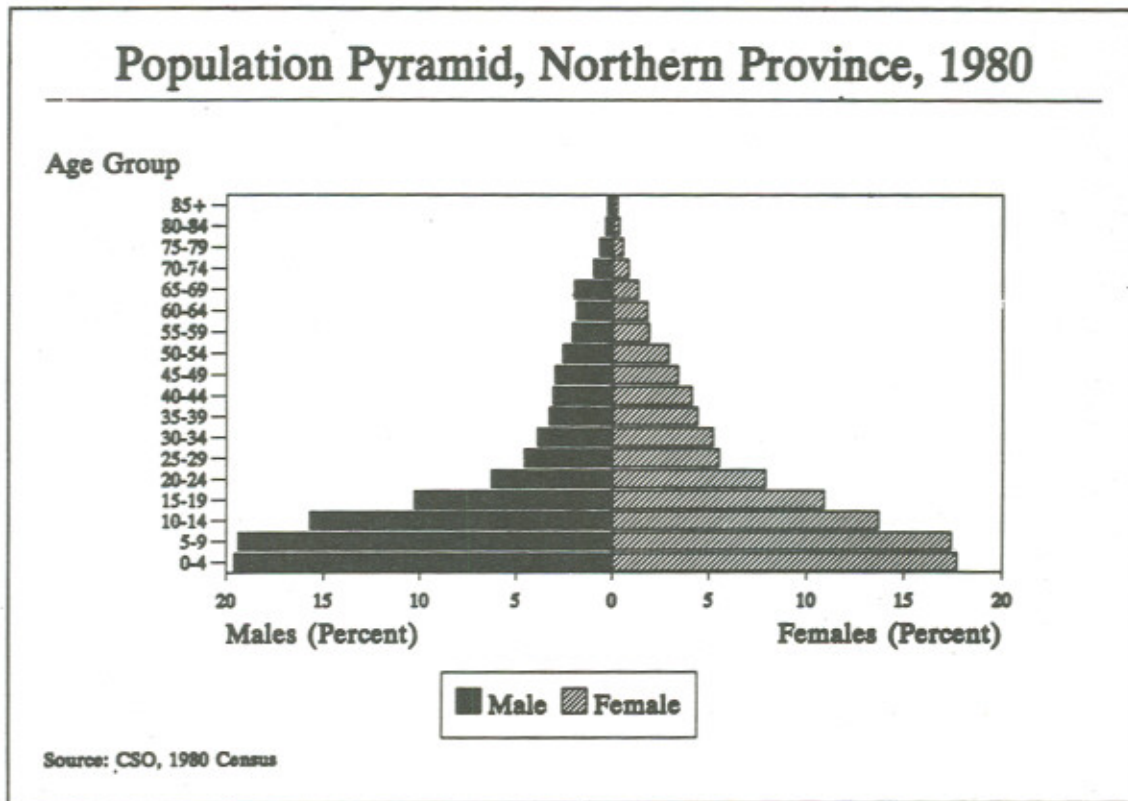
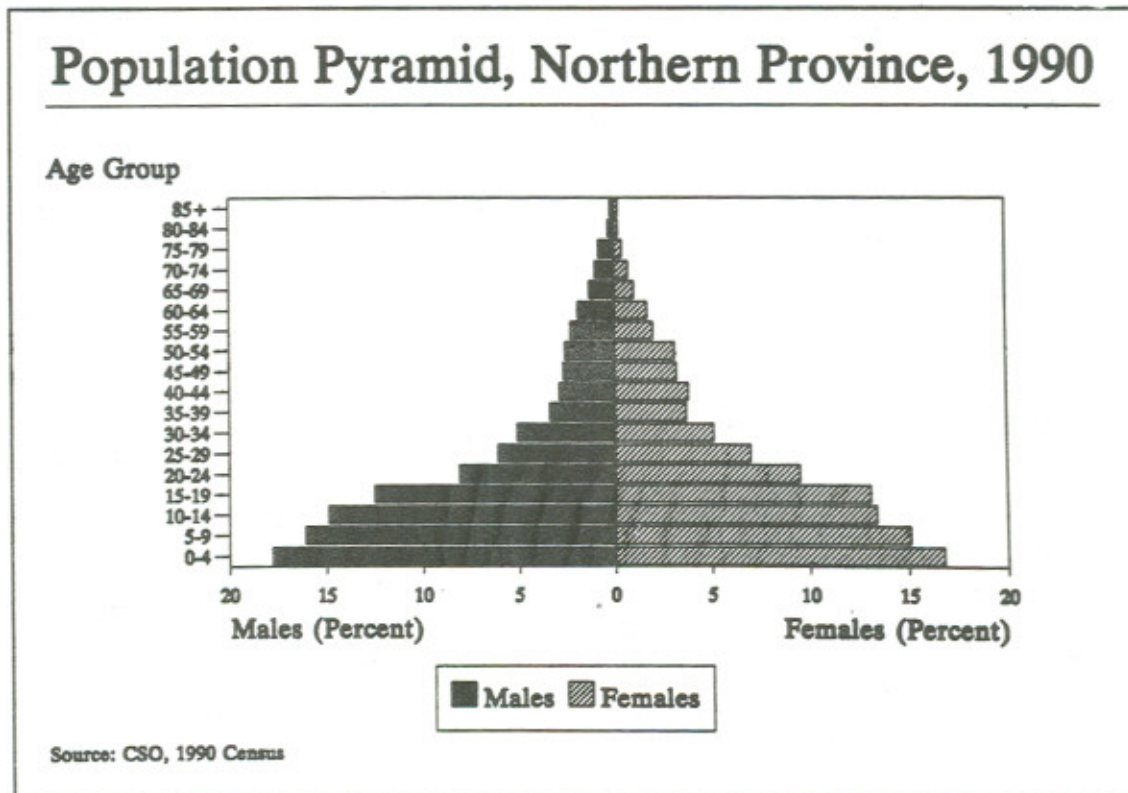


Figure 3.3





In 1990, the highest number of foreign citizens were from Angola (85.7 percent). The second in multitude were Zaireans (4.2 percent). Citizens of other countries comprised only negligible proportions. The situation obtaining at the time of the 1980 population census was more or less the same. In descending order citizens of Angola comprised (40.8 percent), Zaire (20.5 percent) and Zimbabwe (10.3 percent). The position of Angola and Zaire may be explained by two factors. Firstly, the two countries share boundaries with North-Western Province and thus within easy reach; and secondly, both countries have been facing civil strife for a long time, such that most of their citizens may be refuge seekers in the Province.

Overall, foreign citizens in the province have marginally fallen from a percentage share of 5.7 percent in 1980 to 4.2 percent in 1990. This may be attributed to Zimbabwe, Botswana and North African citizens, who having formed a sizeable proportion in 1980, may have migrated out of the province in the 1980-90 intercensal period.

#### *Economic Characteristics*

Detailed analysis describing persons who are economically active is presented exhaustively in the chapter on economic characteristics. In this present chapter, only introductory information on Crude Activity Ratio (CAR) and labour force participation rates are presented. Table 3.7 presents Crude Activity Ratios.

**Table 3.7**

#### **Crude Activity Ratio, North-Western Province, 1990**

Province/Residence	Crude Activity Ratio (%)
North-western Province - Total	28.2
- Rural	28.8
- Urban	24.4

The CARs presented in Table 3.7 are low implying that few economically active persons support a large economically inactive population. For every 100 persons in the Province there are only 28 economically active persons to support them. The situation in the urban areas is relatively worse off at 24.4 percent.

Table 3.8 gives information on a much more refined index of economic activity called Age-Sex Specific Activity Ratio (ASSAR).

Citizenship is another population composition characteristic which is discussed in this chapter. Details on this aspect are presented in Table 3.6.

**Table 3.6**

**Foreign Population of Northern Province by Citizenship, 1990 and Percentage Foreign Citizens, 1980**

Country/Region	Population 1990	Percent 1990	Percent 1980
Zaire	569	7.7	14.1
Other (Central Africa)	3	0.0	0.2
Tanzania	806	11.0	33.4
Other (Eastern Africa)	112	1.5	0.6
Northern Africa	51	0.7	1.3
Zimbabwe	145	2.0	5.0
Malawi	249	3.4	7.1
Other (Southern Africa)	13	0.2	21.9
West Africa	98	1.3	0.4
America	26	0.4	0.5
Asia & Oceanic	62	0.8	2.8
Europe	251	3.4	2.1
Not Stated	4,971	67.6	10.6
% Total	-	100.0	100.0
Total Foreign Citizens	7,356	-	11,046
% Foreign Population	-	0.9	1.6

Noticeable among the foreign citizens in Northern Province in 1990 were Tanzanians (11.0 percent) and Zaireans (7.7 percent). It may be noted that a big number of foreign citizens in 1990 did not state their countries of citizenship. In 1980 Tanzanian citizens were more in the province, followed by those from Southern African countries and Zaire. Overall, there has been a drop in foreign citizens from 1.6 percent in 1980 to 0.9 percent in 1990 in the province.

#### *Economic Characteristics*

This chapter presents only introductory analysis on economic characteristics of the population of Northern Province. In this present chapter, only information on Crude Activity Ratio (CAR) and Age-Sex Specific Activity Ratio is included. Table 3.7 presents data on CAR.

Table 3.7

## Crude Activity Ratio, Northern Province, 1990

Residence		Crude Activity Ratio (%)
Northern Province	- Total	31.6
	- Rural	32.6
	- Urban	25.6

As may be observed from the table above, the CARs for Northern Province are low, implying that a few economically active persons have to support a large number of economically inactive persons. The age-sex specific activity ratio is a more refined measure of economic activity since it takes into account the age and sex composition of the population. Details on this measure of economic activity are presented in the table below.

Table 3.8

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

Age-Specific Activity Ratio (%)						
Age Group	Northern		Rural		Urban	
	Male	Female	Male	Female	Male	Female
Total	66.5	38.3	68.1	40.1	57.1	27.6
12-14	36.6	36.4	39.8	40.0	17.9	17.8
15-19	46.7	40.4	50.3	43.7	26.9	22.6
20-24	69.1	38.8	71.3	41.0	56.5	30.1
25-29	83.5	37.3	84.0	38.6	80.4	30.4
30-34	86.2	37.7	86.0	38.6	87.2	33.4
35-39	87.5	37.4	86.8	38.1	90.4	33.9
40-44	86.9	39.4	86.3	40.4	89.3	31.1
45-49	86.2	40.3	86.2	41.3	86.0	30.5
50-54	84.0	40.0	84.4	40.6	81.6	32.8
55-59	81.8	40.1	82.5	41.1	75.8	29.1
60-64	79.1	37.0	79.8	37.8	71.7	26.4
65-69	75.4	34.8	76.3	35.7	63.2	21.9
70-74	66.6	28.9	68.1	29.7	41.8	19.3
75+	54.2	20.8	54.9	21.1	39.0	16.7
N/S	1.5	5.5	2.7	7.1	0.0	3.7

The striking feature one may observe from Table 3.8 and Figure 3.4 and 3.5 is that ratios for females are low showing figures which are about half those for males. Many females may have been engaged in work referred to as not economically gainful such as house-keeping. Ratios for younger age groups 12-14 and 15-19 years are lower than those pertaining to older age groups. These are school going ages such that most of the population falling in these ages may still have been attending school. Figures 3.4 and 3.5 give more details on the rural-urban comparison.



Figure 3.4

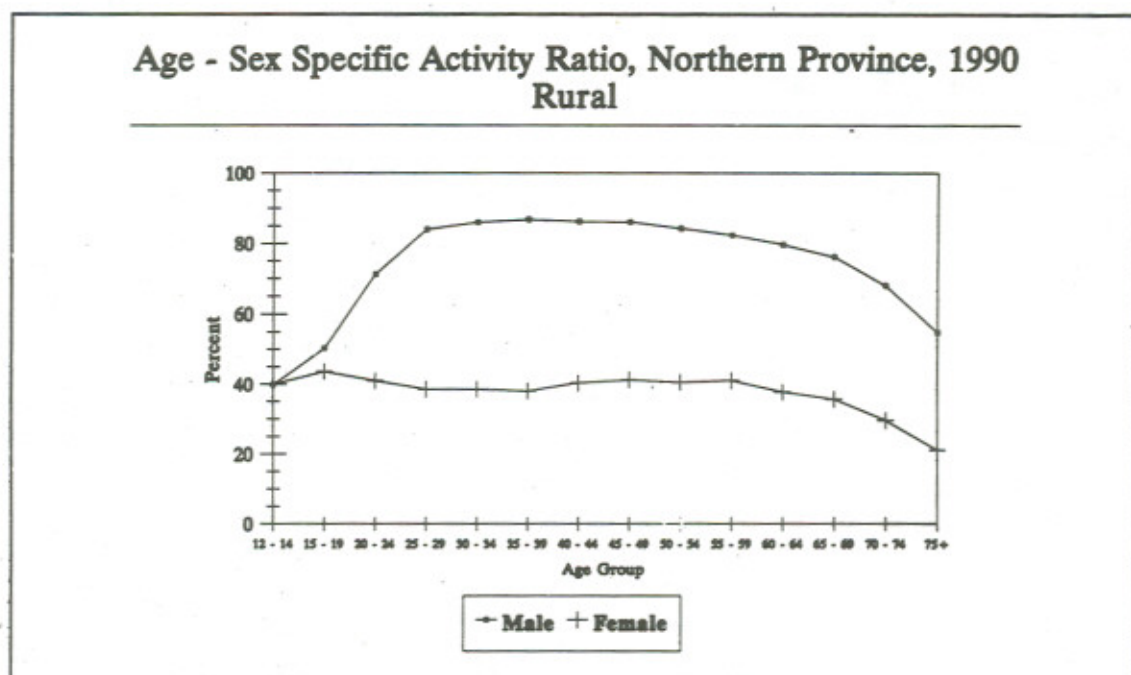
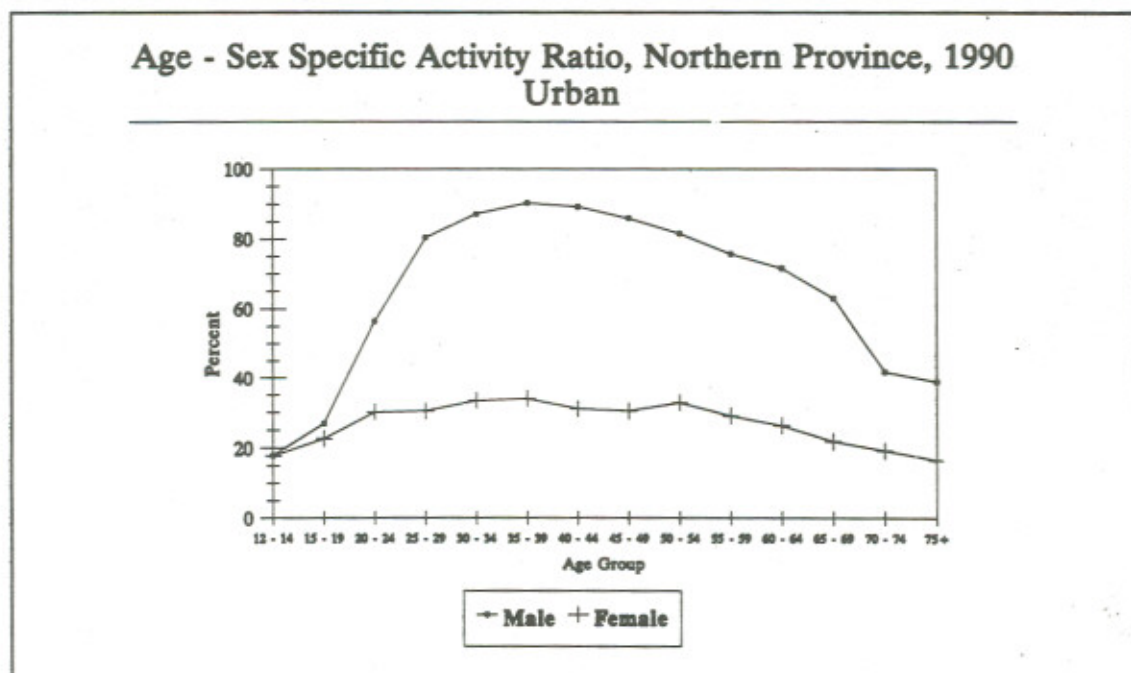


Figure 3.5



### 3.4 SUMMARY

The population of Northern Province, enumerated as 545,096 in 1969 grew to 674,750 in 1980 and to 855,177 in 1990. The annual growth rates of the population for the 1969-80 and 1980-90 intercensal periods are 2.0 and 2.4 percent, respectively.

The population of the province is one which may be described as "young", as evidenced by the median age of 16.2 years. The population of the province is predominantly African. Other ethnic groups only contribute a negligible proportion. Foreign citizens make up 0.9 percent of the population. In 1980, the population of foreign citizens comprised 1.6 percent.

Labour force participation ratios are satisfactorily high for males. Those for females have remained consistently low for all age groups in rural and urban areas.

Table 4.1

**Predominant Language of Communication by District, (Percent),  
North-Western Province, 1990**

Major Language	Province	Mufumbwe	Kabompo	Kasempa	Mwinilunga	Solwezi	Zambezi
Bemba	2.7	1.7	1.5	2.3	1.1	5.6	1.0
Lamba	2.6	0.2	0.1	0.2	0.1	7.9	0.0
Tonga	0.3	0.2	0.3	0.2	0.1	0.5	0.2
Luvale	18.4	7.9	31.2	1.0	1.7	7.1	61.8
Lunda (N-West)	32.0	9.8	26.0	1.2	81.1	17.6	28.7
Mbunda	1.7	0.6	4.4	0.2	0.1	2.7	0.9
Luchazi	3.8	2.0	22.4	0.3	0.0	0.8	1.9
Ndembu	2.7	0.0	0.0	0.0	12.5	0.0	0.5
Chokwe	3.3	14.7	7.6	0.1	0.1	3.0	2.0
Kaonde	29.2	60.9	1.2	92.2	1.1	50.7	0.6
Lozi	0.7	0.7	0.8	0.5	0.4	0.8	1.1
Nkoya	0.5	0.3	3.0	0.3	0.0	0.1	0.1
Nyanja	0.3	0.3	0.3	0.2	0.1	0.6	0.2
English	0.7	0.2	0.6	0.8	0.6	0.9	0.7
Other	1.0	0.5	0.8	0.5	0.8	1.6	0.5
Percentage Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Size	371,496	22,049	50,974	35,503	78,062	119,439	65,469

The majority of the people (32 percent) in North-Western province speak Lunda as a first language. This is followed by Kaonde which is spoken as a first language by about 29 percent of the population. The two languages together account for slightly over 60 percent of the people in North-Western province, speaking them as first languages. The Luvale language is the third most spoken as a predominant language accounting for 18.4 percent of the population. Other languages include Luchazi, Chokwe, Bemba, Ndembu, and Lamba languages together are spoken by about 15 percent of the population. The remaining 6 languages are spoken by the rest of the population of about 6.5 percent.

The Kaonde language is the most common language used in Mufumbwe, Solwezi and is almost a universal language in Kasempa district. Lunda of North-Western is spoken as a predominant language by over 80 percent of the population of Mwinilunga district and Luvale is spoken by over 60 percent of the Zambezi district population. Three languages namely, Luvale (31.2 percent), Lunda of North-Western (26.0 percent) and Luchazi (22.4 percent) are the major predominant languages spoken in Kabompo district. English, the official language in Zambia is spoken by less than one percent of the population in all the districts.

#### 4.3 PREDOMINANT LANGUAGE GROUP

The languages spoken in North-Western Province have been grouped according to their respective language groups described in Section 4.1 and the results are presented by sex in Table 4.2 for rural and urban areas of the province.



## CHAPTER 4

# LANGUAGE OF COMMUNICATION

### 4.1 INTRODUCTION

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

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

This chapter presents the 1990 Census results on the languages used in the Northern Province. This is done by identifying major languages spoken in the province. In the tables presented in this Chapter, the "not applicable" and "not stated" cases have been excluded from the total population.

### 4.2 PREDOMINANT LANGUAGE OF COMMUNICATION

There are two major language groups found in the Northern Province. These are the Bemba and the Mambwe language groups.

In Table 4.1, fourteen distinct languages have been identified as being spoken in the province to varying degrees of intensity. The table shows that the Bemba language is the predominant language of 58.5 percent of the population in the province. Other predominant languages include Namwanga, (9.1 percent), Bisa (8.0 percent), Mambwe (7.6 percent) and Lungu (5.8 percent). These four languages together with the Bemba language are spoken as predominant languages of communication by about 90 percent of the Northern Province population. The remaining 10 percent consists of mainly the Tabwa (3.7 percent), the Tumbuka (2.8 percent) and the "other" smaller languages grouped as the "other" category in Table 4.1.

Table 4.1

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

Major Language	Northern Province	Chilubi	Chinsali	Isoka	Kaputa	Kasama	Luwingu	Mbala	Mpika	Mporokoso
Bemba	58.5	16.3	93.1	6.9	34.5	94.9	90.6	17.4	64.3	94.6
Lala	0.4	0.0	0.0	0.0	0.0	0.1	0.0	0.1	2.4	0.0
Bisa	8.0	82.8	0.2	0.1	0.0	0.1	2.5	0.1	28.4	0.0
Tabwa	3.7	0.0	0.0	0.0	61.0	0.1	0.0	0.7	0.0	0.2
Mukulu	0.4	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	0.0
Tonga	0.3	0.0	0.2	0.7	0.1	0.2	0.0	0.2	0.5	0.1
Lozi	0.2	0.0	0.1	0.2	0.1	0.1	0.0	0.2	0.3	0.1
Nyanja	0.3	0.0	0.2	0.2	0.2	0.4	0.1	0.3	0.5	0.2
Lungu	5.8	0.0	0.1	0.1	1.3	0.2	0.1	34.2	0.1	3.0
Mambwe	7.6	0.0	0.2	1.4	0.7	1.1	0.1	44.0	0.5	0.9
Namwanga	9.1	0.1	4.8	57.4	0.4	1.1	0.1	1.7	0.9	0.2
Iwa	0.5	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0
Tumbuka	2.8	0.0	0.5	18.0	0.3	0.3	0.4	0.3	0.6	0.2
English	0.2	0.1	0.2	0.1	0.0	0.5	0.1	0.1	0.2	0.0
Other	2.3	0.6	0.5	11.6	1.4	0.8	0.6	0.7	1.3	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Size	807,095	37,990	79,047	112,223	47,333	179,899	63,475	127,602	109,270	50,256

Table 4.1 also shows predominant languages of communication of each of the nine districts in the province at the time of the Census. The Bemba language is dominant in five districts of Chinsali (93.1 percent), Kasama (94.9 percent), Luwingu (90.6 percent), Mpika (64.3 percent) and Mporokoso (94.6 percent). In the remaining four districts of Chilubi, Isoka, Kaputa and Mbala the Bemba language is secondary in importance.

The Bisa language, as a predominant language of communication, accounts for nearly 83 percent of the population in Chilubi district. In this district Bemba is spoken by only 16.3 percent of the population and together with the Bisa language accounts for 99.1 percent. The remaining languages are of less importance as predominant languages of communication in Chilubi district.

Isoka district shows some diversity in the predominant languages with Namwanga (57.4 percent) being the major language. Other languages often spoken in Isoka district include Tumbuka (18.0 percent), Bemba (6.9 percent) and Iwa (3.4 percent). There are also many smaller languages which when aggregated accounts for 11.6 percent of the Isoka district population. In Kaputa district, the predominant language of communication is mainly Tabwa (61.0 percent) with Bemba (34.5 percent) in second place, together are spoken by 95.5 percent of the population in the district. The major predominant languages in Mbala district are Mambwe (44.0 percent), Lungu (34.2 percent) and Bemba (17.4 percent).

English, the official language in Zambia is spoken by a small population of Northern Province in all its districts.

### 4.3 PREDOMINANT LANGUAGE GROUP

When all the known languages of Zambia are grouped in their respective language groups, the results are presented in Table 4.2. The table shows that 71.2 percent of the population of Northern Province speak Bemba as the predominant language of communication. The second language group in importance is the Mambwe language group (23.2 percent) followed by the Tumbuka group (3.0 percent). The languages in the remaining language groups are little spoken in the Northern Province.



Table 4.2

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

Language Group	Northern Province - Total			Northern Province Rural			Northern Province Urban		
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
Bemba	71.2	71.0	71.4	70.4	70.2	70.5	76.5	76.0	76.9
Tonga	0.3	0.3	0.3	0.1	0.1	0.1	1.5	1.5	1.6
N/Western	0.1	0.1	0.1	0.0	0.1	0.0	0.3	0.4	0.3
Barotse	0.2	0.2	0.1	0.1	0.1	0.1	0.6	0.7	0.6
Nyanja	0.6	0.7	0.6	0.3	0.4	0.3	2.4	2.5	2.2
Mambwe	23.2	23.3	23.2	24.4	24.5	24.3	16.3	16.2	16.3
Tumbuka	3.0	3.0	3.0	3.2	3.2	3.3	1.5	1.7	1.4
English	0.2	0.2	0.1	0.1	0.1	0.1	0.7	0.9	0.6
Other	1.2	1.2	1.2	1.3	1.3	0.3	0.2	0.2	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Size	807,095	389,403	417,692	693,028	333,826	359,202	114,067	55,577	58,490

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

Table 4.3 shows changes in the share of each language group during the intercensal period 1980-1990. Besides the increase in its population, the percentage share of each language group has not changed much during the 10 year period in the Northern Province. Most of the language groups increased their shares only marginally.

Table 4.3

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

Language Group	Percentage of Total Population	
	1980	1990
Bemba	70.9	71.2
Tonga	0.2	0.3
North-Western	0.1	0.1
Barotse	0.1	0.2
Nyanja	0.7	0.6
Mambwe	22.5	23.2
Tumbuka	2.8	3.0
English	0.7	0.2
Other	2.0	1.2
Total	100.0	100.0
Size	625,341	807,095



#### 4.4 SECOND LANGUAGE OF COMMUNICATION

In the Northern Province, 807,095 persons responded that they used a predominant language for their communication. This represented 81.8 percent of the total province population of 987,106 persons. The bulk of the remaining 18.2 percent represented babies and those who had not mastered any language. Only 225,078 persons or 27.9 percent of the persons who spoke a predominant language said they had a second language of communication. In Northern Province therefore, persons having a second language of communication represent a minority group.

Table 4.4 presents results on the second languages of communication in the Northern Province. The Bemba language is the most used language as an alternative to the predominant language accounting for almost 51 percent. Bemba is mostly used as a second language in districts which are mainly non-Bemba speaking. These districts are Chilubi, Isoka, Kaputa, Mbala and Mpika. The English language is the second most important alternative language in the province. As a second language, English is dominant in Kasama, Mporokoso, Luwingu and Chinsali districts. Other notable second languages in the province are Mambwe and Nyanja.

Table 4.4

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

Second Language	Northern Province	Chilubi	Chinsali	Isoka	Kaputa	Kasama	Luwingu	Mbala	Mpika	Mporokoso
Bemba	50.9	73.5	25.9	68.4	49.9	13.6	21.9	66.6	49.9	16.5
Lala	1.0	0.0	0.4	0.0	0.2	0.4	0.1	0.1	5.8	0.2
Bisa	2.3	8.6	1.7	0.0	0.1	0.5	6.8	0.1	9.8	0.5
Tabwa	1.0	0.0	0.1	0.0	16.1	0.2	0.1	0.9	0.0	0.7
Mukulu	0.1	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0
Tonga	0.6	0.3	1.7	0.1	0.3	1.3	0.6	0.2	0.9	1.3
Lozi	0.4	0.1	0.6	0.1	0.3	0.8	0.5	0.2	0.7	0.5
Nyanja	5.5	2.4	16.3	1.7	2.4	11.6	8.9	1.7	7.3	13.8
Lungu	3.4	0.0	0.3	0.1	4.6	1.5	0.6	9.8	0.2	4.3
Mambwe	5.8	0.3	1.3	3.0	2.0	7.0	0.7	13.0	0.9	4.7
Namwanga	3.5	0.1	9.3	7.2	0.8	5.0	1.0	1.1	2.0	0.8
Iwa	0.3	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
Turnbuka	1.9	0.2	1.6	6.4	0.6	1.0	0.6	0.2	1.3	0.9
English	19.5	12.6	36.2	4.8	18.0	52.2	48.5	5.0	18.3	52.0
Other	3.7	2.0	4.6	6.8	4.5	4.8	6.1	1.1	2.8	3.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Size	225,078	10,070	13,157	46,200	9,908	32,201	8,097	64,279	34,239	6,927

Table 4.5 presents results on the second language group by sex, rural and urban areas of Northern Province. The Bemba language group is most preferred in the province followed by English and Mambwe language group. As a second language group, Bemba is used more in rural than urban areas and more males speak English than females. Generally, percentages presented in Table 4.5 show that other language groups apart from Bemba are spoken more as second language groups than as first language groups, see Table 4.2.

Table 4.5

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

Language Group	Total			Rural			Urban		
	Both Sexes	Males	Females	Both Sexes	Males	Females	Both Sexes	Males	Females
Bemba	56.1	51.8	60.9	59.8	55.3	64.8	40.5	37.2	44.2
Tonga	0.8	0.7	0.8	0.6	0.6	0.7	1.4	1.2	1.5
North-Western	0.4	0.4	0.4	0.3	0.3	0.3	0.7	0.6	0.7
Barotse	0.4	0.4	0.5	0.3	0.3	0.3	1.0	0.9	1.1
Nyanja	6.2	6.4	6.1	6.0	6.3	5.7	7.2	6.8	7.6
Mambwe	13.2	11.9	14.6	13.2	12.0	14.6	13.0	11.7	14.5
Tumbuka	2.0	1.8	2.2	2.1	1.9	2.3	1.6	1.5	1.7
English	19.5	25.2	13.2	16.0	21.8	9.6	34.3	39.6	28.2
Other	1.5	1.5	1.4	1.7	1.7	1.7	0.4	0.5	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Size	225,078	118,446	106,632	182,290	95,785	86,505	42,788	22,661	20,127

Table 4.6 shows the percentage distribution of the second language group of communication for the years 1980 and 1990. From the table it is apparent that the number of persons speaking a second language group has increased by almost 140 percent. The results in Table 4.6 show that the Bemba language group increased its percentage share by almost 14 percent between 1980 and 1990. This increase has been to a larger extent at the expense of English language which declined by about 12 percent.

Table 4.6

## Second Language Groups, (Percent), Northern Province, 1980 and 1990

Language Group	Percentage of Total Population	
	1980	1990
Bemba	42.6	56.1
Tonga	0.8	0.8
North-Western	0.3	0.4
Barotse	0.5	0.4
Nyanja	6.5	6.2
Mambwe	11.5	13.2
Tumbuka	1.7	2.0
English	31.5	19.5
Other	4.5	1.5
Total	100.0	100.0
Size	93,752	225,078



Table 4.7 shows the ranking of the predominant and second languages of communication according to the proportion of the population that speak them. The ranking of the major five languages in the table is such that the language on top of 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 second language of communication.

The predominant languages of communication in Northern Province are centred on Bemba, Namwanga, Bisa Mambwe and Lungu. However, in Kaputa district the Tabwa language is the language for the majority of persons. Other languages are less spoken in the province, while English language is the most used alternative language of communication.

**Table 4.7**

**Rank Order of Predominant and Second Language of Communication by District - Northern Province 1990.**

Rank Order	Northern Province	Chilubi	Chimali	Isoka	Kaputa	Kasama	Luwingu	Mbala	Mpika	Mporokoso
1	Bemba	Bisa Bemba*	Bemba English	Namwanga Bemba	Tabwa Bemba	Bemba English	Bemba English	Mambwe Bemba	Bemba English	Bemba English
2	Namwanga English	Bemba English	Namwanga Bemba	Tumbuka Namwanga	Bemba English	Mambwe Bemba	Tabwa Bemba	Lungu Mambwe	Bisa	Lungu Bemba
3	Bisa Mambwe	Namwanga Bisa	Tumbuka Nyanja	Bemba Tumbuka	Lungu Tabwa	Namwanga Nyanja	Bisa Nyanja	Bemba Lungu	Namwanga Nyanja	Mabwe Nyanja
4	Mambwe Nyanja	English Nyanja	Mambwe Namwanga	Iwa English	Mambwe Lungu	English Mambwe	Tumbuka Bisa	Namwanga English	Tumbuka Lala	Tabwa Mambwe
5	Lungu Namwanga	Mambwe	Bisa Tonga	Mambwe	Namwanga Nyanja	Nyanja Namwanga	Mambwe Mukulu	Tabwa Nyanja	Nyanja Namwanga	Namwanga Lungu

Note: In Chilubi district, there are only four languages that are spoken as a predominant language of communication.

## 4.5 SUMMARY

The most spoken language in Northern Province is Bemba. Bemba is spoken by 58.5 percent of the population followed by Namwanga which is spoken by 9.1 percent, Bisa spoken by 8.0 and Mambwe which is spoken by 7.6 of the population of in the province. Although English is the official language of communication, only 0.2 percent speak it as a predominant language of communication.



## CHAPTER 5

# 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 which awards certificates, diplomas, degrees, or other formal credentials to persons who successfully complete their education. 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

In the 1990 Census of Population, Housing and Agriculture, the following information on educational aspects of all persons aged 5 years and over was collected:-

- 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 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

#### *Education 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 1980's, 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. Public and private educational institutions are part of the education system.

### *School Attendance*

School attendance is synonymous with school enrolment which, according to the United Nations, refers to enrolment in any regular educational institution, public or private, for systematic instruction at any level of education during a well 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, the age groups used in the subsequent presentation 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 old could still be in secondary school.

### *Literacy*

It refers to the ability to read and write in any language for persons aged five years and above. Individuals who can read and write are literate.

### *Academic Education Completed*

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 and degree are included in the educational outputs.

### *Professional/Vocational Education Completed*

Higher qualification attained after formal school (grade 1-12) either at college or university. Inclusive are specified fields of study.

## **5.3 LITERACY STATUS**

Persons who are able to read and write in Northern Province constitute 48.4 percent of the population aged 5 years and over enumerated in 1990. Literacy rates for males and females are 56.6 and 40.9 percent, respectively. Concentration of literacy is found in age group 15-44 years where rates exceed 60 percent. Literacy rates by age for males are even much higher than 75 percent in age group 20-24 (78.3 percent), 25-29 (80.4 percent) and 30-44 (79.9 percent). Concentration of literate females is found in age group 15-19 (63.8 percent), 20-24 (61.9 percent) and 25-29 (59.0 percent). The remaining age groups have less than 50 percent of literate females. For more details refer to Table 5.1.



Table 5.1

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

Province	Total	Age Group							Not Stated
		5-9	10-14	15-19	20-24	25-29	30-44	45+	
<b>Northern Province</b>									
- Total	48.4	9.4	47.4	68.6	92.2	68.6	62.0	37.6	20.7
- Male	56.6	9.4	48.2	73.9	78.3	80.4	79.9	60.3	21.4
- Female	40.9	9.3	46.6	63.8	61.9	59.0	46.7	15.5	20.0
<b>Residence</b>									
<b>Rural</b>									
- Total	45.0	7.5	43.0	65.0	65.8	65.4	57.9	35.6	20.8
- Male	53.7	7.6	44.2	71.0	76.1	78.3	76.8	58.2	23.1
- Female	37.0	7.4	41.8	59.6	57.6	54.7	42.4	14.2	18.2
<b>Urban</b>									
- Total	68.8	20.2	72.1	88.2	86.9	82.9	57.6	20.0	68.8
- Male	73.5	19.8	71.6	91.3	92.7	94.2	80.3	0.0	25.0
- Female	64.4	20.5	72.6	85.8	82.6	71.2	30.3	25.0	64.4
<b>Districts</b>									
<b>Chilubi</b>									
- Total	35.1	4.0	29.1	50.3	52.2	54.0	50.3	28.5	-
- Male	45.6	4.1	31.9	60.7	67.5	70.9	71.7	51.6	-
- Female	26.6	3.9	26.3	41.4	42.3	43.0	35.3	10.5	-
<b>Chinsali</b>									
- Total	54.0	10.3	52.8	77.3	77.3	76.3	69.0	44.5	-
- Male	60.5	10.2	52.6	80.2	83.7	84.0	83.3	68.7	-
- Female	47.8	10.3	53.0	74.7	72.4	69.6	57.3	22.6	-
<b>Isoka</b>									
- Total	48.2	11.0	50.0	71.1	69.9	64.8	55.7	34.2	50.0
- Male	57.4	11.1	50.9	78.0	80.9	80.3	76.4	56.0	50.0
- Female	39.8	10.8	49.0	65.0	60.9	52.6	39.2	13.4	50.0
<b>Kaputa</b>									
- Total	40.6	7.3	38.1	56.0	57.2	59.2	53.9	34.5	-
- Male	50.2	8.0	40.2	64.1	68.6	76.3	73.2	55.0	-
- Female	31.6	6.6	35.8	48.9	49.3	45.0	36.5	10.9	-
<b>Kasama</b>									
- Total	49.7	9.9	49.3	68.6	68.9	70.5	64.3	38.0	16.7
- Male	57.2	10.0	49.6	72.6	76.9	80.0	80.5	58.9	0.0
- Female	42.7	9.8	49.0	64.9	62.5	62.2	49.4	16.3	33.3
<b>Luwingu</b>									
- Total	49.6	7.0	43.0	69.1	71.0	71.4	63.1	35.6	-
- Male	55.6	7.0	44.3	75.5	80.1	83.6	81.9	59.5	-
- Female	39.0	7.0	41.5	63.2	64.0	61.6	48.0	13.3	-
<b>Mbala</b>									
- Total	45.5	10.0	45.0	62.0	63.3	64.3	57.8	35.8	26.7
- Male	54.3	9.6	45.9	68.9	73.7	77.8	77.7	58.2	33.3
- Female	37.4	10.3	44.1	56.0	54.8	53.3	40.8	13.6	16.7
<b>Mpika</b>									
- Total	52.1	9.8	50.3	73.4	74.3	73.5	69.1	40.8	0.0
- Male	59.4	9.9	50.8	77.0	82.1	82.9	65.3	65.3	0.0
- Female	45.4	9.7	49.8	70.2	68.3	66.5	17.0	17.0	0.0
<b>Mporokoso</b>									
- Total	54.0	8.8	52.6	78.0	81.1	78.2	69.6	42.4	-
- Male	61.1	8.6	52.5	80.4	87.0	86.4	86.4	68.9	-
- Female	47.5	9.1	52.8	75.9	76.3	72.3	56.3	17.8	-



Literacy rates for rural and urban areas are 45.0 percent and 68.8 percent, respectively. Literacy rates for males are 53.7 percent in rural and 73.5 percent in urban areas. Corresponding female literacy rates are 37.0 percent and 64.4 percent, respectively. A comparative analysis cannot be made over the 1980-1990 intercensal period due to non-availability of literacy data from the 1980 census. Figure 5.1 and Figure 5.2 provides rural and urban age-sex patterns of those who can read and write in Northern Province.

Figure 5.1

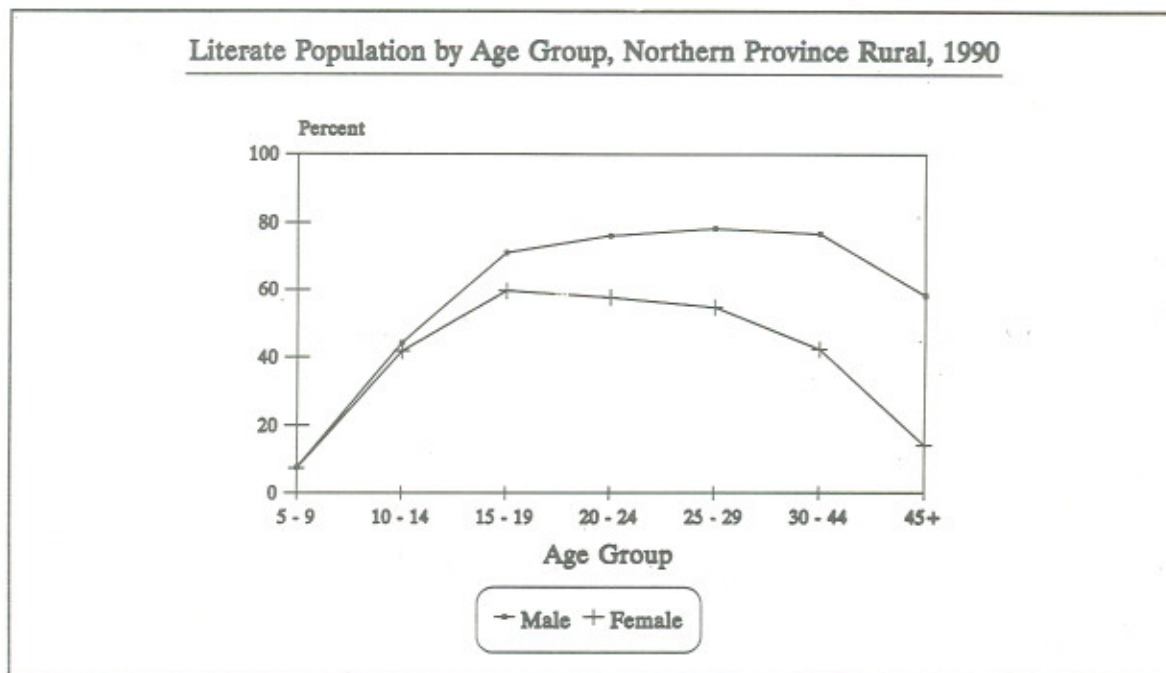
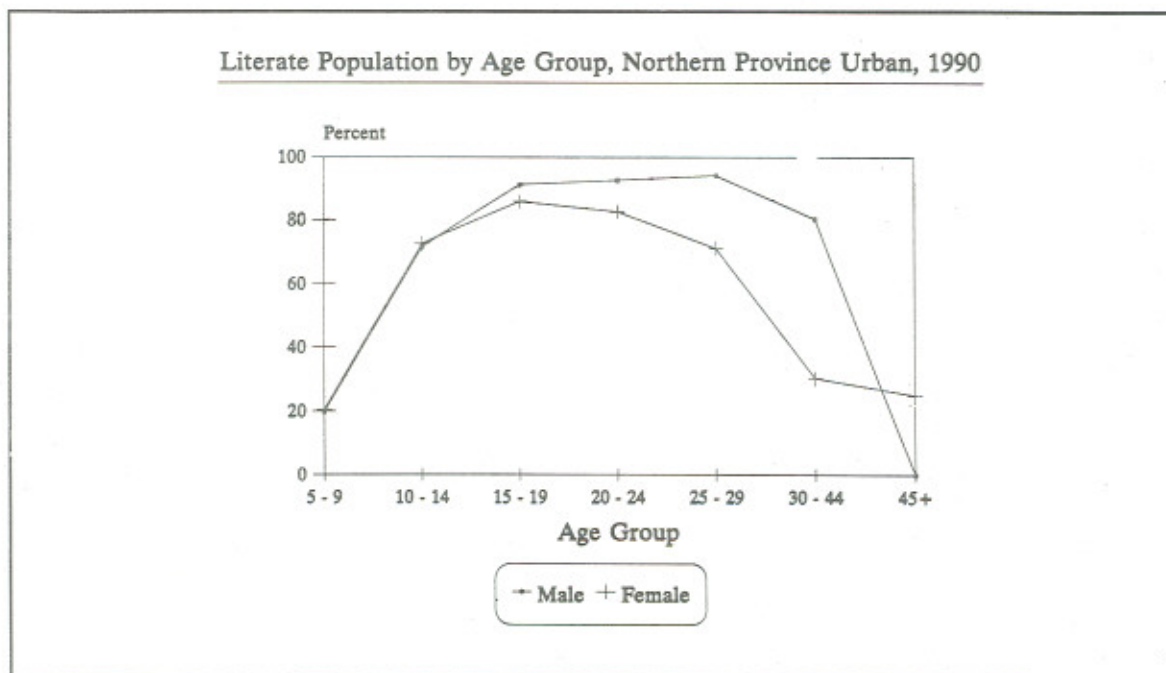


Figure 5.2



The literacy rate in all districts of Northern Province is less than 60 percent. However, the literacy rate for males in Chinsali and Mporokoso districts was less than 60 percent. Age-sex specific literacy rates are shown in Table 5.1.

#### **5.4 SCHOOL ATTENDANCE**

Information on population that presently attended school by age, sex and residence is presented in Table 5.2. Slightly more than a third (32.7 percent) of the population 5 years and over were enrolled in educational institutions at the time of the 1990 census. Proportions of males and females enrolled in educational institutions were 39.8 percent and 26.7 percent, respectively. Concentration of those who reported as presently attending formal educational institutions is in age groups 10-14 and 15-19 years. Majority of these people are either in primary or junior secondary schools, see Table 5.2.

Table 5.2

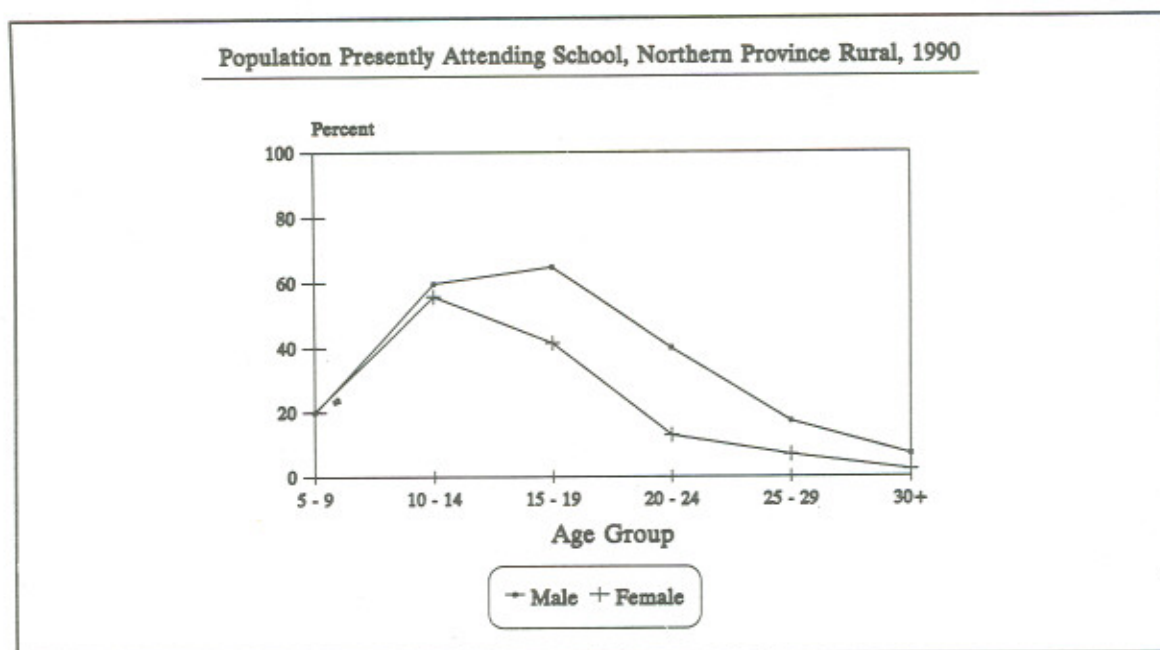
Population Presently Attending School by Sex, Age and Residence, (Percent), Northern Province, 1990

Province	Age Group							Total
	5-9	10-14	15-19	20-24	25-29	30+	Not Stated	
Northern Province								
- Total	22.8	61.7	57.6	27.3	11.4	4.0	3.4	32.7
- Male	22.4	63.2	67.9	43.1	18.8	7.5	3.1	39.8
- Female	23.1	60.1	46.7	15.1	7.4	3.2	3.7	26.7
Residence								
Rural								
- Total	20.0	57.7	53.4	24.4	10.3	3.7	4.8	29.4
- Male	19.8	59.6	64.8	39.9	17.1	6.9	5.7	36.7
- Female	20.1	55.7	41.4	12.8	6.8	2.1	3.7	23.3
Urban								
- Total	39.4	83.9	80.7	50.0	21.8	7.1	1.8	55.1
- Male	38.1	84.1	84.7	63.5	33.8	14.7	0.0	60.3
- Female	40.7	83.7	76.4	35.7	14.3	3.3	3.7	50.4
Districts								
Chilubi								
- Total	17.8	48.6	42.5	17.9	8.2	3.7	0.0	23.6
- Male	18.2	52.4	57.3	35.9	15.8	6.7	0.0	32.2
- Female	17.4	44.8	28.6	7.7	4.9	2.4	-	17.3
Chinsali								
- Total	27.3	69.0	68.8	36.4	13.8	4.4	0.0	40.2
- Male	27.8	69.9	75.6	52.3	20.1	8.6	0.0	47.6
- Female	27.0	68.4	60.5	21.1	9.9	2.5	-	33.7
Isoka								
- Total	24.1	65.0	61.5	30.0	10.2	3.5	0.0	33.8
- Male	24.1	66.5	73.0	47.9	17.9	6.5	0.0	42.0
- Female	24.1	63.5	49.9	74.7	36.2	12.7	0.0	25.5
Kaputa								
- Total	15.1	49.2	44.2	15.2	7.1	3.6	-	22.6
- Male	15.1	51.3	54.1	28.9	13.9	6.8	-	28.7
- Female	15.0	47.0	29.0	7.0	3.8	1.8	-	17.6
Kasama								
- Total	22.8	60.3	57.1	28.9	14.3	4.5	1.7	32.6
- Male	22.0	61.3	66.1	42.9	21.8	8.1	0.0	38.6
- Female	23.5	59.2	47.8	17.7	9.5	2.5	3.8	27.4
Luwingu								
- Total	20.4	60.7	60.9	29.7	10.1	2.6	0.0	32.0
- Male	20.2	62.9	72.7	48.0	17.4	4.8	-	40.5
- Female	20.6	58.3	47.3	15.2	6.7	1.6	0.0	24.9
Mbala								
- Total	20.5	55.2	46.9	20.9	10.6	4.8	8.8	27.9
- Male	19.9	57.3	58.4	33.6	18.1	9.1	10.0	34.6
- Female	21.1	53.1	38.8	11.8	6.9	7.1	7.1	22.5
Mpika								
- Total	24.5	67.2	63.6	29.7	12.1	4.3	0.0	37.0
- Male	24.0	68.3	71.7	46.3	18.7	8.3	0.0	43.8
- Female	25.1	66.1	54.6	16.5	8.5	2.4	0.0	31.2
Mporokoso								
- Total	28.5	72.2	68.8	36.3	10.0	2.1	-	40.5
- Male	27.0	72.9	76.8	53.1	17.4	4.2	-	47.9
- Female	30.0	71.5	59.3	21.5	5.9	1.3	-	34.2

In rural areas, 29.4 percent of the population aged 5 years and over presently attended school. Proportions of males and females who presently attended school constituted 36.7 and 23.3 percent, respectively. The population presently attending school is concentrated in age groups 10-14 and 15-19 years. Slightly higher proportions are found in age group 5-9 and 20-24 years. The school attendance pattern is shown in Figure 5.3.

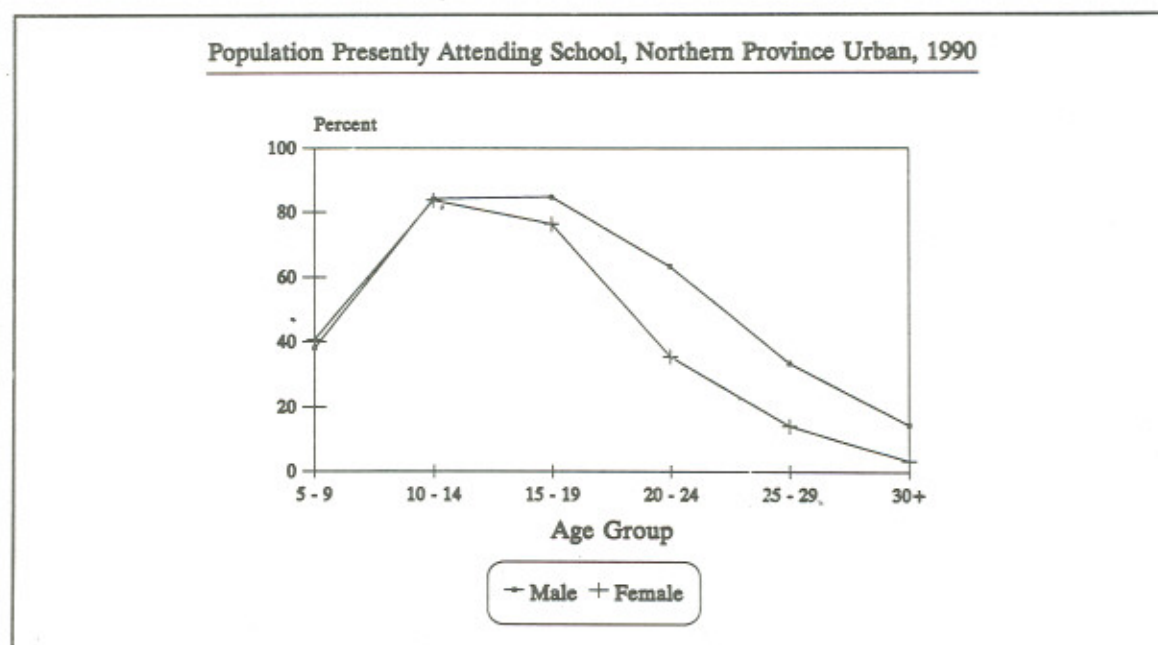


Figure 5.3



School attendance rates in urban areas are higher than those in rural areas. Overall, 55.1 percent of the population aged 5 years and over in urban areas were enrolled in formal educational institutions. School attendance rates for males and females in urban areas are 60.3 and 50.4 percent, respectively. Concentration of presently attended school population is in age group 5-9, 10-14 and 20-24 years.

Figure 5.4



The analysis of school attendance rates by district show that the least proportions of school attendance rates are found in Chilubi, Kaputa and Mbala. May be most of the school going population is not accessible to enough primary or secondary schools.

The 1980 census school attendance rates in rural and urban areas were 23.0 and 28.8 percent, respectively. School attendance rates for males were 28.6 and 32.8 percent in rural and urban areas, respectively. Comparatively, urban areas had higher school attendance rates as compared to rural areas. Districts with high school attendance rates were Chilubi and Kaputa with 17.7 and 16.6 percent, respectively. School attendance rates for other districts ranged from 23 and 30 percent. For details on the distribution of attendance rates refer to Table 5.3.

**Table 5.3**

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

	Age Group						Total
	5-9	10-14	15-19	20-24	25+	Not Stated	
<b>Northern Province</b>							
- Total	21.4	69.4	42.8	9.4	1.0	3.5	24.0
- Male	21.4	73.3	61.4	18.4	1.5	4.5	29.2
- Female	21.3	65.3	27.0	2.9	0.5	2.7	19.4
<b>Residence</b>							
<b>Rural</b>							
- Total	19.9	67.4	41.2	9.0	0.8	3.8	23.0
- Male	20.1	71.6	60.4	17.8	1.2	5.3	28.6
- Female	19.8	62.9	25.0	2.5	0.5	2.7	18.6
<b>Urban</b>							
- Total	28.5	79.1	50.7	11.2	2.1	2.5	28.8
- Male	28.3	82.1	66.5	21.2	3.2	2.5	32.8
- Female	28.7	76.3	37.2	4.1	1.1	2.5	25.2
<b>Districts</b>							
<b>Chilubi</b>							
- Total	14.3	54.5	30.4	4.1	0.6	-	17.7
- Male	14.5	59.7	57.4	10.2	1.0	-	24.0
- Female	14.2	49.9	15.2	0.8	0.4	-	13.2
<b>Chinsali</b>							
- Total	29.8	77.8	49.2	10.7	0.6	4.0	29.5
- Male	29.6	80.3	68.1	22.2	0.8	5.6	35.2
- Female	30.0	75.1	32.2	2.4	0.5	2.6	24.2
<b>Isoka</b>							
- Total	20.2	70.9	47.8	10.2	0.8	4.3	24.8
- Male	20.6	75.9	68.6	20.8	1.2	7.6	31.2
- Female	19.9	65.4	30.7	2.9	0.6	2.7	19.3
<b>Kaputa</b>							
- Total	16.3	59.7	33.2	6.1	0.8	7.0	16.6
- Male	16.4	63.9	49.3	12.0	1.2	7.7	19.6
- Female	16.1	65.5	18.6	1.4	0.4	6.2	13.6
<b>Kasama</b>							
- Total	20.7	65.6	43.8	10.9	1.0	3.4	23.8
- Male	20.8	72.4	60.3	20.5	1.4	5.4	28.5
- Female	20.6	64.7	29.3	3.5	0.5	1.5	19.5
<b>Luwingu</b>							
- Total	20.1	67.9	42.3	8.8	0.7	2.4	24.3
- Male	20.4	72.6	63.0	17.6	1.1	4.1	30.5
- Female	19.9	62.9	24.3	2.4	0.3	1.4	19.0
<b>Mbala</b>							
- Total	21.0	66.9	40.4	8.6	0.8	1.4	23.1
- Male	21.1	70.7	59.1	6.8	1.3	-	28.3
- Female	20.9	62.8	24.8	2.5	0.4	2.6	18.5
<b>Mpika</b>							
- Total	21.9	71.0	40.4	9.6	1.9	3.9	24.3
- Male	21.5	74.2	58.1	17.5	2.9	4.6	28.4
- Female	22.2	68.0	26.0	4.2	1.0	3.5	20.5
<b>Mporokoso</b>							
- Total	25.8	79.3	47.5	11.8	1.6	2.5	29.1
- Male	25.5	82.3	66.5	22.5	2.4	5.3	35.0
- Female	26.3	76.0	31.2	4.3	0.9	0.8	23.9

Table 5.4 shows the population presently attending school by age, level of education completed and residence in 1990. Overall, 46.7 and 30.6 percent are in lower primary (grades 1-4) and upper primary (grades 1-7). Corresponding percentages for males are 44.7 and 32.0 percent, respectively. In the case of females, 49.2 and 29.0 percent are in lower (grades 1-4) and upper primary (grade 5-7).

In rural and urban areas, males recorded 78.7 and 68.6 percent, respectively for those in graded 1-7. Females in rural and urban areas recorded 80.1 and 71.7 percent, respectively of those in grades 1-7. A similar age-sex pattern of presently attending school population in 1990 exists in both rural and urban areas.



Table 5.4

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

Residence and Age Group		Education Level Completed								
		1-4	5-7	8-9	10-12	'A' Level	Degree	Not Stated	Total	Size
Northern Province										
Both Sexes										
	Total	46.7	30.6	8.2	4.4	0.0	0.0	10.1	100	162,880
	5-9	69.6	-	-	-	-	-	30.4	100	29,880
	10-14	64.9	27.2	1.1	-	-	-	6.8	100	70,043
	15-19	16.7	54.0	20.5	5.9	0.0	-	2.9	100	45,764
	20-24	7.7	33.0	26.1	29.3	0.1	-	3.8	100	9,548
	25-29	10.3	42.1	11.6	28.9	0.2	0.1	6.8	100	2,478
	30+	20.7	38.0	7.8	19.9	0.1	0.1	13.4	100	4,632
	Not Stated	50.0	50.0	-	-	-	-	-	100	4
Male										
	Total	44.7	32.0	8.6	5.5	0.0	0.0	9.2	100	90,183
	5-9	69.3	-	-	-	-	-	30.7	100	14,698
	10-14	65.7	26.5	0.9	-	-	-	6.9	100	36,758
	15-19	17.9	55.2	18.5	5.7	0.0	-	2.8	100	27,821
	20-24	6.3	31.2	27.6	31.8	0.1	-	3.1	100	6,570
	25-29	7.0	39.4	12.9	35.4	0.3	0.1	4.9	100	1,422
	30+	18.0	39.2	8.9	26.4	0.2	0.1	7.2	100	2,912
	Not Stated	100	-	-	-	-	-	-	100	2
Female										
	Total	49.2	29.0	7.7	3.1	0.0	0.0	11.1	100	72,166
	5-9	69.9	-	-	-	-	-	30.1	100	15,182
	10-14	64.0	28.0	1.3	-	-	-	6.7	100	33,285
	15-19	14.8	52.2	23.6	6.3	0.0	-	3.1	100	17,943
	20-24	10.8	36.9	22.8	24.0	0.2	-	5.4	100	2,978
	25-29	14.8	45.7	9.8	20.1	0.1	0.1	9.4	100	1,056
	30+	25.4	35.9	5.8	9.1	-	0.0	23.8	100	1,720
	Not Stated	-	100	-	-	-	-	-	-	2
Rural										
Male										
	Total	46.2	32.5	7.1	4.7	0.0	0.0	9.4	100	72,078
	5-9	67.9	-	-	-	-	-	32.1	100	11,179
	10-14	68.1	24.0	0.6	-	-	-	7.3	100	29,596
	15-19	20.6	57.8	14.4	4.4	0.0	0.0	2.9	100	22,412
	20-24	6.9	35.4	26.1	28.4	0.0	-	3.2	100	5,259
	25-29	7.7	44.0	13.6	29.2	0.3	-	5.1	100	1,159
	30+	19.7	41.5	8.7	22.1	0.1	0.1	7.8	100	2,471
	Not Stated	100	-	-	-	-	-	-	100	2
Female										
	Total	51.3	28.8	6.0	2.3	0.0	0.0	11.6	100	55,414
	5-9	68.6	-	-	-	-	-	31.4	100	11,324
	10-14	67.1	25.0	0.8	-	-	-	7.1	100	25,909
	15-19	17.9	55.6	18.4	4.7	0.0	-	3.4	100	13,499
	20-24	12.5	41.9	21.9	17.8	0.1	-	5.9	100	2,277
	25-29	16.4	49.9	9.7	13.8	-	0.1	10.2	100	880
	30+	27.2	36.5	5.1	6.6	-	-	24.5	100	1,524
	Not Stated	-	100	-	-	-	-	-	100	1
Urban										
Male										
	Total	38.8	29.8	14.3	8.8	0.0	0.0	8.3	100	18,105
	5-9	73.7	-	-	-	-	-	26.3	100	3,519
	10-14	55.6	36.7	2.3	-	-	-	5.5	100	7,162
	15-19	6.7	44.5	35.5	11.2	-	-	2.2	100	5,409
	20-24	4.0	14.2	33.3	45.5	0.2	-	2.8	100	1,311
	25-29	4.2	19.0	9.9	62.4	-	0.4	4.2	100	263
	30+	8.2	26.3	10.2	50.3	0.7	0.5	3.9	100	441
	Not Stated	-	-	-	-	-	-	-	100	-
Female										
	Total	42.2	29.5	13.0	5.6	0.0	-	9.6	100	16,752
	5-9	73.8	-	-	-	-	-	26.2	100	3,858
	10-14	53.0	38.4	3.0	-	-	-	5.6	100	7,376
	15-19	5.4	41.9	39.3	10.9	-	-	2.5	100	4,444
	20-24	5.3	20.5	25.7	44.2	0.6	-	3.7	100	701
	25-29	6.8	25.0	10.8	51.7	0.6	-	5.1	100	176
	30+	11.2	31.1	11.2	28.6	-	-	17.9	100	196
	Not Stated	-	100	-	-	-	-	-	100	1

Overall, 88.7 percent of the presently attending school population were in grades 1-7 in Northern Province in 1980, see Table 5.5. Similarly, all age groups had recorded high proportions of those in grades 1-7. Of those in grades 1-7, 87.9 percent and 89.7 percent were males and females, respectively. The established trend is that proportions of females attending grades 1-7 are much higher than those of males at provincial level, rural and urban areas. However, at grades 8-9 and 10-12, proportions of males are higher than those of females implying low female progression ratios from primary to secondary school.

Rural areas of Northern Province recorded equally high school attendance rates in grades 1-7 as evidenced from the 1990 Census rates presented in Table 5.5. The proportions of males and females who recorded as attending grades 1-7 in 1980 were 89.1 and 90.7 percent, respectively. The 1990 age-sex specific pattern of school attendance by grade was found from the 1980 Census results. At secondary school, grades 8-9 and 10-12, age groups 15-19 and 20-24 had exhibited relatively high proportions for both males and females.

The 1980 Census results also showed that urban areas recorded high school attendance rates in grades 1-7. Male pupils recorded a school attendance rate of 82.8 percent while pupils had 86.1 percent. Table 5.5 also shows high urban school attendance rates at older age groups 20-24 and 25 years or over. Majority of male and female pupils in 1980 were grades 5-7. In the case of grades 8-9 and 10-12, most of the pupils were aged 15-19 and 20-24 at the time of 1980 census.

Table 5.5

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

Residence and Age Group		Education Level Completed							Total	Size
		1-4	5-7	8-9	10-12	'A' Level	Degree	Not Stated		
Northern Province Both Sexes										
	Total	60.6	28.1	3.9	2.7	0.0	0.0	4.7	100	130,228
	5-9	84.8	0.4	-	-	-	-	14.8	100	26,355
	10-14	73.0	23.7	0.5	0.0	-	-	2.8	100	68,269
	15-19	20.1	61.6	12.0	5.5	0.0	0.0	0.9	100	30,136
	20-24	6.3	31.1	24.9	36.7	0.0	0.0	0.8	100	4,167
	25+	32.5	28.0	11.0	21.0	0.2	0.6	5.6	100	1,231
	Not Stated	61.4	30.0	2.9	2.9	-	-	2.9	100	70
Male										
	Total	57.6	30.3	4.4	3.4	0.0	0.0	4.3	100	74,097
	5-9	84.8	0.5	-	-	-	-	14.7	100	13,245
	10-14	73.5	23.4	0.4	0.0	-	-	2.8	100	36,668
	15-19	20.6	62.9	10.7	4.8	0.0	0.0	0.9	100	19,889
	20-24	5.2	30.9	25.6	37.4	0.1	0.1	0.7	100	3,492
	25+	25.1	27.4	13.0	28.9	0.3	0.9	4.5	100	764
	Not Stated	46.2	38.5	5.1	5.1	-	-	5.1	100	39
Female										
	Total	64.6	25.1	3.3	1.7	0.0	-	5.3	100	56,131
	5-9	84.7	0.4	-	-	-	-	14.9	100	13,110
	10-14	72.4	24.2	0.5	0.0	-	-	2.8	100	31,601
	15-19	19.0	59.0	14.5	6.7	0.0	-	0.8	100	10,247
	20-24	12.0	32.1	21.3	33.3	-	-	1.2	100	675
	25+	45.2	31.0	7.9	8.1	0.2	-	7.5	100	467
	Not Stated	80.6	19.4	-	-	-	-	0.0	100	31
Rural										
Male										
	Total	58.9	30.2	3.8	2.9	0.0	0.0	4.2	100	59,905
	5-9	85.2	0.4	-	-	-	-	14.3	100	10,279
	10-14	75.1	21.8	0.3	0.0	-	-	2.8	100	29,944
	15-19	22.6	63.6	9.0	3.9	0.0	0.0	0.9	100	16,353
	20-24	5.8	34.4	24.9	34.3	0.0	0.0	0.5	100	2,754
	25+	29.4	29.8	9.2	26.1	0.2	0.6	4.8	100	541
	Not Stated	50.0	38.2	5.9	2.9	-	-	2.9	100	34
Female										
	Total	66.6	24.1	2.6	1.4	0.0	-	5.2	100	43,875
	5-9	84.4	0.4	-	-	-	-	14.8	100	10,003
	10-14	75.0	21.8	0.4	0.0	-	-	2.8	100	25,007
	15-19	21.7	60.6	11.8	5.2	0.0	-	0.6	100	7,947
	20-24	12.9	33.9	20.0	32.2	-	-	1.0	100	519
	25+	49.2	28.6	6.4	7.5	0.3	-	8.0	100	374
	Not Stated	76.0	24.0	-	-	-	-	-	100	25
Urban										
Male										
	Total	52.1	30.7	6.9	5.4	0.0	0.0	4.9	100	14,182
	5-9	83.3	0.6	-	-	-	-	16.1	100	2,966
	10-14	66.3	30.4	0.8	0.1	-	-	2.4	100	6,724
	15-19	11.5	59.9	18.8	9.0	-	-	1.0	100	3,526
	20-24	3.0	18.0	28.2	49.1	0.1	0.1	1.5	100	738
	25+	14.8	21.5	22.0	35.9	0.4	1.8	3.6	100	223
	Not Stated	20.0	40.0	-	20.0	-	-	20.0	100	5
Female										
	Total	57.3	28.8	5.5	2.8	-	-	5.6	100	12,266
	5-9	84.5	0.3	-	-	-	-	15.2	100	3,107
	10-14	62.6	33.5	1.1	0.0	-	-	2.7	100	6,594
	15-19	9.7	53.3	23.5	11.7	-	-	1.4	100	2,310
	20-24	9.0	26.3	25.6	37.2	-	-	1.9	100	156
	25+	29.0	40.9	14.0	10.8	-	-	5.4	100	93
	Not Stated	100.0	-	-	-	-	-	-	100	6



## 5.5 PREVIOUSLY ATTENDED SCHOOL

Information on population that previously attended school reflects upon the achievements of the education system. Table 5.6 shows the population that previously attended school at the time of the 1990 Census. In Northern Province, most of those who reported as previously attended school were aged 20 years and over. This age category constituted 81.3 percent of the overall previously attended population in 1990. Corresponding male and female proportions in the age group 20 years and over were 86.7 and 75.1 percent, respectively. Nearly 15 percent of the previously attended school population were aged 15-19 years. This age group might include persons who might have dropped out of school prematurely.

In rural areas, out of the 172,794 people who reported as previously attended school 80.8 percent were aged 20 years and over. Similarly urban areas had 37,524 persons who reported that they had previously attended school. Out of this urban population 79.4 percent were aged 20 years and over, see Table 5.6. All districts, experienced a similar distribution pattern of the population that previously attended school.

Table 5.6

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

Residence and Sex	Age Group						Total	Size
	5-9	10-14	15-19	20-24	25-29	30+		
<b>Northern Province</b>								
-Total	0.9	3.4	14.3	19.3	16.4	45.6	100	210,318
-Male	0.9	2.9	9.6	16.2	15.7	54.8	100	113,197
-Female	1.0	4.1	19.9	23.0	17.2	34.9	100	97,121
<b>Residence</b>								
<b>Rural</b>								
-Total	0.9	3.6	14.7	19.3	16.2	45.3	100	172,794
-Male	0.9	3.0	9.7	16.3	15.7	54.4	100	94,118
-Female	1.0	4.3	20.6	22.8	16.7	34.5	100	78,676
<b>Urban</b>								
-Total	0.8	2.5	19.5	17.4	15.0	47.0	100	37,524
-Male	0.8	2.1	8.9	15.9	15.4	57.3	100	19,079
-Female	0.9	2.9	16.6	23.7	19.5	36.4	100	18,445
<b>Districts</b>								
<b>Chilubi</b>								
-Total	0.7	3.9	14.1	18.0	16.1	47.3	100	7,850
-Male	0.8	3.4	10.1	14.6	14.7	56.5	100	4,204
-Female	0.6	4.5	18.6	21.9	17.6	36.7	100	3,646
<b>Chinsali</b>								
-Total	0.9	3.1	14.0	18.7	15.1	48.2	100	22,996
-Male	0.8	2.9	8.9	15.7	15.2	56.5	100	11,586
-Female	1.0	3.3	19.2	21.7	15.0	39.7	100	11,410
<b>Isoka</b>								
-Total	0.8	3.0	14.7	21.4	16.7	43.3	100	27,901
-Male	0.7	2.5	9.4	18.6	16.3	52.5	100	15,349
-Female	1.0	3.7	21.2	24.8	17.2	32.2	100	12,552
<b>Kaputa</b>								
-Total	0.9	3.6	14.3	17.4	16.8	47.0	100	11,072
-Male	0.8	2.9	10.2	13.7	16.4	56.1	100	6,388
-Female	1.1	4.7	19.9	22.4	17.2	34.6	100	4,684
<b>Kasama</b>								
-Total	1.0	3.4	13.6	18.6	16.9	46.5	100	46,675
-Male	0.9	2.8	9.0	15.4	16.0	55.9	100	25,359
-Female	1.2	4.1	19.0	22.5	18.0	35.3	100	21,316
<b>Luwingu</b>								
-Total	0.7	3.6	14.1	19.7	16.1	45.8	100	17,343
-Male	0.8	3.0	9.0	15.9	15.3	55.9	100	9,280
-Female	0.6	4.2	19.9	24.1	16.9	34.3	100	8,063
<b>Mbala</b>								
-Total	1.1	3.9	15.7	19.8	17.1	42.3	100	31,336
-Male	1.0	3.2	11.2	17.0	16.5	51.1	100	17,478
-Female	1.3	4.9	21.4	23.3	17.8	31.3	100	13,858
<b>Mpika</b>								
-Total	0.9	3.3	13.9	19.2	16.0	46.8	100	30,045
-Male	0.9	3.0	9.1	15.8	14.4	56.8	100	15,743
-Female	0.9	3.6	19.1	22.9	17.9	37.5	100	14,302
<b>Mporokoso</b>								
-Total	0.8	3.3	14.9	19.6	15.8	45.7	100	15,100
-Male	0.7	2.7	9.8	16.6	15.1	55.1	100	7,810
-Female	0.9	4.0	20.3	22.7	16.4	35.7	100	7,290

In 1980, there were 165,029 persons who previously attended school. Majority of them were in age groups 15-19, 20-24 and 25 years or over. The overall percentage for these age groups constituted 90.2 percent. Majority of the males who previously attended school in 1980 were aged 25 years and over (68.1 percent). The female population aged 25 years and over that previously attended school constituted 43.2 percent. The percentages were higher in urban areas for those aged 25 years and over. The same is true for both males and females, see Table 5.7.

The analysis of previously attended school population by district in 1980 revealed that high proportions of above 75 percent for age group 20 years and over in Chinsali, Isoka, Kaputa, Kasama, Mpika and Mporokoso districts had previously attended school. Proportions of males were higher than those of females in age group 20 years and over for all districts. For more details refer to Table 5.7.



Table 5.7

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

Residence and Sex	Age Group						Total	Size
	5-9	10-14	15-19	20-24	25+	Not Stated		
<b>Northern Province</b>								
- Total	0.5	4.8	17.2	19.3	53.7	0.3	100	165,029
- Male	0.4	3.7	11.0	16.4	68.1	0.4	100	85,597
- Female	0.6	6.3	25.5	24.2	43.2	0.2	100	79,571
<b>Residence</b>								
<b>Rural</b>								
- Total	0.5	5.4	19.1	19.8	55.0	0.3	100	131,252
- Male	0.5	4.1	11.7	16.4	67.0	0.3	100	68,202
- Female	0.6	6.6	26.6	25.5	40.3	0.4	100	12,844
<b>Urban</b>								
- Total	0.4	3.4	13.8	21.5	60.4	0.5	100	33,753
- Male	0.2	2.3	8.2	16.3	72.3	0.7	100	17,433
- Female	0.5	4.5	19.8	27.2	47.8	0.3	100	16,320
<b>Districts</b>								
<b>Chilubi</b>								
- Total	0.7	2.8	21.9	19.3	50.7	0.1	100	6,886
- Male	0.4	5.9	14.3	16.9	62.5	0.1	100	3,135
- Female	0.8	8.5	28.2	21.4	40.9	0.1	100	3,747
<b>Chinsali</b>								
- Total	0.5	3.8	15.8	8.6	71.2	0.2	100	20,013
- Male	0.1	0.8	2.1	3.1	93.9	0.1	100	8,599
- Female	0.6	4.9	22.8	20.6	51.0	0.1	100	9,319
<b>Isoka</b>								
- Total	0.5	4.3	17.5	20.5	56.8	0.4	100	20,764
- Male	0.5	3.2	9.8	16.8	69.4	0.3	100	10,763
- Female	0.6	5.6	25.7	24.5	43.3	0.4	100	10,017
<b>Kaputa</b>								
- Total	0.6	3.8	14.0	22.5	58.8	0.3	100	11,799
- Male	0.4	2.5	8.5	17.1	67.6	0.4	100	6,917
- Female	0.7	5.5	21.4	29.4	42.8	0.1	100	4,876
<b>Kasama</b>								
- Total	0.5	5.1	18.0	20.4	55.6	0.3	100	38,160
- Male	0.4	3.8	11.3	16.3	65.5	0.5	100	19,888
- Female	0.5	6.5	25.0	24.4	43.4	0.2	100	18,279
<b>Luwingu</b>								
- Total	0.6	6.4	20.2	19.1	53.6	0.2	100	12,313
- Male	0.5	5.0	12.3	15.8	66.3	0.2	100	6,180
- Female	0.6	7.8	28.2	22.4	40.7	0.2	100	6,131
<b>Mbala</b>								
- Total	0.6	5.4	19.2	20.5	53.9	0.3	100	26,133
- Male	0.6	3.8	11.6	17.2	66.4	0.3	100	14,009
- Female	0.7	7.2	27.9	24.4	39.6	0.2	100	12,124
<b>Mpika</b>								
- Total	0.5	4.5	17.3	21.6	55.5	0.5	100	20,851
- Male	0.5	3.6	10.5	16.6	68.2	0.7	100	11,021
- Female	0.5	5.6	25.0	27.2	41.4	0.2	100	9,830
<b>Mporokoso</b>								
- Total	0.4	5.0	18.5	17.9	57.9	0.4	100	10,275
- Male	0.3	3.6	11.0	13.4	71.2	0.5	100	5,062
- Female	0.5	6.4	25.7	22.2	45.0	0.4	100	5,213

## 5.6 HIGHEST LEVEL OF EDUCATION COMPLETED

Education achievements are assessed through the presentation of information on the ever attended school population. Age group 15 years and over is considered in this report because by that age, most of the persons would have completed senior primary school grades 5-7. Table 5.8 presents the population aged 15 years and above by highest level of education completed by age and sex in 1990. Northern Province recorded 439,350 persons who were aged 15 years and over and 40 percent had no formal schooling. In the "no schooling" category, the proportion of females was 50.0 percent while that of males was 28 percent. One third of the population completed primary grades 5-7. The analysis of highest level of education completed by 5 year age groups reveal high proportions of "no schooling," at each age group. Similarly at each age group, most of them completed grades 5-7. Refer to Table 5.8 for more details on the age and sex distribution of population that ever attended school population.

**Table 5.8**

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

Age Group	Sex	Total Population	Highest Level Completed							Total
			No Schooling	Grade 1-4	Grade 5-7	Grade 8-9	Grade 10-12	A'Level/Degree	Not Stated	
15+	Both	439,350	40.0	12.9	30.3	7.7	7.8	0.0	1.2	100
	Male	205,249	28.0	13.9	35.2	9.6	11.8	0.1	1.3	100
	Female	234,101	50.5	12.0	26.0	6.0	4.2	0.0	1.2	100
15-19	Both	106,417	28.7	14.0	40.3	11.8	3.1	0.0	1.7	100
	Male	50,426	22.3	15.4	43.5	12.2	3.6	0.0	2.0	100
	Female	55,991	33.5	13.4	37.4	11.5	2.6	0.0	1.5	100
20-24	Both	73,020	31.3	8.6	36.4	12.7	9.9	0.0	1.1	100
	Male	32,422	23.3	6.8	38.6	16.5	13.5	0.0	1.2	100
	Female	40,598	37.6	10.1	34.6	9.7	6.9	0.0	1.0	100
25-29	Both	54,553	32.3	8.3	37.1	7.0	14.3	0.1	0.8	100
	Male	24,550	21.9	6.1	40.2	9.8	21.1	0.1	0.8	100
	Female	3,003	40.7	10.2	34.6	4.7	8.8	0.1	0.9	100
30-44	Both	99,394	39.0	11.5	28.4	6.0	14.0	0.1	1.0	100
	Male	45,710	23.0	9.1	33.9	8.5	24.3	0.1	0.9	100
	Female	53,684	52.6	13.5	23.7	3.8	5.2	0.0	1.1	100
45+	Both	105,966	62.3	18.0	14.5	2.0	1.8	0.1	1.3	100
	male	52,141	42.8	24.9	23.9	3.5	3.3	0.1	1.5	100
	Female	53,825	81.2	11.4	5.3	0.5	0.4	0.0	1.2	100

In 1980, persons aged 15 years and over in Northern Province who reported as completing highest level of education were 325,446. Out of 325,446 persons aged 15 years and over, 40.7 percent had not attended any formal schooling. Males and females in the same age group constituted 25.9 and 52.6 percent of those who had not attended any formal schooling. Overall, 21.6 and 27.2 percent had completed grades 1-4 and 5-7, respectively. In all age groups, high proportions were recorded in the categories of "no schooling" and grades 5-7 (see Table 5.9). At older age group 45 years and over, 85 percent of females had not attended any formal schooling in 1980 while males were 47.6 percent. In grades 1-4 and 5-7 proportions of males aged 45 years and over constituted 30.6 and 17.3 percent, respectively. Corresponding percentages of females were 11.4 and 2.4 percent, respectively.



Table 5.9

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

Age Group	Sex	Total Population	Highest Level Completed							Total
			No Schooling	Grade 1-4	Grade 5-7	Grade 8-9	Grade 10-12	A' Level	Not Stated	
15+	Both	325,446	40.7	21.6	27.2	4.2	5.2	0.0	1.0	100
	Male	144,398	25.9	23.3	34.8	6.3	8.3	0.1	1.2	100
	Female	181,048	52.6	20.2	21.2	2.5	2.7	0.0	0.8	100
15-19	Both	71,365	15.5	24.3	49.2	6.2	3.9	0.0	0.8	100
	Male	32,759	9.9	22.7	55.0	7.4	4.2	0.0	0.9	100
	Female	38,606	20.3	25.7	44.4	5.3	3.6	0.0	0.8	100
20-24	Both	48,026	21.3	18.3	40.0	6.0	13.6	0.0	0.8	100
	Male	20,160	12.0	12.5	43.8	9.1	21.5	0.0	0.9	100
	Female	27,866	28.1	22.4	37.2	3.7	7.8	0.0	0.8	100
25-44	Both	115,386	44.0	22.0	22.1	4.6	6.1	0.1	1.1	100
	Male	47,287	22.7	21.6	33.4	8.3	12.3	0.2	1.3	100
	Female	68,099	58.7	22.3	14.2	2.1	1.8	0.0	0.9	100
45+	Both	90,669	66.8	20.8	9.7	1.1	0.6	0.0	1.1	100
	Male	44,192	47.6	30.6	17.3	2.0	1.1	0.1	1.3	100
	Female	46,477	85.0	11.4	2.4	0.2	0.2	0.0	0.8	100

The patterns established for the highest level of education completed from 1980 and 1990 Census are similar. Refer to Figures 5.5 and 5.6 for details.

Figure 5.5

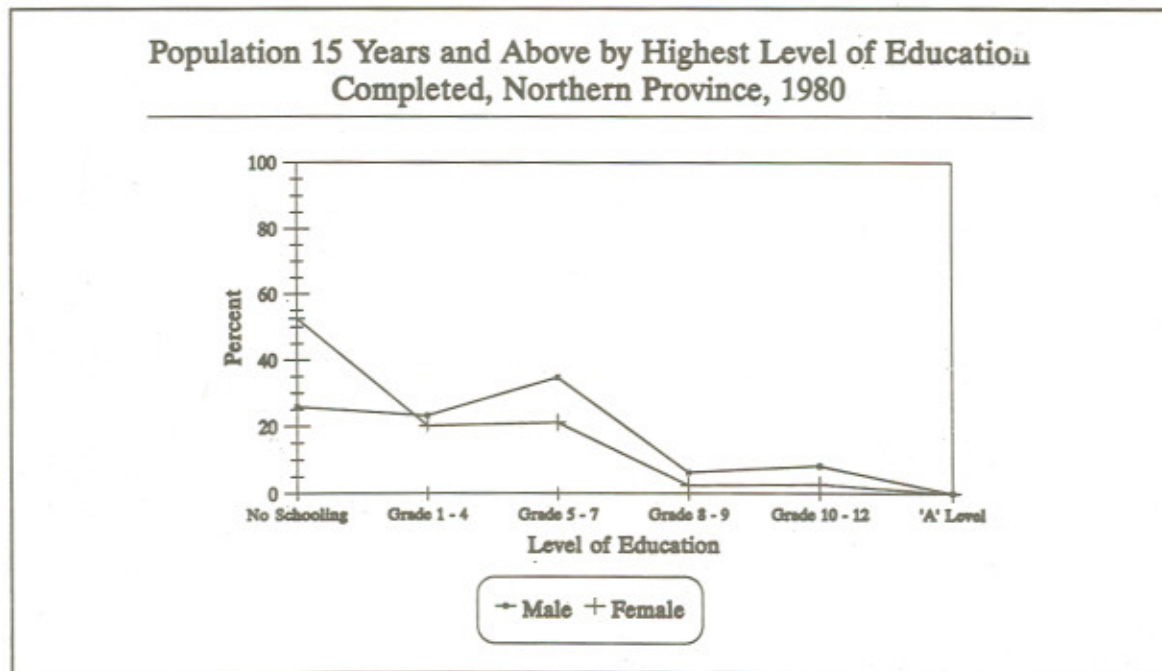
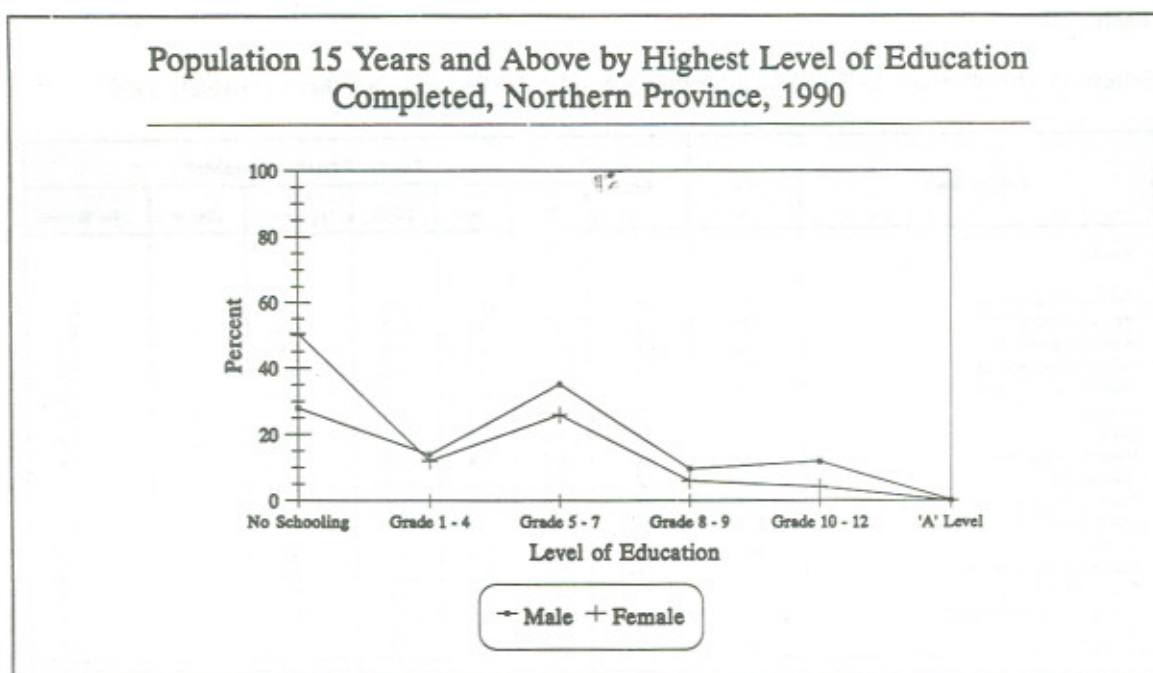




Figure 5.6



## 5.7 SELECTED FIELDS OF STUDY

The 1990 Census data shows that 14,215 males and 4,4487 females attended a professional/vocational course. Common fields of study for males are engineering, medicine, accountancy, teacher training, secretarial training, agriculture/forestry/fishery and wood work. In the case of females, the common fields of study are nursing, teacher training, secretarial training and engineering.

Table 5.10 shows that most of the males who reported studying engineering, more than half had completed grades 10-12. Few drop-outs with grades 8-9 take up vocational/professional courses. In fields of study, less than 20 percent had completed grades 8-9. Similarly, all fields of study, recorded less than 10 percent with 'A' and degree levels of education.

Table 5.10 also shows that most of the females take up courses such as nursing, teacher and secretarial training. Most of the females who had completed grades 10-12 had taken up these courses. For more details refer to Table 5.10.

Table 5.10

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

Field of Study	Size	Total	Level of Education Completed					
			1-7	8-9	10-12	'A' Level	Degree	Not Stated
Males								
Electrical Engineering	235	100	31.5	13.2	52.8	0.4	-	2.1
Mechanical Engineering	605	100	27.8	10.2	58.7	0.8	0.2	2.3
Mining Engineering	201	100	67.2	10.5	15.9	0.9	-	5.5
Industrial Engineering	286	100	64.7	19.9	9.4	0.4	-	5.6
Medicine and Surgery	158	100	20.9	8.9	59.5	1.9	5.6	3.2
Pharmacy	200	100	7.5	5.0	84.0	-	0.5	3.0
Nursing	100	100	23.0	10.0	61.0	2.0	2.0	2.0
Medical Technology	167	100	18.6	8.4	65.3	2.4	1.8	3.6
Accountancy	471	100	9.8	6.2	80.9	1.9	0.2	1.1
Teacher Training	2,853	100	13.8	11.4	71.2	1.2	0.7	1.8
Law/Jurisprudence	203	100	26.1	12.8	59.1	1.5	-	0.5
Criminology	295	100	30.1	10.2	57.3	0.3	-	2.0
Business Administration	290	100	18.9	8.3	69.3	2.1	0.3	1.0
Secretarial Training	422	100	24.6	10.7	63.0	0.5	-	1.2
Agricultural/Forestry/Fisheries	661	100	25.4	9.2	60.7	0.5	2.3	1.9
Wood work	544	100	57.5	11.4	25.2	0.6	-	5.3
Females								
Electrical Engineering	3	100	33.3	-	66.7	-	-	-
Mechanical Engineering	9	100	55.6	-	44.4	-	-	-
Mining Engineering	7	100	85.7	-	-	-	-	14.3
Industrial Engineering	187	100	72.7	20.3	3.2	-	-	3.8
Medicine and Surgery	23	100	8.7	8.7	43.2	17.4	17.4	4.3
Pharmacy	60	100	5.0	3.3	83.3	1.7	1.7	5.0
Nursing	452	100	10.4	5.5	80.8	0.9	0.2	2.2
Medical Technology	17	100	11.8	5.9	70.6	-	11.8	-
Accountancy	48	100	10.4	2.1	87.5	-	-	-
Teacher Training	1,139	100	16.2	13.3	67.9	0.4	0.3	2.1
Law/Jurisprudence	8	100	12.5	12.5	75.0	-	-	-
Criminology	11	100	9.9	27.3	63.6	-	-	-
Business Administration	58	100	18.9	18.9	55.2	1.8	-	5.2
Secretarial Training	583	100	8.1	13.7	76.5	0.3	-	1.4
Agricultural/Forestry/Fisheries	62	100	24.2	14.5	51.6	-	3.2	6.5
Wood work	21	100	9.9	27.3	63.6	-	-	-

Table 5.11 shows the distribution of certificates and diplomas by education level completed by sex in 1990. In Northern Province, 16,176 people had obtained certificates and 1,934 had obtained diplomas with the majority of the holders obtaining such certificate after completing grades 10-12. There were 12,063 certificates and 1,694 diplomas obtained by males. Additionally, females had obtained 4,113 certificates and 240 diplomas.

Table 5.11

Certificates and Diplomas by Level of Education, Sex and Rural/Urban, ( Percent), Northern Province, 1990

Residence and Level of Education	Educational Level					Size
	1-7	8-9	10-12	'A' Level	Total	
<b>Northern Province</b>						
<b>Certificates</b>						
Total	35.4	13.9	50.4	0.3	100	16,176
Male	37.1	13.2	49.3	0.3	100	12,063
Female	30.4	15.9	53.5	0.3	100	4,113
<b>Rural</b>						
Total	43.9	14.5	41.2	0.3	100	10,566
Male	43.9	14.0	41.7	0.4	100	8,278
Female	43.9	16.5	39.4	0.1	100	2,228
<b>Urban</b>						
Total	19.5	12.7	67.6	0.2	100	5,610
Male	22.4	11.5	65.9	0.2	100	3,785
Female	13.4	15.2	71.1	0.2	100	1,825
<b>Diplomas</b>						
Total						
Male	8.8	4.9	81.1	5.2	100	1,934
Female	9.2	4.7	81.0	5.0	100	1,694
	6.3	5.8	81.7	6.3	100	240
<b>Rural</b>						
Total	17.2	5.7	70.6	6.6	100	687
Male	17.6	5.4	70.5	6.5	100	613
Female	13.5	8.1	71.6	6.8	100	74
<b>Urban</b>						
Total	4.3	4.4	86.9	4.4	100	1,247
Male	4.4	4.4	87.0	4.2	100	1,081
Female	3.0	4.8	86.2	5.0	100	166

In rural areas of Northern Province, 10,566 people had certificates and 687 had diplomas. In urban areas, 5,610 people had certificates and 1,247 had diplomas. In both rural and urban areas, majority of males and females with either certificates or diplomas had completed grade 10-12.



## 5.8 SUMMARY

Literacy rates in Northern Province are low. In 1990, 48.4 percent of the population aged 5 years and over was literate. Literacy rates for males and females are 56.6 and 40.9 percent, respectively. Most of the literate population in Northern Province is in the age group 15-44 years.

The school attendance rate in Northern Province was 32.7 percent for the population aged 5 years and over. Rates for males and females were 39.8 and 26.7 percent, respectively. The school attendance rate in rural areas was 29.4 percent while in urban areas it was 55.1 percent. Proportionately, Chinsali and Mporokoso districts have high school attendance rates as compared to other districts. The least school attendance rates are found in Chilubi, Kaputa and Mbala.

In age group 20 years and over, a high proportion of the population had previously attended school. Overall, 81.3 percent of the previously attended school population in 1990 were aged 20 years and over. Corresponding percentages of males and females were 86.7 and 75.1 percent, respectively. Out of 172,494 persons who reported that they had previously attended school, 80.8 percent were aged 20 years and over. Similarly, out of 37,524 persons in urban areas, 79.4 percent of them were aged 20 years and over.

Analysis of selected fields of study has revealed that common fields of study for males are engineering, medicine, accountancy, teacher training, secretarial training, agriculture/forestry/fishery and wood work. Females mostly take up courses in nursing, teacher training and secretarial.

## CHAPTER 6

# ECONOMIC CHARACTERISTICS

### 6.1 INTRODUCTION

Information on economic characteristics is used to plan, monitor, evaluate and formulate policies and programs in order to promote human resource development. In addition, the same information is used to study the observed level and distribution of income among individuals and households.

During the 1990 Census, information was collected from all persons who were 12 years and over, on the following economic characteristics:-

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

### 6.2 WORKING-AGE POPULATION

In the 1990 Census, the working-age population is defined as all persons 12 years and over. According to Table 6.1, the working-age population in northern province has grown by 36.9 percent between 1980 and 1990. The increase in the male working age population of 42.7 percent is more than that of the female working age population of 32.1 percent.

The distribution of the working-age population by age shows that this population declines with the increase in age.

The proportion of the working-age population living in rural areas has remained larger than that living in the urban areas in both censuses. In the 1990 Census, 85.8 percent of this population is in rural areas, compared to 82.7 percent in 1980. On the other hand, the proportion of the working-age population living in urban areas is 14.2 percent in 1990 and 17.3 percent in 1980.

Most of the increase in the working-age population has occurred in the rural areas, which experienced a growth of 42.1 percent, compared to a growth of 12.1 percent for the urban areas, over this inter-censal period.

Table 6.3

**Current Economically Active Population 12 Years and Over by Age and Sex, (Percent), North-western 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	109,106	100.0	18.8	14.5	12.8	10.4	26.1	9.5	7.7	0.2
- Male	64,406	100.0	15.1	13.9	13.2	11.4	26.7	10.3	9.2	0.2
- Female	44,700	100.0	30.3	14.1	11.1	8.2	22.6	7.4	6.0	0.3
<b>Employed</b>										
- Total	94,026	100.0	16.8	13.3	12.7	10.8	27.7	10.2	8.4	0.1
- Male	54,687	100.0	13.2	12.4	13.0	11.7	28.3	11.1	10.1	0.2
- Female	39,339	100.0	21.7	14.6	12.2	9.5	26.9	9.1	5.9	0.1
<b>Unemployed</b>										
- Total	15,080	100.0	31.8	21.7	13.4	8.2	15.9	5.0	3.7	0.3
- Male	9,719	100.0	25.8	22.0	14.4	9.5	17.9	5.9	4.2	0.3
- Female	5,361	100.0	42.8	21.0	11.5	6.0	12.4	3.3	2.8	0.2
<b>Inactive</b>										
- Total	132,474	100.0	42.6	12.9	8.4	6.2	16.6	6.2	6.8	0.3
- Male	47,977	100.0	59.0	12.0	4.7	3.2	8.0	4.9	7.8	0.4
- Female	84,497	100.0	33.3	13.4	10.5	7.9	21.4	6.9	6.3	0.3
<b>Not Stated</b>										
- Total	2,615	100.0	44.3	18.2	8.4	5.1	12.5	4.3	5.0	2.2
- Male	1,334	100.0	45.0	17.8	7.8	5.8	12.2	4.7	4.4	2.3
- Female	1,281	100.0	43.5	18.5	9.1	4.5	12.8	4.0	5.7	1.9

#### 6.4 ECONOMICALLY INACTIVE POPULATION

The population considered as economically inactive comprises all persons 12 years and over classified neither as employed nor unemployed during the period of reference. The economically inactive include full-time homemakers, full-time students, prisoners, beggars/vagrants and those pensioners who live solely on retirement benefits. Also included are disabled and invalid persons who are unable to work due to their disability and severe sickness, respectively.

Homemakers are persons of either sex who are economically inactive due to their full engagement in household duties in their own homes. Students are persons of either sex who are inactive owing to their engagement in full-time studies. Other inactive persons are those listed in the remaining categories, whose reasons for inactivity are as implied by their names.

Table 6.4 presents the economically inactive population by reason for inactivity. Of the 132,474 inactive persons, 35.2 percent are homemakers, 27.7 percent are students and 37.1 percent are inactive for other reasons. Thus, other reasons (37.1 percent) are more important for inactivity in North-Western province, followed by homemaking (35.2 percent); studying (27.7 percent) is the least important reason for economic inactivity in the region.

In the rural areas, the order of importance of the reasons for economic inactivity are similar to those at regional level. In urban areas, however, studying (40.3 percent) is the most important reason for inactivity, followed by homemaking (30.2 percent); other reasons (29.5 percent) are least in importance for economic inactivity.

The main reasons for male economic inactivity are other reasons (49.5 percent), followed by studying (43.7 percent); homemaking (6.8 percent) is the least important reason for male economic inactivity in the region. Females, on the other hand, are inactive primarily because of homemaking (51.3 percent), followed in importance by other reasons (30.1 percent); studying (18.6 percent) is the least important reason for female economic inactivity.



The population which is currently inactive increased by 29.9 percent over this inter-censal period. Of the 242,416 economically inactive population in 1990, 77,263 persons or 31.9 percent are males and 165,153 persons or 68.1 percent are females. The population of currently inactive males has increased by 45.9 percent and that of inactive females has increased by 23.6 percent. The majority of the currently inactive population is in the rural areas in both censuses (81.6 percent in 1990 and 82.2 percent in 1980), leaving a smaller proportion in the urban areas (about 17 percent in both 1990 and 1980).

Table 6.2

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

Activity and Sex	Residence							
	1980				1990			
	Total Number	Total	Rural	Urban	Total Number	Total	Rural	Urban
<b>Population</b>								
- Total	382,879	100.0	82.7	17.3	524,072	100	85.8	14.2
- Male	173,516	100.0	82.1	17.9	247,549	100	85.4	14.6
- Female	209,363	100.0	83.1	16.9	276,523	100	86.1	13.9
<b>Labour Force</b>								
- Total	195,519	100.0	83.0	17.0	270,487	100	88.6	11.4
- Male	120,017	100.0	82.3	17.7	164,673	100	87.5	12.5
- Female	75,502	100.0	84.0	16.0	105,814	100	90.2	9.8
<b>Employed</b>								
- Total	96,595	100.0	82.3	17.7	242,169	100	88.9	11.1
- Male	69,726	100.0	81.1	18.9	146,185	100	87.6	12.4
- Female	26,869	100.0	85.4	14.6	95,984	100	90.9	9.1
<b>Unemployed</b>								
- Total	98,924	100.0	83.7	16.3	28,318	100	85.3	14.7
- Male	50,291	100.0	84.1	15.9	18,488	100	86.4	13.6
- Female	48,633	100.0	83.2	16.8	9,830	100	83.2	16.8
<b>Inactive</b>								
- Total	186,605	100.0	82.5	17.5	242,416	100	83.0	17.0
- Male	52,944	100.0	82.2	17.8	77,263	100	81.6	18.4
- Female	133,661	100.0	82.6	17.4	165,153	100	83.7	16.3
<b>Not Stated</b>								
- Total	755	100.0	44.1	55.9	11,169	100	79.8	20.2
- Male	555	100.0	35.9	64.1	5,613	100	78.5	21.5
- Female	200	100.0	67.0	33.0	5,556	100	81.1	18.9

Figure 6.1 shows that the proportion of the currently active male population employed (40.2 percent) in 1980 was lower than that in 1990 (49.0 percent) shown in Figure 6.2. The proportion of the currently active female population more than doubled from 12.8 percent in 1980 to 34.7 percent in 1990. Despite an increase in the size of the inactive population between 1980 and 1990, there has been a reduction in the proportion of the inactive population for the currently active population between 1980 and 1990.

Figure 6.1

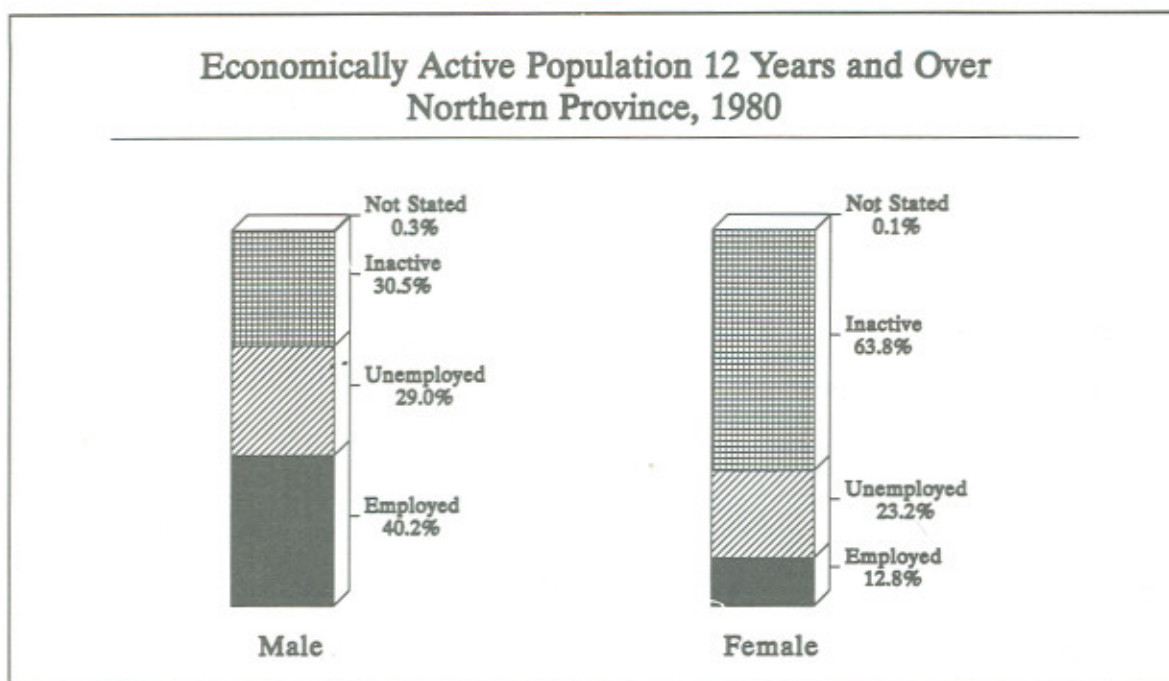
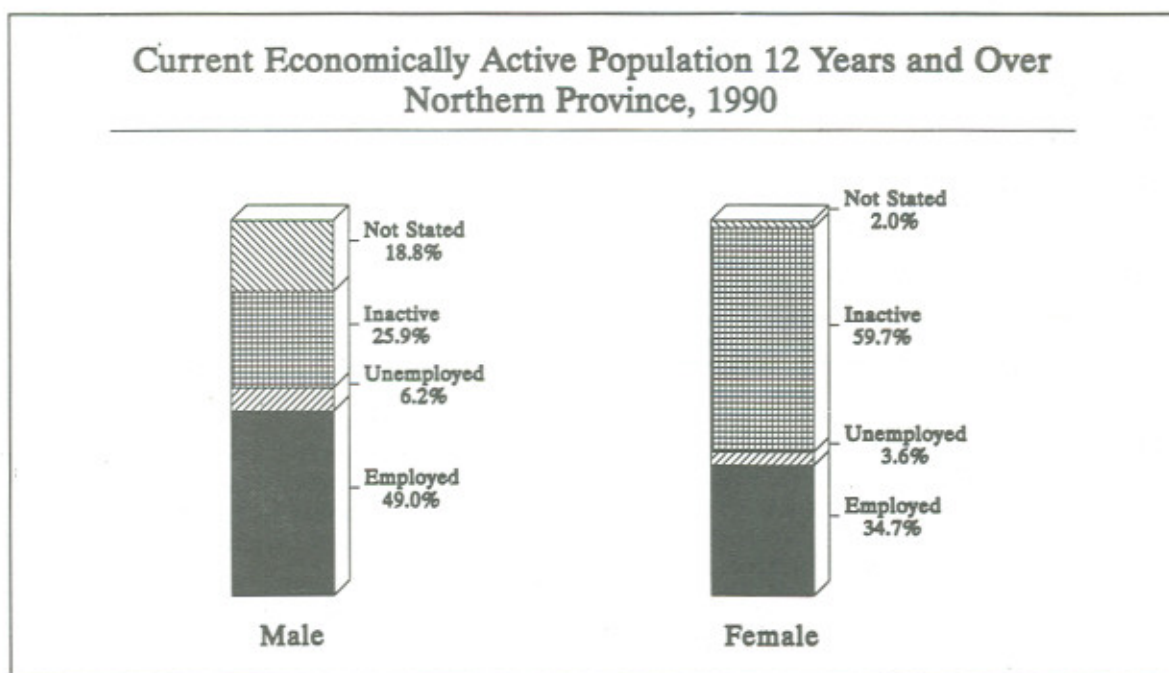


Figure 6.2



The age-structure of the currently economically active population is given in Table 6.3. More than half of the labour force is in the young age group of 12-29 years, 9.8 percent in the age-group of 30-34 years, 24.1 percent are in the broad age group of 35-54 years and 12.3 percent are in the old age group of 55 years and over in 1990. The age structure of both the male and the female labour force are just like those of the total labour force.

The currently employed population displayed an age structure which is very akin to the one for the total labour force. The age structure of the currently unemployed population, however, shows some unique features. Almost three quarters of the unemployed persons in 1990 are in the young age group of 12-29 years, 7.7 percent are in the age group 30-34 years, 13.8 percent are in the broad-age group of 35-54 and 6.5 percent in the older age group of 55 years and over. These findings suggest that the problem of unemployment is more acute among the young than among the old age groups.

The age structure of the currently economically inactive population displays a pattern which is akin to that which has been displayed by the age structure of the currently unemployed. The young age group of 12-29 years has accounted for about two thirds of all inactive persons, which also suggests that economic inactivity is more prevalent among the young than among the older age groups.

Table 6.3

Current Economically Active Population 12 Years and Over by Age and Sex, (Percent), Northern 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	270,487	100.0	27.1	14.6	12.1	9.8	24.1	7.6	4.7	0.0
- Male	164,673	100.0	22.6	14.1	12.8	10.9	25.1	8.6	5.9	0.0
- Female	105,814	100.0	34.0	15.4	10.9	8.0	22.6	6.1	3.0	0.0
<b>Employed</b>										
- Total	242,169	100.0	25.9	13.7	12.1	10.0	25.3	8.0	5.0	0.0
- Male	146,185	100.0	21.7	13.0	12.7	11.2	26.2	9.0	6.2	-
- Female	95,984	100.0	32.2	14.9	11.0	8.3	23.9	6.5	3.2	0.0
<b>Unemployed</b>										
- Total	28,318	100.0	37.3	22.1	12.6	7.7	13.8	4.1	2.4	0.0
- Male	18,488	100.0	29.9	22.9	14.0	9.1	16.2	5.0	2.9	0.0
- Female	9,830	100.0	51.3	20.8	9.8	4.8	9.4	2.4	1.5	-
<b>Inactive</b>										
- Total	242,416	100.0	41.3	14.2	9.41	6.8	17.6	5.5	5.2	0.0
- Male	77,263	100.0	60.8	12.3	4.9	3.4	7.9	4.2	6.4	0.1
- Female	165,153	100.0	32.2	15.1	11.6	8.3	22.1	6.1	4.6	0.0
<b>Not Stated</b>										
- Total	11,169	100.0	58.7	14.3	6.6	4.0	9.4	3.0	3.4	0.6
- Male	5,613	100.0	59.1	15.1	6.5	4.1	9.1	2.8	2.7	0.6
- Female	5,556	100.0	58.3	13.6	6.7	3.7	9.8	3.3	4.1	0.5



## 6.4 ECONOMICALLY INACTIVE POPULATION

According to Table 6.4, only one third of the currently inactive population are male, as compared to two thirds who are females. The most important reason for male economic inactivity is 'other' reasons (55.2 percent), followed by studying (36.1 percent). Homemaking is the least important reason for male economic inactivity, which is 8.7 percent, in 1990. By contrast, females are economically inactive primarily because of household duties (60.4 percent), followed by other reasons (27.3 percent). Studying is the least important (12.3 percent) reason for female current economic inactivity in 1990.

In Northern Province, the population is currently economically inactive mostly due to household duties (45.5 percent in rural areas and 36.3 percent in urban areas). The second important reasons for economic inactivity in the province are other reasons (36.9 percent in rural and 32.8 percent in urban areas). Studying is the least important (17.6 percent in rural areas and 30.9 percent in urban areas) reason for current economic inactivity in the province.

Table 6.4

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

Residence and Sex	Reason for Inactivity				
	Total Number	Total	Home maker	Student	Other
Residence					
- Total	242,416	100.0	43.9	19.9	36.2
- Rural	201,205	100.0	45.5	17.6	36.9
- Urban	41,211	100.0	36.3	30.9	32.8
Sex					
- Male	77,263	100.0	8.7	36.1	55.2
- Female	165,153	100.0	60.4	12.3	27.3

Table 6.5 gives the distribution of inactive population by residence and reason for inactivity. The majority (83.0 percent) of the inactive population reside in rural areas, while only 17.0 percent reside in urban areas. There are more homemakers in rural areas (86.0 percent) than in urban areas (14.0 percent). There are more students in rural areas (73.6 percent) than in urban areas (26.4 percent). Those who are currently economically inactive for other reasons, 84.6 percent reside in rural areas, while only 15.4 percent are in urban areas.

Table 6.5

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

Residence and Sex	Reason for Inactivity			
	Total	Home maker	Student	Other
Northern Province				
- Total Number	242,416	106,477	48,238	87,701
- Total	100.0	100.0	100.0	100.0
- Rural	83.0	86.0	73.6	84.6
- Urban	17.0	14.0	26.4	15.4

## 6.5 LABOUR FORCE PARTICIPATION RATES

The labour force participation rate is defined as the proportion of persons of a particular age-group who are in the labour force. Labour force participation rates by age, sex and residence are presented in Table 6.6. The overall participation rate for Northern Province has risen very slightly, from 51.1 percent in 1980 to 51.6 percent in 1990. The participation rate for males has declined from 69.2 percent in 1980 to 66.5 percent in 1990, whereas it has risen from 36.1 percent in 1980 to 38.3 percent for females.

The overall labour force participation rate for rural areas has increased from 51.2 percent in 1980 to 53.3 percent in 1990, whereas for urban areas the overall rate has declined from 50.2 percent in 1980 to 41.6 percent in 1990.

Within the rural areas, the male labour force participation rate has declined from 69.3 percent in 1980 to 68.1 percent in 1990, while the rate for females has increased from 36.4 percent in 1980 to 40.1 percent in 1990. In the urban areas the participation rates for both males and females have declined; the rate for males has declined from 68.4 percent in 1980 to 57.1 percent in 1990, while the rate for females has declined from 34.2 percent in 1980 to 27.0 percent in 1990.

A study of the labour force participation rates by age and sex shows, first, that the overall rates by age are lowest for the age-group 12-19 years (40.7 percent), rise with the increase in ages and reach a peak of 61.7 percent for the age-group 55-59 years, before dropping to 49.7 percent for the age group of 65 years and over. A comparison of the participation rates of males and females reveals that the labour force participation rates for females are less than those of males at every age group. This pattern prevails in both rural and urban areas, see Figure 6.3 and Figure 6.4.

Table 6.6

Current Labour Force Participation Rates by Age, Sex and Residence, Northern Province, 1980 and 1990

Age-Group	Current Participation Rates								
	Total			Rural			Urban		
	Both	Male	Female	Both	Male	Female	Both	Male	Female
1980	51.1	69.2	36.1	51.2	69.3	36.4	50.2	68.4	34.2
1990	51.6	66.5	38.3	53.3	68.1	40.1	41.6	57.1	27.0
1990 Census Age Groups									
12-19	40.7	42.6	38.9	44.1	46.0	42.3	22.0	23.3	20.7
20-24	52.3	69.1	38.8	54.1	71.3	40.4	41.7	56.5	30.1
25-29	58.1	83.5	37.3	59.1	84.0	38.6	52.1	80.4	30.4
30-34	61.1	86.2	37.7	61.5	86.0	38.6	59.4	87.2	33.4
35-39	60.6	87.4	37.4	60.1	86.8	38.1	63.3	90.3	33.9
40-44	59.3	86.9	39.4	58.7	86.3	40.4	62.7	89.3	31.1
45-49	60.2	86.2	40.3	60.1	86.2	41.3	61.2	86.0	30.5
50-54	59.3	84.0	40.0	59.3	84.4	40.6	59.5	81.6	32.8
55-59	61.7	81.8	40.1	62.4	82.5	41.1	55.4	75.8	29.1
60-64	58.7	79.1	37.0	58.8	79.8	37.8	50.9	71.7	26.4
65+	49.7	65.4	28.7	50.7	66.4	29.4	35.9	35.5	19.5
Not Stated	3.3	1.5	5.4	4.6	2.7	7.1	1.7		3.7

Figure 6.3

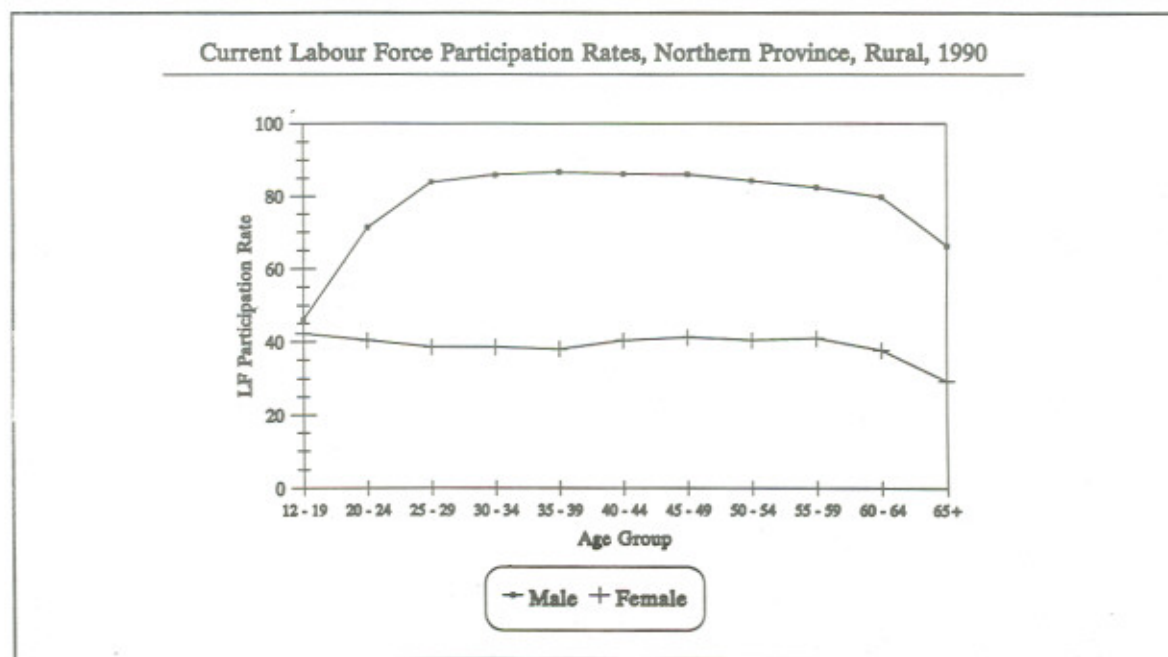
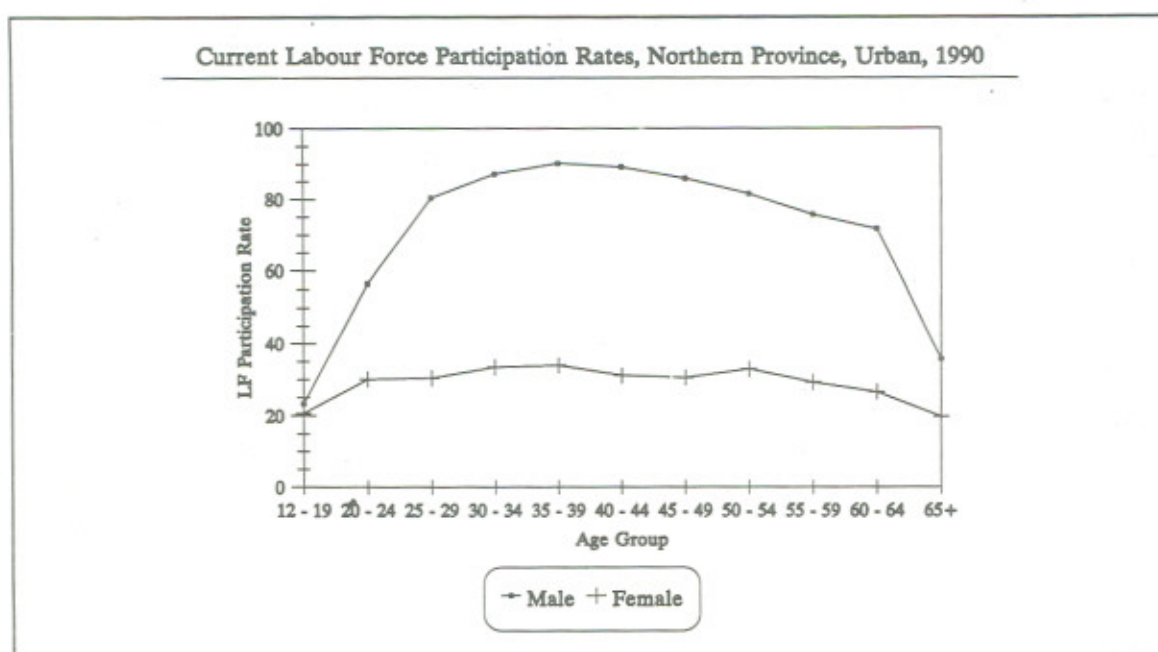




Figure 6.4



## 6.6 EMPLOYMENT STATUS

The industrial and occupational structure and the status in employment of a regions's work force is a main indicator of the level of its economic development and the efficiency with which its productive resources are utilised. When sustained, economic progress is usually accompanied by the increased division and specialization of the labour force. In a less developed economy, it is typical: to find a large part of the workforce engaged in its primary industries, for self-employment to be the most prevalent employment status, and for workers to be generally involved in agricultural and other occupations characterized by low skill requirement.

Lack of economic progress in Northern Province is shown by the predominance of relations of production which rely on family labour, rather than relying on employees and employers, who are the typical workers of an advanced economy. The self-employed and unpaid family workers together account for 83.0 percent of the workforce in the province in 1990 and for 61.8 percent in 1980. By contrast, employees and employers together account for 14.2 percent in 1990 and for 37.1 percent in 1980.

The self-employed and unpaid family workers are of greater importance in rural areas (68.3 percent in 1980 and 88.1 percent in 1990) than in urban areas (30.9 percent in 1980 and 41.4 percent in 1990). By contrast, the employment statuses of employees and employers are together of greater importance in urban areas (68.2 percent in 1980 and 55.2 percent in 1990) than in rural areas (30.5 percent in 1980 and 9.1 percent in 1990).

the employed and 45.5 percent of the employers are in the non-agricultural industries, 60.1 percent of

The agriculture industry appears to have registered a growth over the inter-censal period, as reflected by a gain in its percentage share of workers in the province from 56.3 percent in 1980 to 63.1 percent in 1990. On the other hand, the drop in the percentage share of workers in the non-agricultural industries from 34.2 percent in 1980 to 13.7 percent in 1990 suggests either economic stagnation or recession in these industries over this period.

Table 6.9

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

Industrial and Year		Total Number Working	Self Employed	Employee	Employer	Unpaid Family Worker	Not Stated
Total Number	- 1980	96,595	51,831	34,797	1,089	7,807	1,071
	- 1990	207,479	61,209	26,971	2,438	111,009	5,852
Northern 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	56.3	80.6	15.7	70.5	77.6	31.9
	- 1990	63.1	75.9	21.7	36.1	68.4	31.5
Mining	- 1980	0.5	0.0	1.2	-	-	0.6
	- 1990	0.2	0.0	0.9	0.9	0.0	0.2
Manufacturing	- 1980	2.4	2.4	2.7	1.7	0.5	0.5
	- 1990	1.6	2.4	4.5	4.6	0.4	1.2
Electricity	- 1980	0.4	0.0	1.1	-	-	0.5
	- 1990	0.3	0.1	1.6	1.1	0.0	0.2
Construction	- 1980	3.6	1.5	7.8	1.5	0.3	1.0
	- 1990	1.0	0.8	4.7	3.3	0.3	0.6
Trade	- 1980	5.5	7.3	3.7	5.3	1.6	1.6
	- 1990	1.5	2.9	3.3	3.2	0.3	0.8
Transport	- 1980	2.8	0.3	7.3	3.0	0.0	0.4
	- 1990	1.4	0.2	9.7	4.9	0.0	0.8
Finance	- 1980	1.4	0.7	2.5	1.9	0.6	0.2
	- 1990	1.2	2.0	3.3	3.8	0.2	1.0
Community	- 1980	17.6	1.1	46.6	7.3	0.6	11.5
	- 1990	6.5	3.9	32.1	23.7	1.4	4.6
Other	- 1990	1.6	1.0	2.1	1.5	1.7	4.1
Not Stated	- 1980	9.5	6.1	11.3	8.8	18.8	51.8
	- 1990	21.6	10.8	16.1	16.9	27.3	55.0

Figure 6.5

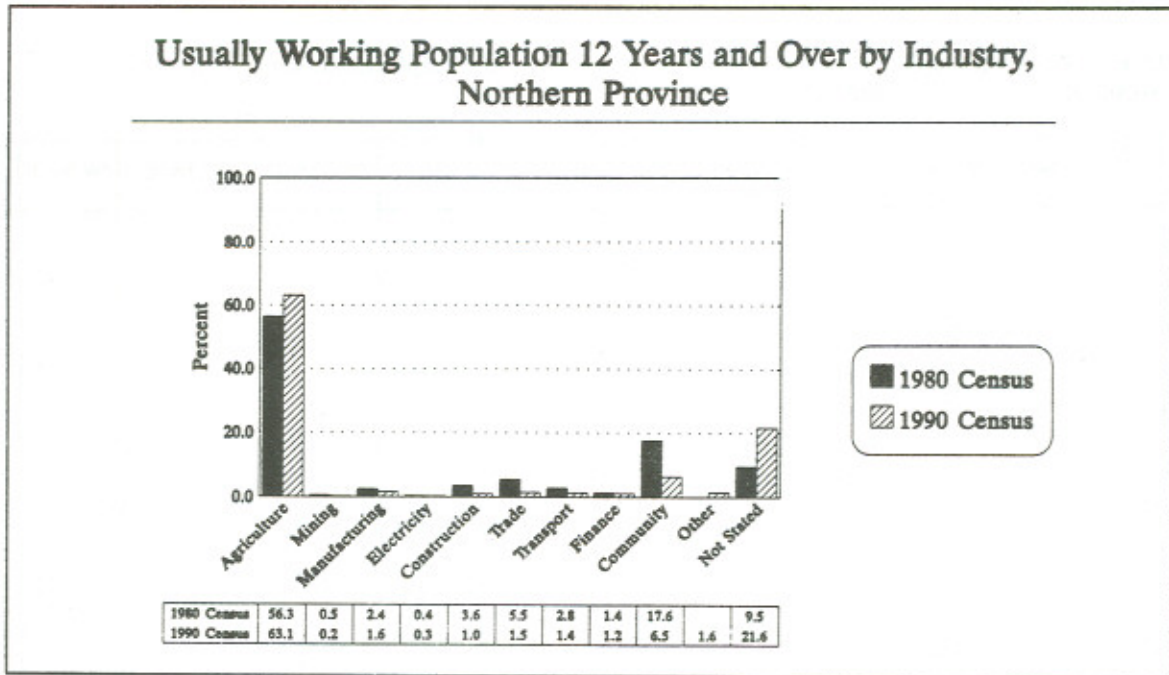


Table 6.10 shows the percentage distribution of usual workers by employment status in each industry. For all industries, unpaid family work is the most important employment status category with 53.5 percent, followed by self employment, 29.5 percent. Employee status has only 13.0 percent and the status of employer has only 1.2 percent of the workers.

A review of the distribution of usual workers in each industry by employment status reveals that self-employment and unpaid family work are important statuses in the industries of Agriculture, Manufacturing, trade, and Finance. Employee and Employer are important statuses in the industries of mining, manufacturing, electricity, construction, transport and community services.



Table 6.10

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

Industrial and Year	Total Number Working	Total	Self Employed	Employee	Employer	Unpaid Family Worker	Not Stated
Total Number - 1980	96,595	100.0	53.7	36.0	1.1	8.1	1.1
- 1990	207,479	100.0	29.5	13.0	1.2	53.5	2.8
Agriculture - 1980	54,409	100.0	76.8	10.0	1.4	11.2	0.6
- 1990	130,924	100.0	35.4	4.5	0.7	58.0	1.4
Mining - 1980	427	100.0	2.3	96.0	-	-	1.7
- 1990	311	100.0	6.4	76.9	1.7	6.1	3.5
Manufacturing - 1980	2,289	100.0	55.3	42.0	0.8	1.7	0.2
- 1990	3,359	100.0	44.5	36.0	3.3	14.1	2.1
Electricity - 1980	424	100.0	3.3	95.5	-	-	1.2
- 1990	527	100.0	6.7	84.4	4.9	2.1	1.9
Construction - 1980	3,510	100.0	21.7	76.9	0.5	0.6	0.3
- 1990	2,105	100.0	22.0	60.0	3.8	12.4	1.8
Trade - 1980	5,272	100.0	71.9	24.4	1.1	2.3	0.3
- 1990	3,146	100.0	56.2	28.6	2.5	11.3	1.4
Transport - 1980	2,705	100.0	5.1	93.5	1.2	0.1	0.1
- 1990	2,946	100.0	4.3	88.8	4.1	1.3	1.5
Finance - 1980	1,330	100.0	26.2	68.3	1.6	3.7	0.2
- 1990	2,549	100.0	48.7	35.0	3.6	10.2	2.4
Community - 1980	17,017	100.0	3.3	95.3	0.4	0.3	0.7
- 1990	13,447	100.0	17.9	64.3	4.3	11.5	2.0
Other - 1990	3,277	100.0	18.5	17.1	1.1	56.0	7.3
Not Stated - 1980	9,212	100.0	34.2	42.7	1.1	16.0	6.0
- 1990	44,888	100.0	14.7	9.7	0.9	67.5	7.2

## 6.9 UNEMPLOYMENT

When unemployment exists it proves that the supply of labour has exceeded its demand. Unemployment is due mainly to poor economic conditions, though demographic trends do affect the growth and composition of the labour force. A high level of unemployment means that many people have no jobs due to a shortage in employment opportunities. The number of unemployed persons when measured against the total labour force is called the unemployment rate.

Table 6.11 shows current unemployment rates by residence and sex. There has been a big drop in unemployment in the province, from 50.6 percent in 1980 to 10.5 percent in 1990. The decline in the rate of male unemployment, from 41.9 percent in 1980 to 11.2 percent in 1990 is less than that of female unemployment, which has dropped from 64.4 percent in 1980 to 9.3 percent in 1990. The decline in unemployment is due to both the growing popularity of the informal sector as the employer of the last resort and to the improved enumeration of informal sector economic activities in the 1990 Census as compared to the 1980 Census.

In 1990, unemployment is lower in rural areas (10.1 percent) than in urban areas (13.4 percent).

The rate of unemployment by district in 1990 reveals that it ranges from 5.4 percent in Mpika district to 13.2 percent in Isoka district.

Table 6.11

Current Unemployment Rates by Sex and Residence, (Percent), Northern Province, 1980 and 1990

Employment Status, Sex and Residence	1980	1990
<b>Northern Province</b>		
-Total	50.6	10.5
-Male	41.9	11.2
-Female	64.4	9.3
<b>Residence</b>		
<b>Rural</b>		
-Total	51.0	10.1
-Male	42.8	11.1
-Female	63.8	8.6
<b>Urban</b>		
-Total	48.5	13.4
-Male	37.7	12.2
-Female	67.5	15.9
<b>Districts</b>		
-Chilubi	-	8.1
-Chinsali	-	9.6
-Isoka	-	13.2
-Kaputa	-	12.1
-Kasama	-	11.4
-Luwingu	-	11.7
-Mhala	-	11.7
-Mpika	-	5.4
-Mporokoso	-	11.9

Table 6.12 shows the distribution of unemployment rates by age, residence and sex in 1990. The problem of unemployment is more acute among the young age group of 12-29 years than it is among the adult age groups of 30 years and above. This pattern is observed in both rural and urban areas, except that the urban unemployment rates for the youth of 12 to 24 years are almost twice those of similar youth in the rural areas.

Unemployment is higher among males than among females. In rural areas, too, male unemployment is higher than female unemployment, whereas in urban areas, the opposite is true.



Table 6.12

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

Current Unemployment Rates									
Age Group	Total			Rural			Urban		
	Both	Male	Female	Both	Male	Female	Both	Male	Female
Total	10.5	11.2	9.3	10.1	11.1	8.6	13.4	12.2	15.9
12-9	14.4	14.8	14.0	13.5	14.0	13.0	24.3	23.6	25.0
20-24	15.9	18.2	12.5	14.6	17.3	10.7	25.4	24.8	26.3
25-29	10.9	12.2	8.4	10.6	12.2	7.7	12.6	12.6	12.7
30-34	8.2	9.4	5.6	8.5	9.9	5.6	6.6	7.0	5.6
35-39	6.6	7.9	4.1	7.0	8.6	3.9	5.0	5.0	4.8
40-44	5.9	7.2	3.8	6.1	7.7	3.8	4.4	4.8	3.1
45-49	5.9	7.0	3.8	6.1	7.5	4.1	4.5	4.6	4.0
50-54	5.4	6.6	4.1	5.3	6.6	3.2	6.6	6.7	6.4
55-59	5.8	6.9	3.4	5.7	6.8	3.4	7.6	7.9	6.7
60-64	5.4	6.2	3.6	5.2	6.1	3.5	7.5	7.6	7.2
65+	5.3	5.6	4.6	5.2	5.5	4.4	7.7	7.2	9.2
Not Stated	25.0	-	-	33.3	-	-	-	-	-

Table 6.13 shows the percentage distribution of the usually unemployed population by level of education completed and age in 1990. The table shows that 39.9 percent of the unemployed have no education, 41.8 percent have a low level of grades 1 to 7, 15.9 percent have secondary education of grades 8 to 12, while those who have "A" and degree levels are negligible. Unemployment does appear to be related to educational attainment, because the shares of unemployed persons are high at all age groups for persons both with no education and those with grades 1 to 7. However, even persons with secondary school education have started to face acute unemployment problems by 1990, as shown by the big percentage shares of the unemployed in the age groups 12 to 39 years with grades 8 to 12 educational attainment. Unemployment has thus become a problem even for those with a relatively high level of educational attainment.

Table 6.13

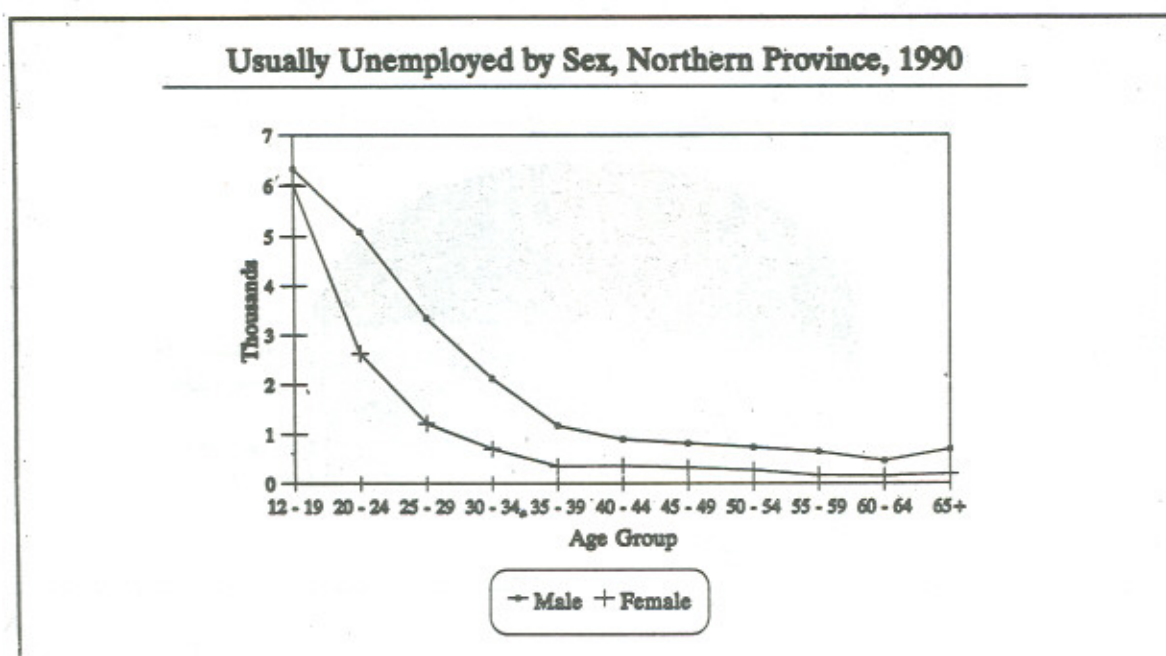
Usually Unemployed by Level of Education Completed and Age, (Percent), Northern Province, 1990

Age Group	Total Number Unemployed	Total	None	Grade 1-7	Grade 8-12	"A" Level	Degree	Not Stated
Total	34,671	100.0	39.9	41.8	15.9	0.0	0.0	2.4
12-19	12,360	100.0	49.0	41.8	6.3	-	-	2.9
20-24	7,715	100.0	28.2	44.2	25.8	-	-	1.8
25-29	4,571	100.0	28.2	43.0	27.0	0.0	-	1.8
30-34	2,835	100.0	30.5	41.3	26.2	-	-	2.0
35-39	1,522	100.0	35.1	39.9	23.4	-	-	1.6
40-44	1,257	100.0	43.7	38.1	16.0	-	-	2.2
45-49	1,130	100.0	49.6	40.2	7.3	0.1	-	2.8
50-54	999	100.0	50.9	40.5	5.6	0.1	-	2.9
55-59	801	100.0	52.7	38.2	4.9	-	-	4.2
60-64	604	100.0	56.0	36.9	3.3	-	-	3.8
65+	876	100.0	62.2	32.8	1.3	-	0.1	3.6
Not Stated	1	100.0	-	-	-	-	-	100.0

Figure 6.6 shows that unemployment is higher among males than females in all age groups.



Figure 6.6



#### *Marital Status of the Unemployed*

According to Table 6.14 and Figure 6.7, the marital status of more than half of the unemployed is single, suggesting that it is difficult for persons who are unemployed to get married; 36.3 percent are married and 6.2 percent are distributed in the remaining marital status categories.

The percentage of unemployed persons who are single is higher in urban than in rural areas, whereas the percentage of married persons who are unemployed is lower in urban than in rural areas, probably due to the fact that it is more difficult for a person who is unemployed to marry in urban areas. An alternative interpretation is that many of the unemployed are young persons who have not yet married.

Table 6.14

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

Residence and Sex	Total Number Unemployed	Marital Status						
		Total	Single	Married	Widowed	Divorced	Separated	Not Stated
<b>Total</b>								
Both Sexes	28,318	100.0	53.2	36.3	1.8	2.4	2.0	4.3
Male	18,488	100.0	48.7	44.6	0.4	0.7	0.8	4.8
Female	9,830	100.0	61.7	20.7	4.3	5.6	4.3	3.4
<b>Rural</b>								
Both Sexes	24,159	100.0	51.2	38.3	1.9	2.4	2.0	4.4
Male	15,977	100.0	46.7	46.6	0.5	0.7	0.7	4.8
Female	8,182	100.0	60.0	21.9	4.6	5.6	4.4	3.5
<b>Urban</b>								
Both Sexes	4,159	100.0	64.9	25.1	1.4	2.6	2.0	4.0
Male	2,511	100.0	61.5	31.6	0.3	0.6	1.1	4.9
Female	1,648	100.0	70.1	15.1	3.0	5.7	3.4	2.7



## CHAPTER 7

# CHILDREN, YOUTH AND WOMEN

### 7.1 INTRODUCTION

In this chapter, an attempt is made to examine and analyse the situation of children, youth and women with regard to the following data items from the Census:-

- Population Distribution within the province,
- Composition and Change,
- 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 the group 15-24 years.

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

#### *Population Change*

During this period, the population of the youth has been increasing at a rate which is about three times higher than that of children. It is interesting to note that the average annual growth rate for both children and youth is higher in rural as opposed to urban areas. Infact, the average annual growth rate of children in the urban part of the province is -0.7 percent. This implies that the population of children has declined since the last census, see Table 7.1.

#### *Population Composition and Distribution*

The total population of Northern Province is 855,177. Proportionately, children and youth comprise of 47 and 22 percent of the total population, respectively. The majority of both children and youth are found in the rural areas of the province, see Table 7.1.

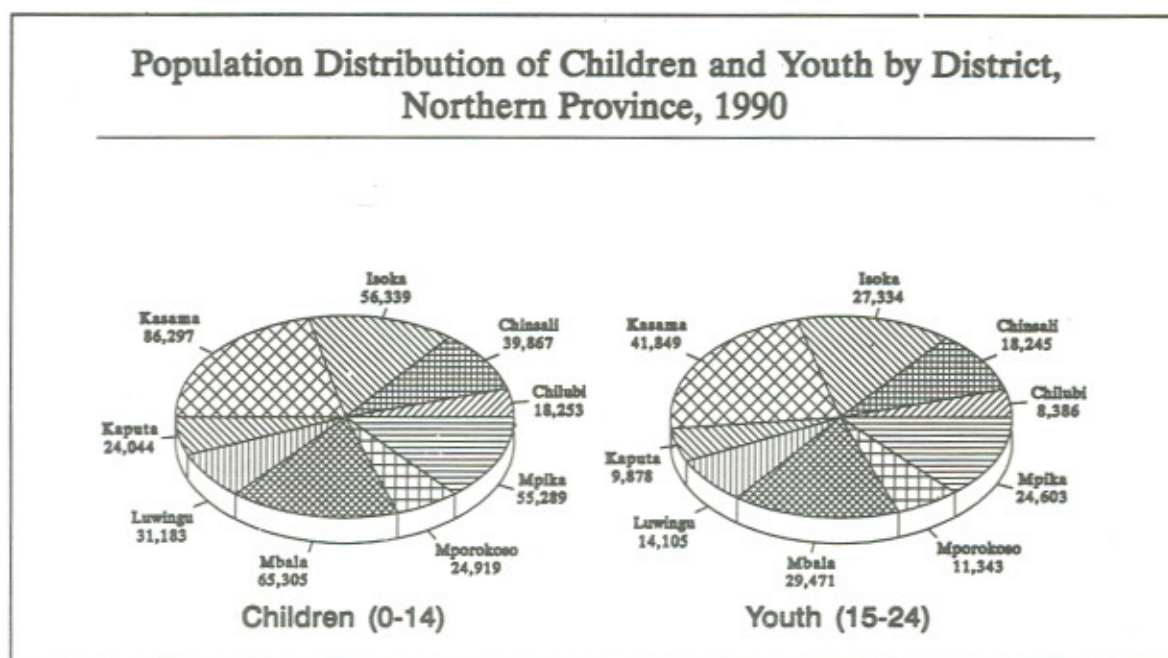
Table 7.1

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

	Age Group	Residence	Total Population		Average Annual Growth Rate (%) 1980-1990
			1980	1990	
Children	0 - 14	Total	347,248	401,496	1.5
		Rural	285,483	344,096	1.9
		Urban	61,765	57,400	-0.7
Youth	15 - 24	Total	119,391	185,214	4.5
		Rural	97,771	156,871	4.8
		Urban	21,620	28,343	2.7



Figure 7.1



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

Northern Province has a very youthful population. In this section marital status, fertility, literacy, education of children and youth and their economic activities are discussed.

#### *Marital Status of the Youth*

Data on marital status of youth by age and sex is presented in Table 7.4. At age group 15-19 years, 27 percent of the females are already married compared to a mere 2 percent of males in the same age group. Although the proportion of married males in the next age group increases (31 percent), that of their female counterparts is still higher as it is double that of their male counterparts. It should be noted that between 20 and 24 years, whereas the majority of young women are married (67 percent), the majority (62 percent) of young men have never married before. This contributes to the general observation that females marry much earlier than males. In the province, the average age at marriage for females is 25 years and 20 years for males.

The proportions of both males and females in urban areas who have never married are higher than those in rural areas. Inversely, the proportions of married youth in urban areas are lower than those of youth in rural areas. This may also be attributed to the lower age at marriage for both males and females in rural than urban areas. The average age at marriage increases with an increase in the level of education (see also Chapter 8). Thus, this may imply that youth in rural areas spend less years in school than those in urban areas and marry early. Lastly, proportions of widowed, divorced and separated youth, which are almost negligible, are also higher in rural than urban areas.

Table 7.4

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

Residence	Age Group	Sex	Total		Marital Status					
			Number	Percentage	Never Married	Married	Widowed	Divorced	Separated	Not Stated
Northern Province	15-19	Male	51,805	100.0	91.7	1.8	0.1	0.0	0.2	6.2
		Female	57,818	100.0	67.0	27.1	0.2	0.9	1.1	3.7
	20-24	Male	33,554	100.0	61.9	31.1	0.1	0.4	0.5	6.0
		Female	42,037	100.0	23.0	66.9	0.7	3.8	3.1	2.6
Rural	15-19	Male	43,714	100.0	91.3	2.0	0.1	0.0	0.2	6.4
		Female	46,919	100.0	64.9	28.9	0.2	1.0	1.2	3.7
	20-24	Male	28,536	100.0	59.9	33.3	0.1	0.4	0.6	5.7
		Female	35,702	100.0	21.2	68.4	0.7	3.9	3.2	2.5
Urban	15-19	Male	8,091	100.0	93.6	0.8	0.0	-	0.1	5.4
		Female	8,899	100.0	78.4	16.7	0.2	0.6	0.7	3.4
	20-24	Male	5,018	100.0	73.4	18.4	0.1	0.2	0.5	7.5
		Female	6,335	100.0	33.5	58.3	0.5	2.8	2.0	2.9

*Fertility of Female Youth*

Table 7.5 shows the proportion of females in the province who have had a birth. A fifth of teenage girls (15-19 years) have had a birth. A higher proportion of teenage girls in rural than urban areas, 20 and 13 percent, respectively have had a birth. Of the female youth in age group 20-24 years, almost two thirds have had a birth. It can be observed that less young women in urban than those in rural areas have had a birth.

Table 7.5

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

Age Group/Residence	Total Females	Females who have had a Birth	Proportion of Female who have had a Birth
Northern Province			
15-19	57,818	10,930	19.9
20-24	42,037	27,324	65.0
Rural			
15-24	48,919	9,762	20.0
20-24	35,702	23,694	66.4
Urban			
15-24	8,899	1,168	13.1
20-24	6,335	3,630	57.3

*Children and Youth who can Read and Write*

The proportion of children and youth who are literate (able to read and write) in Northern Province is shown in Table 7.6. Not more than half (47 percent) the children age 10-14 years are literate. The difference in proportion between boys and girls who are able to read and write is about 2 percent.



Figure 7.2 shows that despite the majority of both male and female youth in age group 15-19 years being students, the proportion for males is much higher (47 percent) than that of females (28 percent). At age group 20-24 years, whilst most of the young men are economically active and employed, the young women are mostly economically inactive as housewives (see Figure 7.3).

Figure 7.2

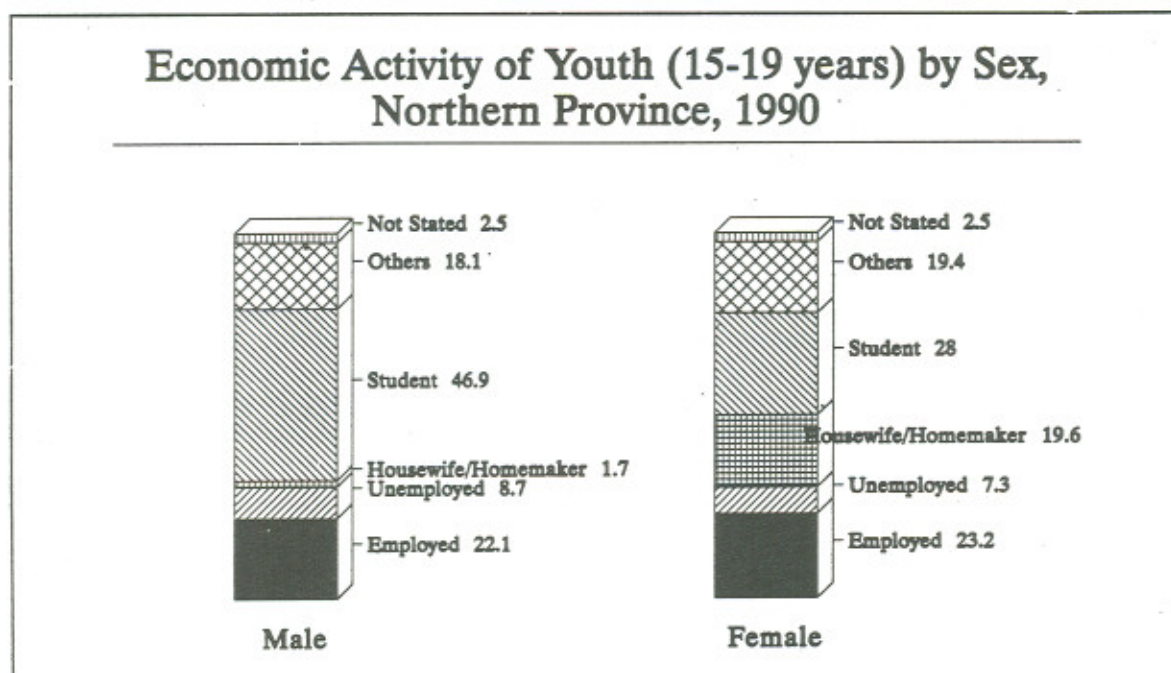
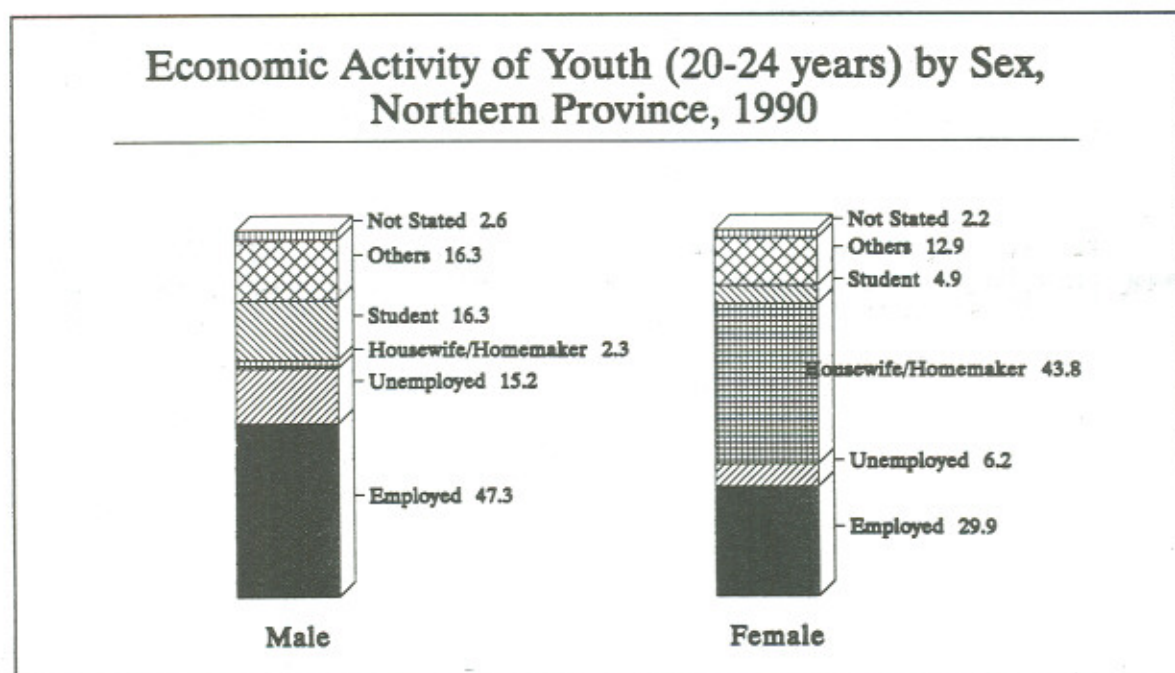


Figure 7.3





## Youth Unemployment

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

The number of unemployed youth in age group 15-19 years is higher than in age group 20-24 years. This implies an unemployment rate of 26 percent for those aged 15-19 years and 21 percent for those aged 20-24 years. Generally, male youth have unemployment rates which are higher than those for female youth.

Regardless of sex, unemployment rates for youth in urban areas are much higher than those for youth in rural areas. In age group 15-19 years, unemployment rates for youth are 49 and 24 percent, respectively. However, it should be noted that in absolute terms, more youth in rural than urban areas are unemployed.

Table 7.9

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

Age Group/Residence	Sex	Total Labour Force	Unemployed Population	Unemployment Rate (%)	
Northern Province	15-19	Both Sexes	33,572	8,724	26.0
		Male	15,956	4,524	28.4
		Female	17,616	4,200	23.8
	20-24	Both Sexes	36,175	7,715	21.3
		Male	20,966	5,092	24.3
		Female	15,209	2,623	17.2
Rural	15-19	Both Sexes	30,991	7,454	24.0
		Male	14,686	3,905	26.6
		Female	16,305	3,549	21.8
	20-24	Both Sexes	31,939	6,384	20.0
		Male	18,404	4,306	23.4
		Female	13,535	2,078	15.4
Urban	15-19	Both Sexes	2,581	1,270	49.2
		Male	1,270	619	48.7
		Female	1,311	651	49.6
	20-24	Both Sexes	4,236	1,331	31.4
		Male	2,562	786	30.7
		Female	1,674	545	32.6

## 7.4 SOCIAL AND ECONOMIC CHARACTERISTICS OF WOMEN

In general, women's contribution to the development of an economy is usually undervalued and/or even overlooked, by both policy makers and planners in Zambia. One major reason for this may be that 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. Therefore, it is important to examine some of the social and economic factors explaining low participation rates of women in economic development. In this section, marital, education and employment status of household heads and women in general are discussed.

### *Female Household Heads*

In Northern Province, about 20 percent of the total households are headed by women. The proportion for female heads of households is slightly higher in rural than urban areas. Amongst the districts, Chilubi recorded the highest proportion (26 percent) whilst Kaputa has the lowest (17 percent).

### *Marital Status of Female Household Heads*

Table 7.10 shows that women usually tend to become heads of households when they no longer have a spouse. This is usually due to death and break-up of marriage, hence the high proportions of female heads who are widowed, divorced and separated i.e. 92, 89 and 84, respectively, for the whole province. The proportion of married women who are heading households (5 percent) is very low. A similar pattern is observed in the districts.

Table 7.10

Female Household Heads as a Proportion of Total Household Heads by Marital Status, Residence and District, Northern Province, 1990

Residence/District	Total	Marital Status					
		Never Married	Married	Widowed	Divorced	Separated	Not Stated
Northern Province							
Total	19.8	33.3	4.7	92.5	89.2	84.3	5.6
Rural	19.9	32.6	4.8	92.5	89.6	84.9	5.1
Urban	18.8	35.1	3.9	91.6	87.5	79.7	9.6
District							
Chilubi	26.4	46.9	3.6	94.6	95.3	90.9	3.8
Chinsali	19.8	36.1	3.6	95.1	91.5	90.7	5.3
Isoka	20.5	31.0	11.1	91.9	84.7	82.5	7.6
Kaputa	16.7	29.5	3.2	86.8	87.2	77.8	3.2
Kasama	19.6	30.1	2.9	92.3	89.0	83.7	7.8
Luwingu	20.4	30.2	3.0	93.4	90.4	87.8	6.2
Mbala	17.5	33.4	5.4	90.4	85.1	77.6	5.2
Mpika	20.1	36.7	3.0	92.3	90.9	83.5	4.6
Mporokoso	20.9	33.3	3.4	94.0	90.1	85.5	6.3

### *Educational Status of Women*

Data on women and men by their highest level of education completed is shown in Table 7.11. Half the women in the province have never been to school at all, compared to a little more than a quarter of men. The majority of men (49 percent) have completed primary school whilst only 38 percent of women have done so. At secondary level, the proportion of women who have completed is less than half that of men.

Table 7.11

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

Sex	Total		Level of Education Completed				
	Population	Percent	No Schooling	Primary	Secondary	Higher Education	Not Stated
Male	205,249	100.0	28.0	49.1	21.4	0.1	1.4
Female	234,101	100.0	50.5	38.0	10.2	0.0	1.3

Table 7.12 reveals that over two thirds (70 percent) of female household heads in Northern Province have never attended school. A further one fifth (21 percent) have only completed primary school. A negligible proportion of women heading households have completed higher education.

Rural and urban areas show vast differences. Close to three quarters of female heads of households in rural areas have never attended school compared to less than half of those in urban areas. A higher proportion of women heading households in urban than rural areas have completed both primary and secondary school.

Table 7.12

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

Level of Education	Total	Rural	Urban
Never Attended	69.5	72.7	45.5
Primary	21.3	20.4	28.3
Secondary	5.9	3.7	22.1
Higher Education	0.0	0.0	0.2
Not Stated	3.3	3.2	3.9
Total Percentage	100.0	100.0	100.0
Total Female Heads	34,144	30,053	4,091
Total Household Heads	172,536	150,794	21,742

### *Employment Status of Women*

The employment status of working females is shown in Table 7.13. It can be observed that women make up 39 percent of the total working population in Northern Province. The rural and urban proportions of working women are 40 and 30 percent, respectively. The largest share of women, with regards their employment status, are unpaid family workers. These account for almost 50 percent of the total working population in the province. The lowest proportion of working women are employees.



Table 7.13

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

Employment Status	Total	Rural	Urban
Total	38.8	39.9	29.6
Employer	17.1	17.1	17.0
Employee	15.1	12.6	18.2
Self-Employed	31.0	30.2	38.3
Unpaid Family Workers	49.0	48.8	54.3
Not Stated	45.2	45.6	42.4

Figure 7.4 shows that other than the category of employers where proportions of working women in rural and urban areas are equal (17 percent), the proportions are higher in urban than rural areas in the rest of the categories.

Figure 7.4

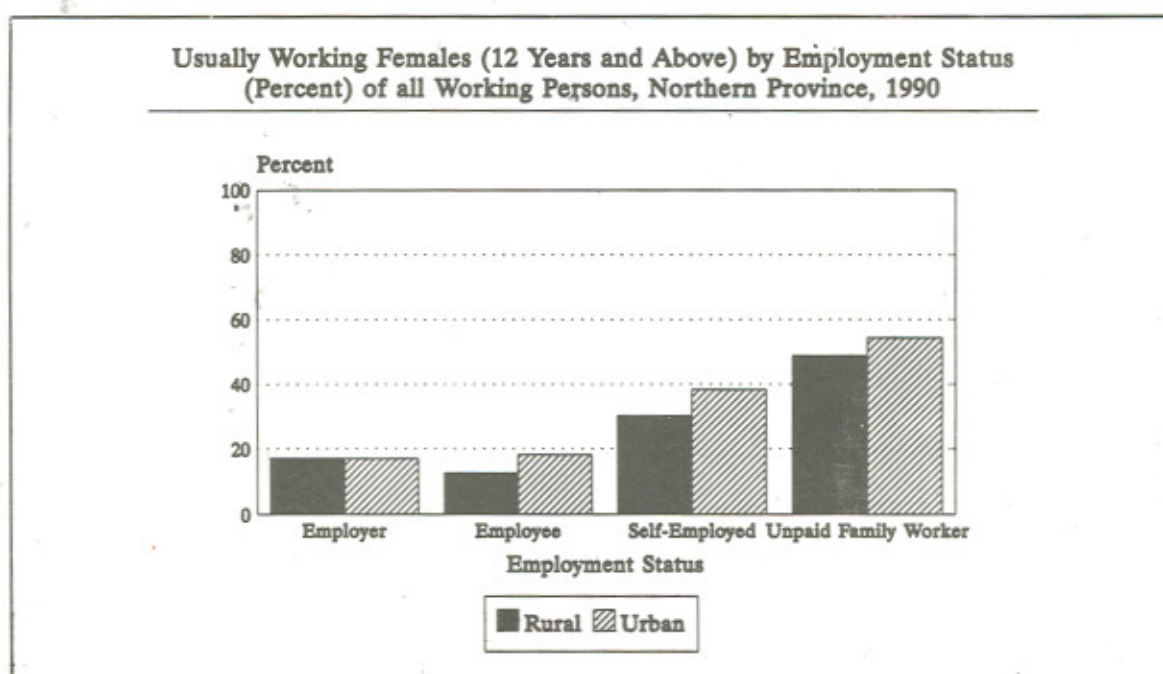


Table 7.14 presents the proportion of working women by their employment and occupation status in relation to the total working population of Northern Province. High proportions of working women in the province are in clerical, sales and agricultural occupations. Women who are unpaid family workers and self-employed make up the highest proportion in occupations like sales; service; and production and transport. Large proportions of unpaid family workers being made up of women means that they are employed for no pay. This may be attributed to the fact that women have very low educational qualifications which limit their choice and chance of being in gainful employment.

It should be noted that only 8 percent of the total workers in decision-making levels like Administrative and Managerial circles in the whole province are women.

Table 7.14

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

Occupation	Total	Employment Status				
		Employer	Employee	Self-Employed	Unpaid Family Worker	Not Stated
Total	38.8	17.1	15.1	31.0	49.0	45.2
Professional/Technical and Related Workers	26.0	22.1	24.7	21.9	47.7	37.4
Admin. Managerial Workers	8.0	7.7	7.9	11.1	-	14.3
Clerical and Related Workers	31.8	27.6	32.7	14.6	15.8	31.2
Sales Workers	43.8	27.5	26.5	43.9	60.6	43.3
Service Workers	22.9	10.8	10.8	47.7	78.4	31.7
Agriculture Husbandry, Forestry and Fishery	37.5	16.0	9.1	27.7	45.6	37.9
Production, Transport and Labourers	28.4	15.0	9.3	45.3	62.7	32.0
Unclassified Occupations	43.2	3.4	8.8	42.3	55.0	46.0
Not Stated	46.8	14.0	7.9	38.9	55.5	50.8

Table 7.15 further shows the proportion of working women in relation to total workers by their industrial category and employment status.

The major industries in which women are found are, Agriculture; Manufacturing, Wholesale and Retail Trade; Finance, Insurance and Real Estates; and Community, Social and Personal Services. Very few women are in industries like Mining and Quarrying; Electricity, Gas and Water; Construction and Allied Repairs; and Transport, Storage and Communication. Other than the weight of custom and the belief that women are not suited to factory work, discriminatory legislation could contribute to low proportions of women in factory occupations. In Mining and Quarrying, the proportion for women is as low as 4 percent. This low proportion could be due to the discriminatory "Employment of Women, Young Persons and Children Act", chapter 505 of the Laws of Zambia which bars women from working underground in the mines. Further, the same act discriminates against women in other forms of industrial employment by prohibiting them from undertaking night work in any industrial employment. Thus, this could discourage women to take up even other careers in this sector.

Table 7.15

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

Industry	Total	Employment Status				
		Employer	Employee	Self-Employed	Unpaid Family Worker	Not Stated
Total	38.8	17.1	15.1	31.0	49.0	45.2
Agric., Hunting, Forestry and Fishery	37.4	17.9	9.0	27.8	45.6	37.3
Mining and Quarrying	4.2	9.1	3.8	5.0	5.3	-
Manufacturing	32.2	14.3	15.2	36.2	65.3	42.9
Electricity, Gas and Water	7.0	3.8	2.9	60.0	18.2	-
Construction and Allied Repairs	5.3	3.8	2.3	3.2	24.2	2.7
Wholesale and Retail Trade, Restaurants and Hotels	39.2	23.1	28.9	39.8	65.9	43.2
Transport, Storage and Communication	2.9	-	3.1	0.8	5.3	4.3
Finance, Insurance and Real Estates	34.9	18.3	18.9	43.7	54.2	31.1
Community, Social and Personal Services	31.6	23.0	23.2	42.8	62.3	41.4
Unclassified Industry	45.4	18.9	17.5	42.8	55.0	46.9
Not Stated	49.8	19.2	15.9	44.3	56.0	51.6



## 7.5 SUMMARY

During the inter-censal period of 1980-1990, the number of children has been growing slower than that of youth in Northern Province. The growth rate for children is 1.5 and 4.5 percent for youth. Higher growth rates for both children and youth have been registered in rural as opposed to urban areas. The rates are 4.8 percent for the youth and 1.9 percent for children in rural areas while the respective rates in urban areas are 2.7 and -0.7 percent. Altogether, children and youth make up over two thirds (69 percent) of the total population of Northern Province.

Less than half (47 percent) the number of both girls and boys in the province are literate. As for the youth, a little over two thirds can read and write. However, there are more male youth who are literate than female youth. Concerning the educational status of youth, an equal proportion of young men and women in age group 20-24 years have completed primary school, with 45 percent each. However, the proportion of young men who have completed at least secondary school is higher than that for young women.

Of the total households in the province, a fifth are headed by women. There is indication that most women become heads of households only after losing spouse, through death, divorce and separation. Half the women in Northern Province have never been to school compared to slightly more than a quarter of men. Nearly 50 percent of men have completed primary school whilst the percentage for women is 38. Thus, women may be said to have a low education status.

Of the total working population 39 percent are women. These women are mostly unpaid family workers and/or self-employed. They are concentrated in agriculture, manufacturing, wholesale and retail trade industries, to mention but a few. Women in Northern Province are seen to shy away from occupations which are related to heavy duty kind of work like mining and quarrying; electricity, gas and water; and transport, storage and communication. Despite the custom and belief that women are not suited to factory work, discriminatory legislation contributes to the low proportions of women in these industries.



## CHAPTER 8

# NUPTIALITY AND FERTILITY

### 8.1 INTRODUCTION

The study of nuptiality deals with the frequency of marriages between members of the opposite sex in a society. Family formation is important in demographic studies because it has a bearing on fertility. The larger the proportion of married persons, the higher the expected fertility in that society.

Fertility is a complex process responsible for the biological maintenance of society. As such it forms an important part of demographic studies. Fertility is one of the most important parts of demographic change, the others being mortality and migration.

Nuptiality and fertility topics were adequately addressed in the 1990 Population Census. The following data items were collected for persons aged 12 years and above:-

- Marital Status, i.e. whether a person is married, separated, divorced, widowed or never married (question P-24).
- Age at first marriage (question P-25).

For females aged 12 years and above, the following additional data items were collected:-

- 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 alive by sex (question F-3),
- Number of children dead by sex (question F-4).

The last two data items were also collected for females who had given birth during the last 12 months prior to the Census.

### 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 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 (CWR)*

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 females of childbearing ages (taken as 15-49 years). It is commonly expressed as per 1,000 females of childbearing period 15-49 years.

#### *Total Fertility Rate (TFR)*

The TFR represents the average number of children that a female would have from age 15 to age 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 and assuming that all the females survive through their reproductive ages.

#### *Net Reproduction Rate (NRR)*

The average number of daughters a female would have or give birth to if the prevailing fertility pattern persists and allowance made for females who would not survive through their reproductive ages. This provides a measure of the way in which a generation of females replaces itself with daughters.

#### *Average Parity*

Also referred to as Mean Number of Children Ever Born (MNCEB). It 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**

This section discusses marital status characteristics and mean age at marriage among sub-population groups of Northern Province. Knowledge of the marital characteristics of respondents is important in an analysis meant to explore the possible influence on fertility levels of a population. The background variables shed some light on the type of population being analysed.

#### *Marital Status*

Marital status is an important factor in the study of population dynamics. Although it mostly affects fertility, it also affects mortality and migration to a lesser extent. The marital status categories for which data was collected in the census are never married, married, widowed, separated and divorced. Table 8.1 presents data on the marital characteristics of the population of Northern Province.

Table 8.1

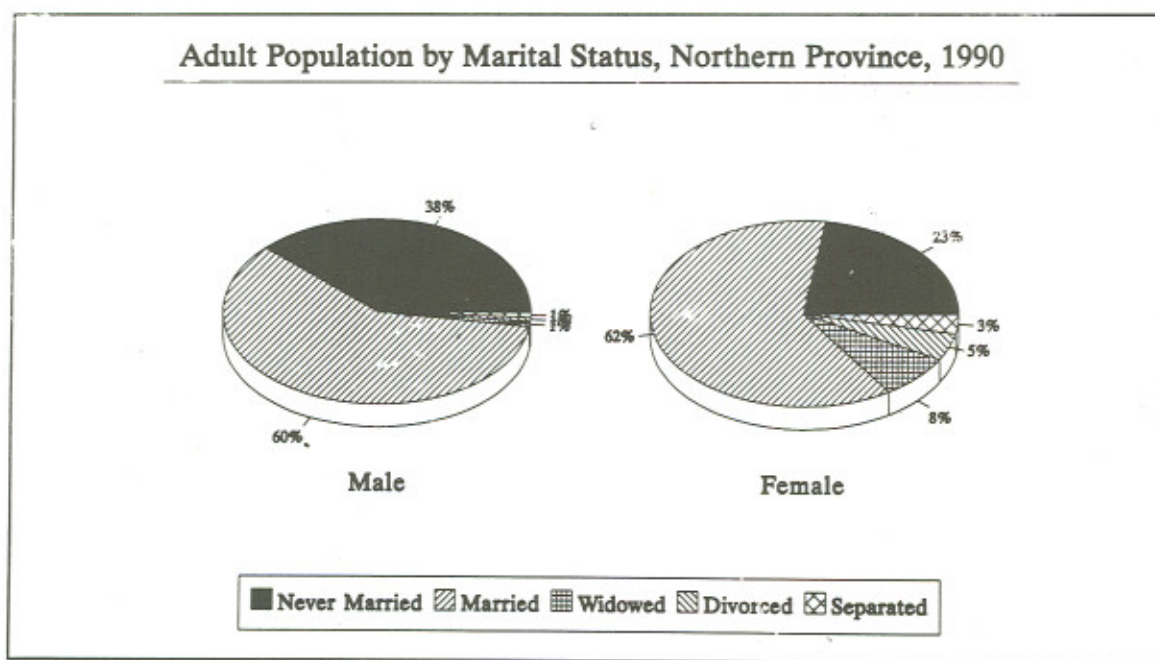
Adult Population Classified by Age, Sex and Marital Status, (Percent), Northern Province, 1990

Age Group	Never Married		Married		Widowed		Divorced		Separated		Total No of Cases	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
15 - 19	97.8	69.5	1.9	28.1	0.1	0.2	0.0	1.0	0.2	1.2	48,583	55,685
20 - 24	65.8	23.6	33.1	68.7	0.1	0.7	0.4	3.9	0.6	3.1	31,555	40,959
25 - 29	22.7	8.8	75.2	80.2	0.3	1.4	0.9	5.4	0.9	4.2	24,361	30,470
30 - 34	8.4	4.4	89.1	81.7	0.4	2.9	1.0	6.6	1.1	4.4	20,321	22,081
35 - 39	5.0	2.5	92.3	81.9	0.5	4.3	1.0	6.9	1.2	4.4	13,827	16,201
40 - 44	3.0	1.6	94.0	79.8	0.7	7.3	1.3	7.1	1.0	4.2	11,807	16,562
45 - 49	2.0	1.5	94.6	75.7	1.0	11.3	1.4	7.0	1.0	4.5	10,793	14,193
50 - 54	1.3	1.6	95.4	68.5	1.2	18.7	1.0	7.1	1.1	4.1	10,295	13,333
55+	1.1	2.5	93.1	48.4	3.5	39.3	1.2	6.2	1.1	3.6	31,561	27,244
Total	38.0	22.7	59.6	61.6	0.8	7.7	0.8	4.7	0.8	3.3		
Size	77,259	53,842	121,091	145,820	1,677	18,207	1,500	11,129	1,576	7,730	203,103	236,728

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

Observation of the table above reveals some important results. At age 45-49 years, only 2.0 percent of males and 1.5 percent of females had never been married before. At this age group the currently married are 94.6 and 75.7 percent for males and females, respectively. This result means that few persons in the province go through life up to age 49 years without getting married at some stage. This factor may be a catalyst for high fertility level. The percentages of divorced females are higher than those for males. The same trend is portrayed for the widowed and separated categories. See also Figure 8.1.

Figure 8.1





### Differences by Residence

The study of fertility variation by rural/urban residence is a widely used factor in fertility analysis. Tables 8.2 and 8.3 show marital status data for rural and urban areas of Northern Province.

Table 8.2

Adult Male Population by Age and Marital Status, Rural-Urban Areas, (Percent), Northern 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	97.6	98.9	2.1	0.9	0.1	0.0	0.0	0.0	0.2	0.2	40,925	7,658
20 - 24	63.5	79.3	35.4	19.8	0.1	0.1	0.4	0.3	0.6	0.5	26,914	4,641
25 - 29	20.7	35.3	77.3	62.8	0.2	0.3	0.9	0.8	0.9	1.1	20,861	3,500
30 - 34	7.3	10.5	89.5	86.8	0.4	0.4	1.0	1.2	1.2	1.0	16,922	3,399
35 - 39	5.1	4.4	92.2	93.0	0.5	0.4	1.0	0.9	1.2	0.9	11,161	2,666
40 - 44	3.2	2.2	93.8	94.7	0.7	0.7	1.2	1.5	1.1	0.8	9,655	2,152
45 - 49	2.1	1.3	94.5	95.0	1.1	0.4	1.4	1.7	0.9	1.3	9,141	1,652
50 - 54	1.2	2.1	95.6	93.8	1.2	0.9	0.9	1.6	1.1	1.6	9,073	1,222
55+	1.4	2.4	93.4	90.5	3.4	4.1	1.2	1.7	1.0	1.3	29,241	2,340
Total	36.5	44.9	60.7	53.0	0.9	0.6	0.7	0.8	0.8	0.7		
Size	64,126	13,133	105,624	15,487	1,506	171	1,279	221	1,358	218	173,893	29,230

Note: Total excludes married cases by Age and Marital Status.

The 'total' category in Table 8.2 shows that 36.9 percent of males in the rural areas have never been married before. The corresponding figure for urban males is 44.9 percent. This goes to show that the frequency at which males marry in the rural areas of Northern Province is higher than in urban areas. The marital characteristics pattern depicted in Table 8.2 is also evident in Table 8.3 which refers to the female population. In both rural and urban areas, more females than males are married. This may suggest a situation where some males are married to more than one female or and the presence of a number of females with husbands living outside Northern Province. Proportions of females who are widowed, divorced, and separated are also higher than those for males.

Table 8.3

Adult Female Population by Age and Marital Status, Rural-Urban Areas, (Percent), Northern 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	67.4	81.2	30.1	17.3	0.3	0.2	1.0	0.6	1.2	0.7	47,085	8,600
20 - 24	21.7	34.5	70.2	60.0	0.8	0.5	4.0	2.0	3.3	2.1	34,805	6,154
25 - 29	7.4	15.9	81.0	76.1	1.4	1.4	5.4	5.3	4.4	3.3	25,725	4,745
30 - 34	4.2	8.5	87.8	81.0	3.0	2.9	6.5	6.3	4.5	3.8	18,357	3,724
35 - 39	2.4	3.9	82.2	80.6	4.3	4.5	3.7	8.0	4.4	3.9	13,705	2,496
40 - 44	1.6	2.7	79.1	77.5	7.2	7.8	6.9	8.8	4.2	3.5	14,711	1,851
45 - 49	1.4	2.7	76.2	71.2	11.3	11.4	6.7	9.9	4.4	4.8	12,837	1,356
50 - 54	1.3	2.4	62.4	57.5	18.3	23.4	6.8	11.4	4.0	4.6	12,295	1,038
55+	2.4	4.4	49.2	38.4	38.9	44.2	6.0	8.6	3.5	4.0	25,291	1,953
Total	21.3	32.1	62.6	55.1	8.0	5.4	4.7	4.8	3.4	2.6		
Size	43,582	10,111	128,251	17,564	16,472	1,735	9,610	1,519	6,890	840	204,811	31,917

Note: Total excludes married cases by Age and Marital Status.

Marital characteristics of the population of Northern Province and its districts are presented in Table 8.4

Table 8.4

Adult Population (15 Years and Over) by Sex and Marital Status, Rural/Urban and Districts, (Percent), Northern Province, 1990

Province/District	Never Married		Married		Widowed		Divorced		Separated	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
<b>Northern Province</b>										
Total	38.0	22.7	59.6	61.6	0.8	7.7	0.8	4.7	0.8	3.3
Rural	36.9	21.3	60.7	62.6	0.9	8.0	0.7	4.7	0.8	3.4
Urban	44.9	32.1	53.0	55.1	0.6	5.4	0.8	4.8	0.7	2.6
<b>Districts</b>										
Chilubi	36.7	20.7	61.0	56.9	0.8	9.8	0.6	6.8	0.9	5.8
Chinsali	39.7	23.7	58.6	60.3	0.6	8.3	0.5	4.2	0.6	3.7
Isoka	38.3	22.4	59.8	66.1	0.8	7.1	0.5	2.4	0.5	2.0
Kaputa	34.0	19.7	62.1	65.1	1.0	5.4	1.5	6.7	1.4	3.2
Kasama	38.8	25.3	58.9	58.9	0.8	7.4	0.7	4.9	0.8	3.5
Luwingu	37.0	21.4	60.9	60.3	0.8	8.8	0.6	5.4	0.7	4.1
Mbala	36.4	19.9	60.8	66.3	1.0	7.2	0.8	3.9	1.0	2.8
Mpika	38.9	23.7	58.7	59.5	0.9	7.9	0.8	5.9	0.7	3.0
Mporokoso	40.4	24.7	57.4	58.0	0.8	8.9	0.8	5.1	0.5	3.4

The results in the table confirms the earlier observation that more females than males are married in the Province. This situation is reflected by the districts as well, except for Chilubi and Luwingu. Among the districts, proportions of married males range from 57.4 percent in Mporokoso to 62.1 percent in Kaputa. The proportions of married females in the districts range from 58.0 percent in Mporokoso to 66.3 percent in Mbala.

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

There are two particular characteristics of African marriages which have an important bearing on fertility. These are near-university of marriage and very early age at marriage especially for females. This is largely prevalent in the subsistence agricultural economy of the country. Age at marriage plays an important role in influencing the level of fertility. The lower the age at marriage, the higher the expected level of fertility and vice versa. The Singulate Mean Age at Marriage (SMAM) data for Northern Province and its districts are presented in Table 8.5.



Table 8.5

## Singulate Mean Age at Marriage Classified by Sex and Residence, Northern Province, 1990

Province and Districts	S M A M		
	Males	Females	Differences
Northern Province			
- Total	24.9	20.2	4.7
- Rural	24.7	19.9	4.8
- Urban	26.3	21.4	4.9
Districts			
Chilubi	25.5	20.0	5.5
Chinsali	25.0	20.4	4.6
Isoka	25.8	20.1	5.7
Kaputa	24.5	19.4	5.1
Kasama	25.5	20.8	4.7
Luwingu	24.7	20.2	4.5
Mbala	24.3	19.3	5.0
Mpika	25.1	20.4	4.7
Mporokoso	25.4	20.6	4.8

Males and females in the province marry at mean ages of 24.9 and 20.2 years, respectively. The information given in the table is in agreement with the general observation that males usually marry females who are on average younger than themselves. Males marry spouses who are about 5 years younger than themselves in Northern Province. However, the mean age at marriage of 20.2 years for females has implications for fertility. The remainder of the reproductive span up to age 49 years is large, meaning that the fertility level in the province may be high. In the districts of the province, the situation is the same.

*Singulate Mean Age at Marriage by Education*

The age at marriage is influenced by one's level of education. It is a generally held view that the longer one stays in school, the longer it takes one to marry. The value of SMAM for persons who stay long in school tends to be high. Information on this aspect is presented in Table 8.6.

Table 8.6

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

Residence	All Levels of Education	Level of Education		
		No Schooling	Primary	Secondary +
Eastern Province				
- Total	20.0	19.4	19.6	20.9
- Rural	19.8	19.4	19.5	21.1
- Urban	21.2	20.5	20.3	20.4
Districts				
Chilubi	19.8	19.8	19.5	*
Chinsali	20.2	19.8	19.7	21.7
Isoka	19.8	18.8	19.9	22.8
Kaputa	19.2	18.9	19.3	21.3
Kasama	20.6	20.1	19.0	21.1
Luwingu	20.0	20.2	19.4	22.5
Mbala	20.1	19.0	19.7	*
Mpika	20.2	19.6	19.9	21.8
Mporokoso	20.5	20.2	19.9	22.0

Note: \* Figures suppressed because of few cases.



An important feature which may be noticed from Table 8.6 is that for the urban areas of the province and, some of the district's SMAM for No Schooling category is higher than for primary school category. However, the differences are small and may be considered insignificant. Significant differences take root when females with secondary and higher level of education are taken into account. This is because this category of females stays longer at school.

#### 8.4 FERTILITY

There are various techniques of estimating fertility indices. In this Chapter, fertility measures of crude birth, general fertility, total fertility, gross reproduction and net reproduction rates have been used to indicate the fertility levels and fertility variations between the 1980 and 1990 Census data for Northern Province. Some of the techniques used in estimating fertility are the Brass P/F Ratio method and the Brass Relational Gompertz Model. For further clarifications on the application of these methods one may 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. The suitability of techniques to estimate fertility levels depends on the quality of data they are being applied to.

Data on Mean Number of Children Ever Born (MNCB) 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.

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

$$F(x) = F - A e^{-B^x},$$

Where

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

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

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

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

##### *Fertility Levels*

Table 8.7 presents a number of indices on the level of fertility. The results shown on the Crude Birth Rate (CBRs) suggest a rise in the birth rate in the 1980-90, intercensal period. The CBR is affected by the age and sex distribution of the population. For example, it is not every member of the population who is at risk of giving birth. It is for this reason that direct comparison of CBRs in 1980 and 1990 could lead to erroneous conclusions. Adjusted measures such as the Total Fertility Rate (TFR) are suitable to compare fertility between two periods.

Table 8.7

## Summary Fertility Measures, Northern Province, 1980 and 1990

Residence/District	Crude Birth Rate	Child Woman Ratio	General Fertility Rate	Total Fertility Rate	Gross Reproduction Rate	Net Reproduction Rate
<b>Northern Province</b>						
Total - 1980	40	856	184	7.7*	3.8	2.9
- 1990	48	735	204	7.5	3.7	2.4
Rural - 1980	40	847	185	7.8*	3.8	2.9
- 1990	49	745	208	7.7	3.8	2.5
Urban - 1980	40	896	180	7.6*	3.7	2.8
- 1990	44	679	178	6.9	3.4	2.2
<b>Districts - 1990</b>						
Chilubi	48	672	194	7.4	3.6	2.4
Chinsali	47	763	210	7.5	3.7	2.4
Isoka	48	713	198	7.8	3.8	2.5
Kaputa	49	745	204	7.9	3.9	2.6
Kasama	46	695	193	7.7	3.8	2.5
Luwingu	46	735	199	7.4	3.6	2.4
Mbala	51	801	216	8.0	3.9	2.6
Mpika	49	748	211	9.0	4.4	2.9
Mporokoso	48	738	213	7.3	3.6	2.4

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

Age-specific Fertility Rates (ASFR) relate the number of births to the number of females in each 5 year age group of the reproductive age period 15-49 years. They show the variability of female fertility in the different age groups, see Figure 8.2. The rates are usually presented in 5-year age groups for women aged 15-49 years. The (ASFRs) are used in the calculation of TFR. TFRs for Northern Province for 1990 are shown in Table 8.8.

Table 8.8

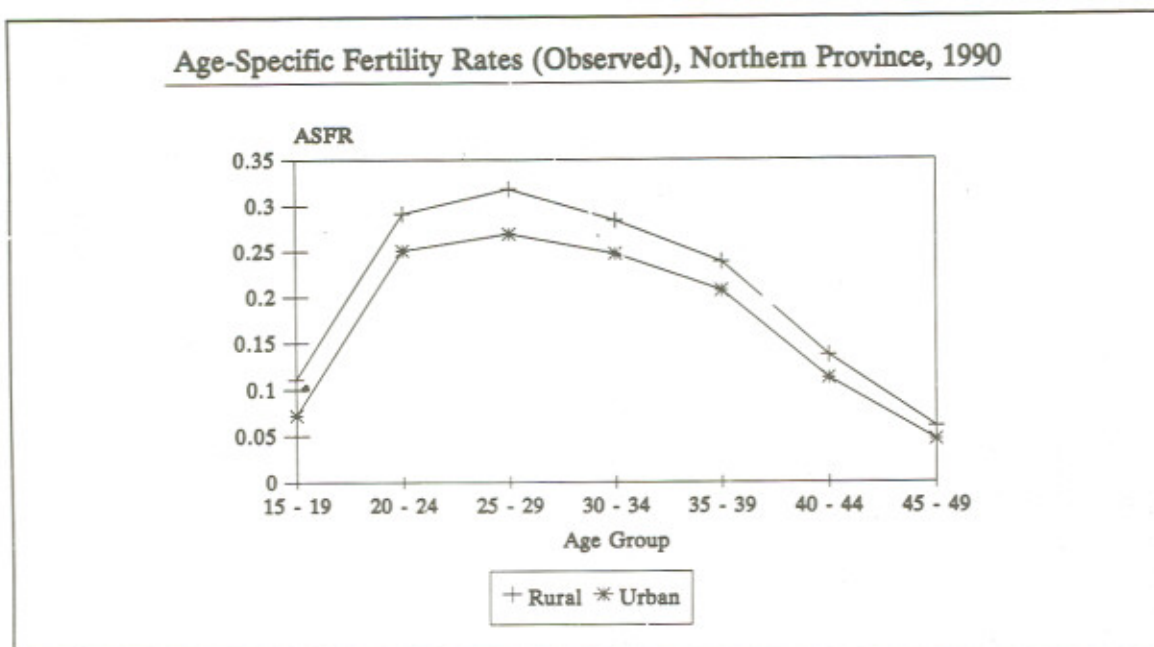
## Age-Specific Fertility Rates (ASFR), Northern Province, 1990

Age Group	Total			Rural			Urban		
	Total Women	Births	ASFR	Total Women	Births	ASFR	Total Women	Births	ASFR
15 - 19	57,818	6,075	0.1051	48,919	5,432	0.1110	8,899	643	0.0722
20 - 24	42,037	11,993	0.2853	35,702	10,402	0.2914	6,335	1,591	0.2511
25 - 29	30,985	9,622	0.3105	26,151	8,320	0.3182	4,834	1,302	0.2693
30 - 34	22,372	6,219	0.2775	18,591	5,283	0.2842	3,781	936	0.2476
35 - 39	16,382	3,830	0.2338	13,857	3,307	0.2386	2,525	523	0.2071
39 - 44	16,738	2,244	0.1341	14,865	2,034	0.1368	1,873	210	0.1121
45 - 49	14,345	837	0.0583	12,959	774	0.0597	1,386	63	0.0454
Total	205,677	40,820	1.4046	171,044	35,552	1.4399	29,633	5,268	1.2048
Observed TFR			7.0			7.2			6.0
Adjusted TFR			7.5			7.7			6.9
Mean age at Child bearing			30.2			30.1			30.3



Observed TFRs in Table 8.8 show 7.0, 7.2 and 6.0 children per female for the whole province, rural areas and urban areas, respectively. These observed TFRs have been adjusted and are presented in Tables 8.7 and 8.8. The observed TFRs were adjusted using the Brass Relational Gompertz Model. The adjusted TFRs are 7.5 for the whole province, 7.7 for rural areas and 6.9 for urban areas.

Figure 8.2



The same fertility pattern shown by TFRs is shown by the Gross Reproduction Rate (GRR) and the Net Reproduction Rate (NRR). The NRRs are shown in Table 8.9.

Table 8.9

Net Reproduction Rate (NRR), Northern Province, 1990

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	2,780	0.0481	2,473	0.0506	307	0.0345
20 - 24	5,442	0.1294	4,692	0.1314	750	0.1184
25 - 29	4,282	0.1382	3,688	0.1410	594	0.1229
30 - 34	2,747	0.1228	2,310	0.1242	437	0.1156
35 - 39	1,745	0.1065	1,510	0.1090	235	0.0931
40 - 44	994	0.0594	892	0.0600	102	0.0544
45 - 49	354	0.0247	323	0.0249	31	0.0224
Total	18,344	0.6291	15,883	0.6411	2,456	0.5613
Observed NRR		3.1		3.2		2.8
Adjusted NRR		2.4		2.5		2.2

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



The adjusted NRRs are shown as 2.4 for the Province, 2.5 rural and 2.2 daughters per female for urban areas of the Province. This measure takes into consideration the prevailing fertility and mortality situation. The result may be viewed as the number of daughters who would live to the ages of the mothers to replace them.

Another fertility measure discussed in the Chapter is Children Ever Born (CEB). The measure CEB is defined as the number of children ever born to a group of females of a given age during their child-bearing experience beginning from onset of reproductive life to the current ages.

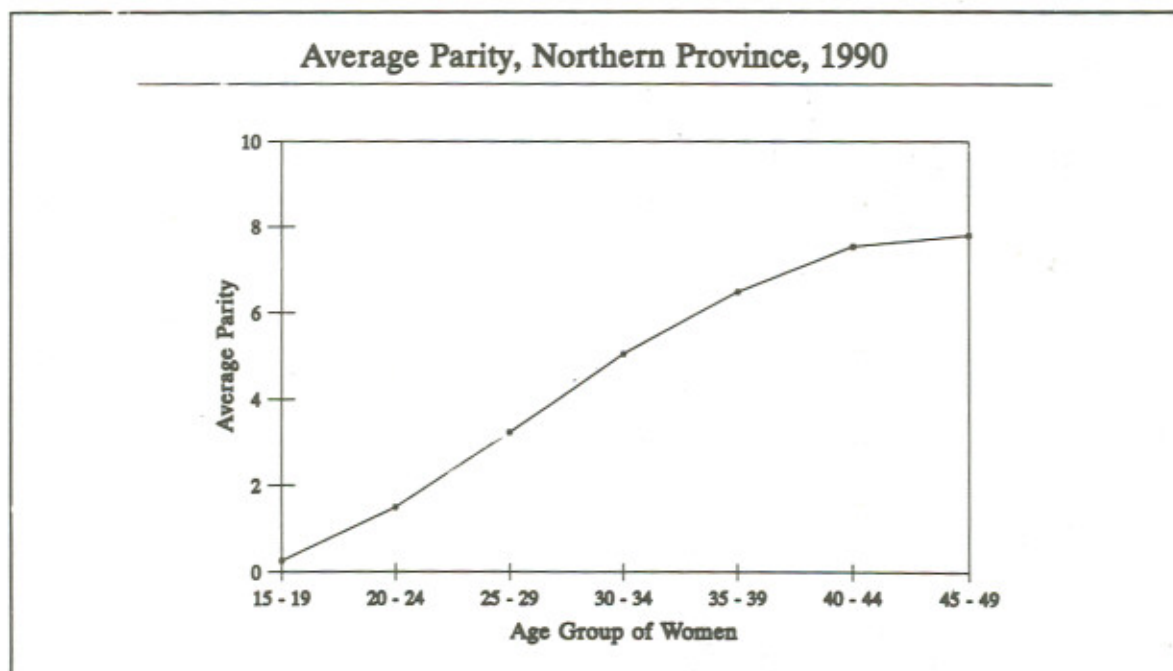
The number of children ever born to females in an age group divided by the number of females in the same age group yields average parity (Mean CEB). The average parity for the age group 45-49 years is also referred to as Completed Family Size and likened to TFR under constant fertility, mortality and migration experiences. Table 8.10 below presents data on CEB and Mean CEB. The completed family size (average parity corresponding to age group 45-49 years) is 7.8 children per female. Average parities are also shown in Figure 8.3.

Table 8.10

Average Parity, (Observed), Northern Province, 1990

Age Group	Total Women	Children Ever Born	Average Parity Reported
15 - 19	57,818	14,789	0.2558
20 - 24	42,037	62,874	1.4957
25 - 29	30,985	99,932	3.2252
30 - 34	22,372	112,792	5.0416
35 - 39	16,382	106,321	6.4901
40 - 44	16,738	126,046	7.5305
45 - 49	14,345	111,813	7.7946

Figure 8.3



### *Time Trend*

The fertility level in Northern Province of TFR of 7.5 children per woman is high. There is an insignificant fall from TFR of 7.7 children per woman estimated from the 1980 Census data. This shows that fertility in the province has remained high in the 1980-90 intercensal period. However, indications are that the urban part of the province is heading towards a fertility decline as evidenced by a drop in TFR from 7.6 in 1980 to 6.9 children per woman in 1990.

## **8.5 FERTILITY DIFFERENCES**

Fertility tends to differ according to socio-economic groups. The socio-economic factors discussed in this chapter are rural-urban, district and educational differences.

### *Rural-Urban Differences*

Residence is broadly defined as referring to rural and urban areas. An individual is regarded as a resident in a rural or urban area if he/she was enumerated in the area regardless of length of stay in that area. The fertility level in the rural areas of Northern Province is higher than in the urban areas. TFRs are 7.7 and 6.9 children per woman for rural and urban areas, respectively.

### *District Differences*

The fertility level is high for all districts in Northern Province. TFR varies from 7.3 in Mporokoso to 9.0 children per woman in Mpika. On this basis the province may be considered a high fertility one.

### *Educational Differences*

Table 8.11 presents data on completed family size by level of education of women.

**Table 8.11**

**Completed Family Sizes by Level of Education of Women, Northern Province 1990**

	No Education	Primary	Secondary	Higher
Northern Province				
Total	7.5	8.2	6.6	2.7
Rural	7.5	8.2	6.6	3.2
Urban	7.4	8.0	6.5	3.8

Completed Family Size (CFS) is based on the age group 45-49 years.

It is a general observation that there is an inverse relationship between the level of fertility and the level of education completed by females. The general pattern is that the higher the level of education completed by females, the lower the expected level of fertility. This is largely attributed to two factors: women who stay longer in school marry late reducing their reproductive span; and secondly, it is held that women who are highly educated are more receptive to modern contraceptives and may be in a better position to limit the number of children they would give birth to.

The inverse relationship has held for Northern Province, only when one begins the observation from primary to higher levels of education. The inverse relationship between the level of education completed and the number of children women give birth to does not hold for women with primary level of education. They have a higher level of fertility compared to women with no education. The implication is that females need to be educated to at least secondary level for their fertility to decline.

## 8.6 SUMMARY

Marriage in Northern Province is widespread. At age 45-49 years, only 2.0 percent of males and 1.5 percent of females had never been married. This is coupled with early age at marriage, especially for females. SMAM for males is 24.9 years while that for females is 20.2 years.

The fertility level in the province has marginally declined as evidenced by TFR of 7.7 in 1980 and 7.5 children per woman in 1990. The drop is small, and fertility level may still be viewed as high.

Observation of the data on females by completed family size with reference to the level of education completed has shown that females with no education exhibit lower fertility compared to females with primary level of education. When observed from primary to higher, the higher the educational level completed, the lower the completed family size. The implication is that education of women becomes more effective in depressing the level of fertility if they complete at least secondary school.



## CHAPTER 9

# MORTALITY

### 9.1. INTRODUCTION

Direct estimation of mortality levels using 1990 Census data is not possible because it is generally difficult to collect data on deaths by age. As such, the analysis of mortality is done using indirect methods of estimation. The Brass Method employed here uses information on children ever born and surviving by age of mothers. 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  $x$ ,

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

$l_{(x)} = 1 - q_{(x)}$  where  $l_{(x)}$  is probability of surviving between exact age  $x$  and  $x + 1$

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 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 is used in analysing mortality is derived from the following:-

- Deaths in household by sex,
- Children still alive by sex,
- Children who died by sex,
- Females 12 years and over by age.

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.

#### *Infant Mortality Rate (IMR)*

Refers to the rate at which persons aged below 1 year die. Infant mortality refers to deaths of live-born babies who have not reached 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 the 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 population.

### *Expectation of Life at Birth*

The average number of years that a child below one year is expected to live before it dies, if the current existing mortality conditions were to prevail for a long time.

## **9.3 CRUDE DEATH RATE (CDR)**

Table 9.1 shows the observed and adjusted crude death rates for Northern Province estimated from the 1980 Census and 1990 Census data. The observed 1990 Census Crude Death Rates are twice the adjusted rates. It is most likely that respondents might have included deaths that might have occurred 2 or more years prior to the 1990 Census date. This usually happens when dates of such events were not collected in the questionnaire.

Table 9.1

Crude Death Rate by Sex, Northern Province, 1980 and 1990

Sex	Observed in 1990		Adjusted CDR	
	Deaths	CDR	1980	1990
Eastern Province				
- Total	36,024	42.1	15.3	20.0
- Male	19,141	46.3	16.0	20.9
- Female	16,883	38.2	14.5	19.0

Note: (1) Used Coale and Demeny North Model Life Tables, levels 11.5 (males) and 11.3 (females) for the 1990 Census. In the case of 1980 Census, levels 14.4 (males) and 14.9 (females) are used.

(2) Used a sex ratio of 103 males per 100 females to estimate for the total crude death rate.

Using mortality levels 11.5 for males and 11.3 for females, the 1990 Census Crude Death Rate is estimated at 20 deaths per 1000 population. The 1980 Census Crude Death Rate was estimated at 15.3 deaths per 1000 population. Estimated Crude Death Rates for males and females for 1990 Census are 20.9 and 19.0 deaths per 1000 population, respectively. Corresponding Crude Death Rates for males and females for 1980 Census were 16.0 and 14.5 deaths per 1000 population, respectively.



## 9.4 PERIOD MEASURES

Mortality rates that are estimated from the 1990 Census data are infant, child, under-five mortality rates and expectation of life at each age. In the absence of a direct question on age of the deceased, estimations are made using the North Model-Life Tables system. Information on children ever born and surviving are used to estimate probabilities of dying ( $q_{(x)}$ ) for both 1980 and 1990 Censuses at exact ages, 1, 2, 3, 5, 10, 15 and 20. The complement of the probabilities of dying are the probabilities of surviving ( $l_{(x)} = 1 - q_{(x)}$ ). Using probabilities of surviving, mortality levels for both males and females are estimated. The computer software package used is that developed by the United Nations (UN) called the "Mortpak-Lite." Reference dates are included in the estimation of probabilities of dying and child mortality rates.

Table 9.2

Estimates of Probabilities of Dying and Surviving by Sex, Implied Mortality Levels and Reference Dates, Coale-Demeney North Model, Northern Province, 1990

Age Group	Age (x)	Probabilities of Dying, $q_{(x)}$ and of Surviving, $l_{(x)}$				Mortality Levels		Reference Date	
		Male		Female		Male	Female	Male	Female
		$q_{(x)}$	$l_{(x)}$	$q_{(x)}$	$l_{(x)}$				
15-19	1	.162	.838	.144	.856	10.3	9.9	1988.5	1988.5
20-24	2	.184	.816	.164	.836	11.5	11.3	1987.3	1987.3
25-29	3	.189	.811	.169	.831	12.4	12.0	1985.7	1985.7
30-34	5	.197	.803	.177	.823	13.3	13.2	1983.7	1983.6
35-39	10	.211	.789	.196	.804	13.9	13.6	1981.5	1981.4
40-44	15	.232	.768	.219	.781	13.6	13.3	1978.8	1978.5
45-49	20	.354	.646	.082	.918	10.0	19.9	1975.4	1975.1

Note: Estimates are based on Trussell's Coefficients and the Reference Date of the 1990 Census is 25th August, 1990.

Reliable mortality estimates are derived from the probability of dying at age 2 ( $q_2$ ). Thus, the plausible mortality levels for males and females derived from the 1990 Census in Northern Province are 11.5 and 11.3, respectively. Corresponding mortality levels from the 1980 Census were 14.4 and 14.9 for males and females, respectively. Generally, mortality levels derived from the 1980 Census were much higher than those from the 1990 Census implying lower child mortality rates in 1980.

Table 9.3

Estimates of Probabilities of Dying and Surviving by Sex, Implied Mortality Levels and Reference Dates, Coale-Demeney North Model, Northern Province, 1980

Age Group	Age (x)	Probabilities of Dying, $q_{(x)}$ and of Surviving, $l_{(x)}$				Mortality Levels		Reference Date	
		Male		Female		Male	Female	Male	Female
		$q_{(x)}$	$l_{(x)}$	$q_{(x)}$	$l_{(x)}$				
15-19	1	.115	.885	.119	.881	13.8	11.8	1978.5	1978.6
20-24	2	.135	.865	.109	.891	14.4	14.9	1977.3	1977.4
25-29	3	.151	.849	.129	.871	14.4	14.6	1975.8	1975.8
30-34	5	.177	.823	.187	.813	14.2	12.7	1973.7	1973.6
35-39	10	.212	.788	.235	.765	13.8	12.1	1971.3	1971.2
40-44	15	.256	.744	.276	.724	12.7	11.2	1968.5	1968.3
45-49	20	.255	.745	.259	.741	13.5	12.5	1965.1	1964.8

Note: Estimates are based on Trussell's coefficients and the Reference Date of the 1980 Census is 20th August, 1980.



Results presented in Tables 9.2 and 9.3 show high chances of child survival in 1980 as compared to 1990. The values of  $q_{(x)}$ 's and  $l_{(x)}$ 's suggest an increasing trend in child mortality.

#### *Infant Mortality Rate (IMR)*

Recent estimates of infant mortality rate (IMR) in Northern Province indicate an upward swing during the 1980-1990 intercensal period. Results from the 1980 Census gave an estimated IMR of 103.7 deaths as compared to 137 deaths in 1990. The corresponding IMR for males and females in 1990 are 144.3 and 129.0 deaths, respectively. In 1980, male and female rates were 108.3 and 98.3 deaths, respectively. Infant mortality rates found in the 5-9 and 10-14 years preceding the 1990 Census were lower than 110 deaths per 1000 children aged below 1 year. The corresponding rates derived from the 1980 Census 5-9 and 10-14 years prior to the Census fell between 110 and 125 deaths per 1000 children aged below 1 year (see Table 9.4). Additionally, infant mortality rates for male children were higher than for female children.

Table 9.4

Infant and Child Mortality Rates by Five Year Period Preceding the Census, Northern Province, 1980 and 1990

Years Preceding Census	Infant Mortality ( ${}_1q_0$ )		Child Mortality ( ${}_5q_1$ )		Under-Five Mortality ( ${}_5q_0$ )	
	1980	1990	1980	1990	1980	1990
Northern Province - Total						
0-4	103.7	137.0	75.3	108.0	126.7	169.0
5-9	113.5	109.0	85.0	81.0	204.0	195.5
10-14	123.0	108.5	94.5	80.5	264.0	233.0
Sex of Child - Male						
0-4	108.3	144.3	80.0	116.0	133.7	178.3
5-9	108.5	114.0	80.5	85.5	194.5	204.0
10-14	118.5	136.5	90.5	108.0	255.5	293.0
- Female						
0-4	98.3	129.0	70.3	100.3	119.0	159.0
5-9	116.5	105.0	88.5	76.0	211.0	186.5
10-14	124.5	106.0	96.0	78.0	267.5	219.0

Male infant mortality rates derived from the 1990 Census data fall between 110 to 140 deaths per 1000 children aged below 1 year. Female infant mortality rates fall between 100 to 110 deaths from the 1990 Census. The 1980 Census rates fell between 105 and 120 deaths for male children. The female infant mortality rates in 1980 fell between 115 and 125 deaths per 1000 children aged below 1 year. An increase of infant mortality rate in Northern Province is a new phenomenon that started from 1986 up until now.

#### *Child Mortality Rate (CMR)*

Child mortality rate (CMR) is lower than infant mortality rate due to reduced effects of endogenous factors on children. In the recent past, 0-4 years prior to the 1990 Census, child mortality rate was 108 deaths per 1000 children aged 1-4 years. Male and female rates were 116 and 100.3 deaths per 1,000 children aged 1-4 years, respectively. In the periods 5-9 and 10-14 years prior to the 1990 Census, child mortality rates were lower than 100 deaths per 1,000 children aged 1-4 years. Child mortality rates for females were much lower than those of male children. Results from the 1980 Census show that an overall child mortality rate had declined from 94.5 deaths in the 10-14 years to 75.3 deaths in the 0-4 years prior to the 1980 Census. The child mortality rate had declined from 90.5 deaths in the 10-14 years to 80.0 deaths in the 0-4 years prior to the 1980 Census. In the case of female children, child mortality rate declined from 96 deaths in the 10-14 years to 70.3 deaths in the 0-4 years prior to the 1980 Census.



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

The UMR is an overall mortality rate affecting all children aged below 5 years. As a result, values are higher than those of infant and child mortality rates. Generally, under-five mortality rates had declined substantially from 233 deaths in the 10-14 years to 169 deaths in the 0-4 years prior to the 1990 Census. Male under-five mortality rate declined from 293 deaths in the 10-14 years to 178.3 deaths in the 0-4 years prior to the 1990 Census. Female under-five mortality rate declined from 219 in the period 10-14 years to 159 deaths in the 0-4 years prior to the 1990 Census. Refer to Table 9.4 for more details.

The 1980 Census gave similar declines for total, male and female under-five mortality rates. Overall, the under-five mortality rate had declined from 264 deaths in the period 10-14 years to 126.7 deaths in the 0-4 years prior to the 1980 Census. Under-five mortality rate for males declined from 255.5 deaths in the 10-14 years to 133.7 deaths in the 0-4 years prior to 1980 Census date. Female under-five mortality rate declined from 267.5 deaths in the 10-14 years to 119 deaths in the 0-4 years prior to the 1980 Census. For more details refer to Table 9.4.

## **9.5 MORTALITY BY SELECTED BACKGROUND CHARACTERISTICS**

There are differences that exist in infant and child mortality rates of children of mothers with different socio-economic backgrounds are considered. In this report, background characteristics of residence, sex of child, education, marital status, economic and agricultural status of women are considered. Infant, child and under-five mortality rates by the mentioned economic status groups of women are presented in Table 9.5.

### *Infant Mortality Rate (IMR)*

Children in Northern Province now experience a high infant mortality rate of 137 deaths per 1000 live births. This represents an increase of 32.1 percent from the previous rate of 103.7 deaths in 1980. Male and female infant mortality rates derived from 1990 Census are 144.3 and 129.0 deaths per 1000 live births, respectively. Percentage increases of 33.2 and 31.2 percent were recorded between 1980-1990 intercensal period for males and females, respectively. Rural and urban areas recorded infant mortality rates of 138 and 120.3 deaths per 1000 live births in 1990. Corresponding rates in 1980 were 105.3 and 98.7 deaths per 1000 live births for rural and urban areas, respectively. The probability of a child in urban areas surviving is higher than that of a child in rural areas surviving.

All the districts in Northern Province recorded high infant mortality rates in 1990 except Mporokoso with an infant mortality rate of 94.3 deaths per 1000 live births. Infant mortality rates in 1990 for the remaining 8 districts range from 119.3 deaths in Mpika District to 172 deaths in Chilubi District. Substantial increases in infant mortality rates of above 50 percent, during the 1980-1990 intercensal period were recorded in Chilubi (54.9 percent), Mbala (50.2 percent) and Mpika (68 percent).

Education of mothers is important in the establishment of the causal links in increases of infant mortality rate in Northern Province. In many instances, education of mothers does influence the health of children through preparation of nutritious foods, childspacing, cleaning of environment, etc. Information on infant mortality rate shown in Table 9.5 point to the effect that the rate reduces as the mothers progress in school. In 1990, children born to mothers without education experienced an infant mortality rate of 145.7 deaths while it was 136 deaths per 1000 live births for children born to mothers with primary education. Children born to mothers with secondary education level or above experienced an infant mortality rate of 93 deaths per 1000 live births. Corresponding rates derived from the 1980 Census data were 126.0 deaths (without education), 136 deaths (primary) and 63 deaths (secondary level or above).

The infant mortality rate of children born to mothers of all marital status categories has increased except for children born to mothers who have never married. Children born to widowed females experienced the highest infant mortality rate of 128.7 deaths followed by "married" category with 113.5 deaths per 1,000 live births. The same infant mortality rate pattern is exhibited from 1980 Census data for Northern Province. Refer to Tables 9.5 for more details,

Provision of adequate nutritious food, housing, clean water and sanitation facilities at household level helps in reducing infant mortality. However, all economic status categories have infant mortality rates of above 100 deaths per 1000 live births. Low infant mortality rates were recorded for children of females who are working (102 deaths) and children of full-time housewives (104.7 deaths). Categories that recorded relatively high infant mortality rates are the "not available for work", "unpaid family worker" and "unemployed". Similarly, children born to females in the agriculture sector experienced an infant mortality rate of 122 deaths as compared to 116.7 deaths per 1000 live births for children born to 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, Northern Province, 1980 and 1990

Background Characteristic	Infant Mortality ( $_5q_0$ )			Child Mortality ( $_5q_1$ )			Under-Five Mortality ( $_5q_5$ )		
	1980	1990	Percent Change	1980	1990	Percent Change	1980	1990	Percent Change
Northern Province - Total	103.7	137.0	32.1	75.3	108.0	43.4	126.7	169.0	33.4
Sex of Child									
Male	108.3	144.3	33.2	80.0	116.0	45.0	133.7	178.3	33.3
Female	98.3	129.0	31.2	70.3	100.3	42.7	119.0	159.0	33.6
Residence									
Rural	105.3	138.0	31.1	77.3	109.7	41.9	129.0	171.7	33.1
Urban	98.7	120.3	21.9	70.3	91.7	30.4	120.0	145.3	21.1
District									
Chilubi	111.0	172.0	54.9	82.7	142.3	72.1	138.3	214.0	54.7
Chinsale	120.3	122.7	2.0	91.1	94.0	3.0	150.3	150.7	0.3
Isoka	121.7	152.3	25.1	93.0	123.7	33.0	143.0	189.3	32.4
Kaputa	139.3	162.7	16.8	110.7	133.3	20.4	172.7	200.3	15.9
Kasinda	101.3	123.0	21.4	73.1	94.0	28.2	120.7	151.0	25.1
Lowings	100.0	128.3	28.3	72.0	100.0	38.9	126.3	160.7	27.2
Mbala	103.0	154.7	50.2	74.7	126.0	68.7	125.7	190.0	51.1
Mpika	71.0	119.3	68.0	44.0	90.7	106.1	87.0	147.3	69.3
Mporokoso	118.0	94.3	-20.1	90.0	66.3	-26.3	135.0	116.7	-13.6
Education									
None	126.0	145.7	15.6	97.5	116.7	19.7	146.0	181.7	24.4
Primary	102.3	136.0	32.9	74.0	107.0	44.6	124.3	166.7	34.1
Secondary	63.0	93.0	47.6	37.0	65.0	75.7	81.5	113.0	38.6
Marital Status									
Never Married	123.0	94.0	-23.6	94.7	66.5	-29.8	142.0	129.0	-9.2
Married	89.0	113.5	27.5	61.5	85.0	27.6	121.0	156.0	28.9
Separated	84.5 <sup>S</sup>	107.0	26.6	57.0 <sup>S</sup>	78.5	23.4	115.5 <sup>S</sup>	147.5	27.7
Divorced	-	112.0	-	-	84.0	-	-	155.5	-
Widowed	124.5	128.7	3.4	95.5	100.0	4.7	167.5	165.3	-1.3
Economic Activity									
Working	95.3 <sup>*</sup>	102.0	7.0	67.7 <sup>*</sup>	74.0	9.3	115.0 <sup>*</sup>	127.7	11.0
Unpaid Family Worker	-	127.7	-	-	98.7	-	-	158.7	-
Unemployed	170.0 <sup>#</sup>	125.3	-26.3	141.0 <sup>#</sup>	96.7	-31.4	251.0 <sup>#</sup>	157.0	-37.4
Full-Time Housewife	90.5	104.7	15.7	62.5	76.7	22.7	122.5	134.0	9.4
Not Available for Work	-	138.7	-	-	110.0	-	-	174.7	-
Sector of Agriculture									
Agricultural Sector	-	122.0	-	-	93.3	-	-	152.3	-
Non-Agricultural Sector	-	116.7	-	-	88.0	-	-	142.0	-

Note: \* = Includes female unpaid family workers  
 # = Includes females not seeking work and those not available for work  
 S = Includes divorced females  
 - = Not Available



### *Child Mortality Rate (CMR)*

Northern Province experienced a child mortality rate of 108 deaths in 1990. The 1980 Census child mortality rate was 75.3 deaths per 1000 children aged 1-4 years. This represents an increase of 43.4 percent over the 1980-1990 intercensal period. The child mortality rate for males increased from 80 deaths in 1980 to 116 deaths per 1000 children in 1990. The rate for females increased from 70.3 deaths in 1980 to 100.3 deaths in 1990. Rural and urban areas recorded child mortality rates of 109.7 and 91.7 deaths, respectively. Even in 1980, urban areas recorded a lower child mortality rate as compared to rural areas (see Table 9.5).

Districts that recorded high child mortality rate of above 100 deaths in 1990 are Chilubi (142.3 deaths), Isoka (123.7 deaths), Kaputa (133.3 deaths) and Mbala (126 deaths). Chinsali, Kasama, Luwingu, Mpika and Mporokoso recorded child mortality rates that ranged between 66 and 100 deaths per 1000 children aged 1-4 years. Information derived from the 1980 Census data has shown that lower child mortality rates of below 100 deaths were recorded in all districts of Northern Province with an exception of Kaputa District which had a rate of 110.7 deaths per 1,000 children aged 1-4 years (see Table 9.5).

Education categories that recorded child mortality rates of above 100 deaths in 1990 are "none" and "primary" with 116.7 and 107.0 deaths, respectively. The category of "secondary or above" education level recorded the lowest child mortality rate of 65.0 deaths per 1,000 children aged 1-4 years.

All the marital status categories recorded child mortality rates of below 90 deaths with an exception of "widowed" with a child mortality rate of 100 deaths per 1,000 children aged 1-4 years. A negative percentage increase was recorded only with "never married" status category. The remaining marital status categories recorded positive percentage increases. In 1980, all the marital status categories recorded child mortality rates of below 100 deaths, per 1000 children aged 1-4 years (see Table 9.5).

Child mortality rates derived from the 1990 Census for the various economic status categories fall below 100 deaths per 1,000 children aged 1-4 years. An exception is that of "not available for work" economic status category having a child mortality rate of 110 deaths per 1,000 children aged 1-4 years. Agriculture sector experienced a child mortality rate of 93.3 deaths while the non-agriculture sector had 88 deaths per 1,000 children aged 1-4 years. Refer to Table 9.5 for more details.

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

The 1990 Census results have shown that the under-five mortality rate has increased from 126.7 deaths in 1980 to 169 deaths in 1990. This represents an increase of 33.4 percent of under-five mortality rate between the 1980-1990 intercensal period. Rates for male and female children increased by the same percentage margin during the 1980-1990 intercensal period. In 1990, the male and female under-five mortality rates were 178.3 and 159.0 deaths per 1,000 children aged less than 5 years, respectively. Rural and urban areas recorded under-five mortality rates of 171.7 and 145.3 deaths per 1,000 children aged less than 5 years, respectively. Rural areas recorded the highest percentage increase of 33.1 percent while the urban areas had 21.1 percent. All the districts recorded percentage increases of above 25 percent in under-five mortality rates except Chinsali (0.3 percent), Kaputa (15.9 percent) and Mporokoso (-13.6 percent). Highest 1990 Census under-five mortality rates were recorded in Chilubi (214 deaths), Kaputa (200.3 deaths), Mbala (190.0 deaths) and Isoka (189.3 deaths). In 1980, only one district that recorded under-five mortality rate of above 170 deaths per 1,000 children aged below 5 years was Kaputa with 172.7 deaths per 1,000 children aged below 5 years. Kaputa District was followed by Chinsali District which recorded an under-five mortality rate of 150.3 deaths per 1,000 children aged below 5 years. The lowest under-five mortality rate was recorded in Mpika District which had 87.0 deaths per 1000 children aged below 5 years. Refer to Table 9.5 for details on percentage increases in under-five mortality rates in the 1980-1990 intercensal period.

The 1990 Census results have also shown that under-five mortality rate reduces as the females education level improve. Females who had no formal education had children who experienced an under-five mortality rate of 181.7 while children of females with primary and secondary education or over recorded under-five mortality rates in 1990 of 166.7 and 113.0 deaths per 1,000 children aged below 5 years, respectively. In 1980, "none" and "primary" level categories had under-five mortality rates of 146 and 124.3 deaths per 1,000 children aged less than 5 years.

#### *Expectation of Life at Birth*

The 1980 and 1990 Censuses have shown that expectation of life at birth has reduced in Northern Province from 51 years in 1980 to 44.2 years in 1990. Similarly, mortality level reduced from 14.0 in 1980 to 11.3 in 1990. A similar reduction pattern is observed in all socio-economic groups during the 1980 and 1990 intercensal period. Male expectation of life at birth reduced from 49.9 years in 1980 to 42.9 years in 1990. In the case of female children the expectation of life at birth reduced from 52.2 years in 1980 to 45.7 years in 1990. The expectation of life at birth in 1990 for rural and urban areas are 43.9 and 47.6 years, respectively. Corresponding expectation of life at birth in 1980 were 50.6 and 52.1 years for rural and urban areas, respectively.

All the districts in Northern Province recorded expectation of life at birth of above 40 years, except Chilubi and Kaputa districts with 38.2 and 39.7 years, respectively. Children in Mporokoso District have greater chances of reaching adulthood as demonstrated by an expectation of life at birth of 52.9 years in 1990. Mpika District is second with an expectation of life at birth of 47.6 years. Chinsali District is third with an expectation of life at birth of 47.0 years. In 1980, only Kaputa District had an expectation of life at birth of less than 45 years. The highest expectation of life at birth in 1980 was recorded in Mpika District with 60.6 years. Refer to Table 9.6 for details on the distribution of expectation of life at birth by socio-economic groups.



Table 9.6

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

Background Characteristics	Expectation of Life at Birth (e <sub>0</sub> )		Mortality Level	
	1980	1990	1980	1990
<b>Northern Province - Total</b>				
<b>Sex of Child</b>	51.0	44.2	14.0	11.3
Male				
Female	49.9	42.9	14.2	11.4
<b>Residence</b>	52.2	45.7	13.8	11.1
Rural				
Urban	50.6	43.9	14.0	11.3
<b>District</b>	52.1	47.6	14.8	13.1
Chilubi				
Chinsali	49.7	38.2	13.6	9.2
Isoka	47.5	47.0	12.8	12.8
Kaputa	47.8	41.4	13.3	10.5
Kasama	43.8	39.7	11.5	9.9
Luwingu	51.6	46.9	14.7	12.8
Mbala	52.1	45.8	14.4	12.2
Mpika	51.1	41.1	14.4	10.5
Mporokoso	60.6	47.6	17.1	13.0
	54.1	52.9	13.8	15.0
<b>Education</b>				
None				
Primary	46.3	42.5	13.1	10.9
Secondary +	51.3	44.4	14.5	11.8
	61.8	53.4	17.5	15.3
<b>Marital Status</b>				
Never Married				
Married	55.9	55.5	13.3	14.2
Separated	54.1	53.4	14.7	12.5
Divorced	55.6 <sup>\$</sup>	50.4	15.1 <sup>\$</sup>	13.0
Widowed	-	49.2	-	12.5
	47.1	45.9	11.8	11.9
<b>Economic Activity</b>				
Working	52.9*	51.2	15.1*	14.3
Unpaid Family Worker	-	46.0	-	12.3
Unemployed	56.0 <sup>#</sup>	46.5	7.4 <sup>#</sup>	12.4
Full-Time Housewife	56.6	50.9	14.6	13.8
Not Available for Work	-	43.9	-	11.3
<b>Sector of Agriculture</b>				
Agricultural Sector	-	47.2	-	11.3
Non-Agricultural Sector	-	48.3	-	13.3

Note: \$ = Includes "divorce" category.  
 \* = Includes female unpaid family workers  
 # = Includes females not seeking work and not available for work

Standards of living of children born to females with secondary education or above are better than those of their fellow counterparts born to mothers who are uneducated or with primary education. The same is true from both the 1980 and 1990 Census data. The category of "secondary or above" has an expectation of life at birth of 53.4 years in 1990. The category of "primary" has an expectation of life at birth of 44.4 years. The category of "none" has the least expectation of life at birth of 42.5 years.



## 9.7 ADULT MORTALITY

Information on deaths was collected during the 1990 Census. However, the ages and dates when they died were not included. As a result, it is not possible to find age-sex specific observed death rates that can help in estimating adult mortality pattern in Northern Province. Considering that in the 1990 Census questions on children ever born and surviving were included, it is possible to estimate the male and female model life tables using some selected input parameters such as expectation of life at birth by sex, etc. Here, Mortpak - Lite Computer software package developed by the United Nations (UN) is used to derive the North Model Life Tables for males and females. The input parameter used is the expectation of life at birth for males (42.9 years) and females (45.7 years),

The generated life table columns are as follows:-

${}_n m_x$  = Central death rates between 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 ages  $x$ ,

${}_n D_x$  = 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  $x$ ,

${}^o e_x$  = Expectation of life at age  $x$  or the average number of years a person aged  $x$  has to live.

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

The Ministry of Youth, Sport and Child Development classifies persons aged 15-24 years as "youths". Thus, adult mortality can be inferred starting from age 25 years onwards. Expectation of life at age 25 years is 37.4 years for males while females have 39.5 years. Values of expectation of life at older age groups reduce marginally between 25-50 years. A reduction of between 2-4 years is attained in age group 55-75 years. By the age of 65 years, the expectation of life for males is estimated at 10.9 years while that of females is 11.7 years. Between ages 70 and 80 years, the average life expectation at each age falls in the range of 4 and 10 years for both males and females. Refer to Tables 9.9 and 9.10 for details on other life table values by age. Figure 9.5 shows a reducing pattern in expectation of life at each age for both males and females.

Table 9.9

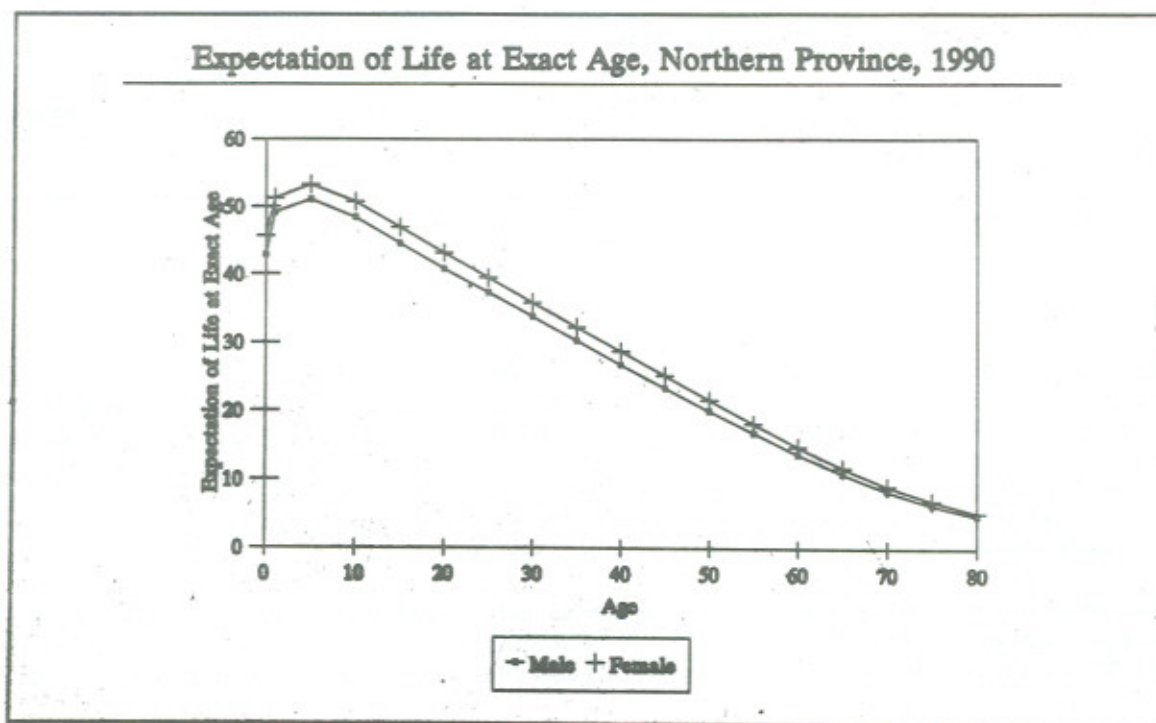
Coale-Demeney North Model Life Table for Northern Province - Males, 1990.

Age	$nM_{x+5}$	$nM_x$	$L_x$	$D_x$	$L_{x+5}$	$S_{x+5}$	$T_x$	$e_x$	$a_{x+5}$	Age
0	.16116	.14546	100000.	14546.	90254.	.81427 /A/	4290000.	42.900	0.330	0
1	.02972	.11021	85454.	9418.	316879.	.91212 /B/	4199745.	49.146	1.352	1
5	.00951	.04644	76036.	3531.	371354.	.96434	3882867.	51.066	2.500	5
10	.00493	.02435	72503.	1765.	358113.	.97431	3511513.	48.431	2.500	10
15	.00570	.02810	70740.	1988.	348914.	.96614	3153400.	44.577	2.592	15
20	.00812	.03983	68752.	2739.	337099.	.95870	2804487.	40.791	2.568	20
25	.00855	.04186	66013.	2763.	323177.	.95693	2467387.	37.377	2.506	25
30	.00912	.04461	63250.	2821.	309258.	.95275	2144210.	33.900	2.521	30
35	.01036	.05052	60429.	3053.	294646.	.94476	1834953.	30.365	2.544	35
40	.01249	.06060	57376.	3477.	278370.	.93365	1540307.	26.846	2.553	40
45	.01512	.07292	53899.	3930.	259902.	.91818	1261937.	23.413	2.559	45
50	.01930	.09215	49969.	4605.	238638.	.89567	1002035.	20.053	2.566	50
55	.02523	.11886	45364.	5392.	213740.	.86106	763397.	16.828	2.574	55
60	.03545	.16323	39972.	6525.	184044.	.80687	549657.	13.751	2.576	60
65	.05174	.22972	33448.	7684.	148499.	.72378	365613.	10.931	2.561	65
70	.07979	.33286	25764.	8576.	107480.	.60901	217113.	8.427	2.512	70
75	.12152	.46277	17188.	7954.	65456.	.40295 /C/	109633.	6.378	2.425	75
80	.20902	....	9234.	9234.	44176.	.....	44176.	4.784	4.784	80

/A/ Value Given is for Survivorship of 5 Cohorts of Birth to Age Group 0-4 =  $L(0,5)/500000$ /B/ Value Given is for  $S(0,5)=L(5,5)/L(0,5)$ /C/ Value Given is  $S(75+,5)=T(80)/T(75)$ 

Note: Used an expectation of life at Birth of birth of 42.9 years as an input parameter in the Coale and Demeny Model Life Tables

Figure 9.5





The 1990 Census results have shown low survival chances at older age groups above 50 years. Initially, probabilities of surviving for males are high in the age group 25-45 years. Thereafter, the probabilities reduce to about 0.8 between age group 50-60 years (see Table 9.9). In the case of females, probabilities, of surviving high between ages 25 and 50 years. Survival rates decline to about 0.8 between ages 55 and 60 years (see Table 9.10).

Table 9.10

Coale-Demeney North Model Life Table for Northern Province - Females, 1990.

Age	$m_{x,90}$	$q_{x,90}$	$l_x$	$D_{x,90}$	$L_{x,90}$	$S_{x,90}$	$T_{x,90}$	$e_{x,90}$	$e_{x,90}^*$	Age
0	.13755	.12627	100000.	12627.	91793.	.83304 /A/	4570000.	45.700	0.350	0
1	.02890	.10742	87373.	9386.	324725.	.91454 /B/	4478207.	51.254	1.361	1
5	.00947	.04625	77988.	3607.	380922.	.96413	4153482.	53.258	2.500	5
10	.00506	.02499	74381.	1859.	367257.	.97435	3772560.	50.719	2.500	10
15	.00541	.02670	72522.	1936.	357837.	.97126	3405303.	46.955	2.535	15
20	.00632	.03110	70586.	2195.	347551.	.96652	3047466.	43.174	2.550	20
25	.00733	.03600	68391.	2462.	335914.	.96122	2699915.	39.478	2.547	25
30	.00851	.04168	65929.	2748.	322888.	.95533	2364002.	35.857	2.542	30
35	.00976	.04766	63181.	3011.	308466.	.94974	2041114.	32.306	2.530	35
40	.01085	.05281	60170.	3178.	292963.	.94505	1732648.	28.796	2.519	40
45	.01189	.05777	56992.	3293.	276865.	.93599	1439685.	25.261	2.542	45
50	.01491	.07195	53699.	3864.	259144.	.91715	1162820.	21.654	2.579	50
55	.02018	.09624	49836.	4796.	237675.	.88467	903675.	18.133	2.601	55
60	.02969	.13858	45040.	6242.	210263.	.83139	666000.	14.787	2.607	60
65	.04546	.20484	38798.	7947.	174810.	.75097	455737.	11.746	2.587	65
70	.07093	.30182	30851.	9311.	131277.	.64349	280927.	9.106	2.533	70
75	.10802	.42365	21539.	9125.	84475.	.43551 /C/	149650.	6.948	2.455	75
80	.19048	.....	12414.	12414.	65174.	.....	65174.	5.250	5.250	80

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

/B/ Value Given is for  $S(0,5) = L(5,5)/L(0,5)$

/C/ Value Given is  $S(75+,5) = T(80)/T(75)$

Note: Used an expectation of Life at birth of 45.7 years as an input parameter in the Coale and Demeney Model Life Tables.

The pattern of expectation of life at older age groups is such that females are expected to live an average of 39.5 years at age group 25-29 years and further reduces the life expectancy to 18.1 years by age group 55-59 years. By age group 65-69 years, females are expected to live an average of 11.7 years. Generally, females are expected to live more years in the future as compared to males when expectation of life is analysed by sex. Figure 9.5 confirms the disparities in life expectancy between males and females.

## 9.8 SUMMARY

Crude death rate derived from 1990 Census for Northern Province has been estimated at 20 deaths per 1,000 persons. Male and female crude death rates are estimated at 20.9 and 19.0 deaths per 1,000 persons, respectively. Results from the 1980 Census gave crude death rate estimates as 15.3 (Total), 16.0 (males) and 14.5 deaths (females). Using probabilities of surviving ( $l_x$ ) and dying ( $q_x$ ) from 1980 and 1990 Censuses, it is established that mortality rates have increased over the 1980-1990 intercensal period in Northern Province. Males experience high infant and child mortality rates as compared to females. Increased mortality rates have been confirmed by the reduced mortality levels that determine the age-sex patterns of mortality.

Recent estimates of infant mortality rate have shown an increase in Northern Province from 103.7 in 1980 to 137.0 deaths per 1,000 live births in 1990. Male and female infant mortality rates in 1990 are 144.3 and 129.0 deaths per 1,000 live births, respectively. Rural areas experience high infant mortality rates as compared to urban areas.



Additionally, all the districts in Northern Province have infant mortality rates above 100 deaths with an exception of Mporokoso District with a rate of 94.3 deaths per 1,000 live births.

A similar pattern showing an increase in child and under-five mortality rates is observed during the 1980-1990 intercensal period. Increased child mortality rates has resulted in reduced expectation of life at birth in Northern Province. Overall, the expectation of life at birth for Northern Province reduced from 51.0 years in 1980 to 44.2 years in 1990. Generally, values of expectation of life at birth have reduced in all socio-economic groups. Established trends in infant and child mortality rates have confirmed a reduced pattern over the last 20 years (1969-1989).

Results from the North Model Life Table by sex reveal relatively lower probabilities of surviving at older age group 55 years and older for both males and females in Northern Province.

Additionally, all the districts in Northern Province have infant mortality rates above 100 deaths with an exception of Mporokoso District with a rate of 94.3 deaths per 1,000 live births.

A similar pattern showing an increase in child and under-five mortality rates is observed during the 1980-1990 intercensal period. Increased child mortality rates has resulted in reduced expectation of life at birth in Northern Province. Overall, the expectation of life at birth for Northern Province reduced from 51.0 years in 1980 to 44.2 years in 1990. Generally, values of expectation of life at birth have reduced in all socio-economic groups. Established trends in infant and child mortality rates have confirmed a reduced pattern over the last 20 years (1969-1989).

Results from the North Model Life Table by sex reveal relatively lower probabilities of surviving at older age group 55 years and older for both males and females in Northern Province.

## CHAPTER 10

# DISABILITY

### 10.1 INTRODUCTION

Data on disabled persons, among other variables was collected during the 1990 Census. However, only visible disabilities were identified because it was difficult to identify invisible disabilities. The disabled persons were classified as:-

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

The above classifications do not take into account the detailed international definition of disability which includes 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.

Some cultural factors pose problems in the identification of disabled persons. In some communities, disability may be regarded as a curse and hence a shame in the family which should not be discussed. Census enumerators may not see such persons and the respondent may not provide accurate information. Nevertheless, the results presented in this chapter provide useful information for the understanding of the levels and patterns of disability in Northern 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 deaf/dumb, crippled or mentally retarded. Hence a disabled person may have one or more of the following attributes:-

#### *Totally blind*

Refers to a person who has completely lost the sense of sight.

#### *Totally deaf/dumb*

Refers to a person lacking the senses of hearing and of speech.

#### *Crippled*

Loss of one or more limbs or loss of the power to use one or more limbs.

#### *Mentally retarded*

A person whose psychological functioning is defective to some degree.

#### *Multiple disabilities*

Having more than one of the above stated disabilities.



### 10.3 DISTRIBUTION OF DISABLED PERSONS

Table 10.1 shows that 9,356 persons were recorded as disabled in Northern Province during the 1990 Census. Of these, 4,945 are male and 4,411 female. Proportions of the mentally retarded and the deaf/dumb are fairly close (13.8 and 13.6 percent respectively). The largest proportion is that of the multiple disabled (29 percent). This pattern is similar to that of rural areas. In urban areas the majority of the disabled are crippled (32 percent). For females however, the majority have multiple disabilities.

Table 10.1

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

Residence and Sex		Type of Disability						
		Total Number	Total	Blind	Deaf/ Dumb	Crippled	Mentally Retarded	Multiple Disabilities
Northern								
	Both sexes	9,356	100.0	18.7	13.7	24.7	13.8	29.1
	Male	4,945	100.0	17.7	14.2	26.0	15.4	26.7
	Female	4,411	100.0	19.8	13.0	23.4	12.0	31.8
Residence								
Rural								
	Both sexes	8,400	100.0	18.8	14.0	24.0	14.0	29.2
	Male	4,441	100.0	17.6	14.6	25.1	15.8	26.9
	Female	3,959	100.0	20.1	13.4	22.7	12.0	31.8
Urban								
	Both sexes	956	100.0	17.9	10.0	31.7	11.6	28.8
	Male	504	100.0	19.1	10.5	33.7	11.1	25.6
	Female	452	100.0	16.6	9.5	29.4	12.2	32.3
Districts								
Chilubi								
	Both sexes	575	100.0	17.2	12.9	31.6	16.2	22.1
	Male	281	100.0	15.3	12.1	34.5	17.1	21.0
	Female	294	100.0	19.0	13.6	28.9	15.3	23.2
Chinsali								
	Both sexes	1,030	100.0	14.6	14.6	22.3	16.0	32.5
	Male	552	100.0	13.6	15.8	21.7	16.8	32.1
	Female	478	100.0	15.7	13.2	23.0	15.1	33.0
Isoka								
	Both sexes	1,140	100.0	14.9	12.0	22.0	15.3	35.8
	Male	593	100.0	14.7	12.8	23.8	15.8	32.9
	Female	547	100.0	15.2	11.2	20.1	14.6	38.9
Kaputa								
	Both Sexes	468	100.0	32.7	14.1	23.1	10.7	19.4
	Male	244	100.0	28.7	13.9	24.6	13.9	18.9
	Female	224	100.0	37.1	14.3	21.4	7.1	20.1
Kasama								
	Both Sexes	2,069	100.0	20.0	12.6	27.0	12.6	27.8
	Male	1,091	100.0	19.3	13.0	28.9	14.1	24.7
	Female	978	100.0	20.8	12.1	25.0	10.8	31.3
Luwingu								
	Both Sexes	667	100.0	16.5	15.7	23.4	14.4	30.0
	Male	360	100.0	13.1	17.2	23.3	17.2	29.2
	Female	307	100.0	20.5	14.0	23.5	11.1	30.9
Mbala								
	Both Sexes	1,309	100.0	17.9	12.8	23.8	11.4	34.1
	Male	673	100.0	16.2	12.6	26.3	13.4	31.5
	Female	636	100.0	19.7	13.0	21.4	9.3	36.9
Mpika								
	Both Sexes	1,336	100.0	17.7	16.9	24.0	14.1	27.3
	Male	706	100.0	18.7	18.5	25.4	15.3	22.1
	Female	630	100.0	16.5	15.1	22.4	12.8	33.2
Mporokoso								
	Both Sexes	762	100.0	23.9	11.9	25.9	15.1	23.2
	Male	445	100.0	22.9	11.9	24.7	17.3	23.2
	Female	317	100.0	25.3	12.0	27.4	12.0	23.3

Among the districts, Kasama has the largest number of disabled persons (2,069) while Kaputa has the least (468). In Chilubi and Mporokoso, the largest proportion is that of the crippled. In Chinsali, Isoka, Kasama, Luwingu, Mbala and Mpika, most of the disabled have multiple disabilities while in Kaputa, the majority are blind.

Table 10.2 shows the proportion of disabled persons with respect to total population. Of the total population of 855,177 in Northern Province, 1.1 percent are disabled. The proportion in rural areas is exactly the same as that of the province at large while in urban areas, it is a little less (0.8 percent). Chilubi and Mporokoso districts have the largest proportion of disabled persons (1.4 percent) while Isoka, Kaputa and Mbala have the least (0.9 percent). Of the 1.1 percent disabled in the province, 0.2 percent are blind, 0.1 percent deaf/dumb, 0.3 percent crippled, 0.2 percent mentally retarded and 0.3 percent have multiple disabilities. The crippled make up the largest proportion of population in Chilubi and Mporokoso. In Chinsali, Isoka, Luwingu, Mbala and Mpika, those with multiple disabilities make the largest proportion of population.

**Table 10.2**

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

Residence	Total Population	Type of Disability					
		Total	Blind	Deaf/dumb	Crippled	Mentally Retarded	Multiple Disabilities
<b>Northern</b>							
Total	855,177	1.1	0.2	0.1	0.3	0.2	0.3
Rural	734,255	1.1	0.2	0.2	0.3	0.2	0.3
Urban	120,922	0.8	0.1	0.1	0.3	0.1	0.2
<b>Districts</b>							
Chilubi	39,874	1.4	0.2	0.2	0.5	0.2	0.3
Chinsali	83,659	1.2	0.2	0.2	0.3	0.2	0.4
Isoka	121,871	0.9	0.1	0.1	0.2	0.1	0.3
Kaputa	49,993	0.9	0.3	0.1	0.2	0.1	0.2
Kasama	189,360	1.1	0.2	0.1	0.3	0.1	0.3
Luwingu	66,699	1.0	0.2	0.2	0.2	0.1	0.3
Mbala	136,091	0.9	0.2	0.1	0.2	0.1	0.3
Mpika	115,125	1.1	0.2	0.2	0.2	0.2	0.3
Mporokoso	52,505	1.4	0.3	0.2	0.4	0.2	0.3

#### 10.4 CHARACTERISTICS OF DISABLED PERSONS

##### *Sex Ratios*

Table 10.3 shows the sex ratios of the disabled by type of disability. Sex ratio indicates the number of males per 100 females. In all, there are more disabled males than females in the province. However, there are less males with multiple disabilities than females as implied by the sex ratio 94.2. In rural areas, there are 97.9 blind males per 100 blind females, and 94.8 males with multiple disabilities per 100 females. In the remaining disability types, there are more males than females. In urban areas, there are more disabled males than females in all disability groups except for those with multiple disabilities.



Table 10.3

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

Sex Ratio and Residence	Type of Disability					
	Total	Blind	Deaf/dumb	Crippled	Mentally Retarded	Multiple Disabilities
Northern						
Total	112.1	100.5	122.9	124.3	143.1	94.2
Rural	112.2	97.9	122.8	123.8	147.9	94.8
Urban	111.5	128.0	123.3	127.8	101.8	88.4
Districts						
Chilubi	95.6	76.8	85.0	114.1	106.7	86.8
Chinsali	115.5	100.0	138.1	109.1	129.2	112.0
Isoka	108.4	104.8	124.6	128.2	117.5	91.5
Kaputa	108.9	84.3	106.3	125.0	212.5	102.2
Kasama	111.6	103.9	120.3	128.6	145.3	87.9
Luwingu	117.3	74.6	144.2	116.7	182.4	110.5
Mbala	105.8	87.2	102.4	132.1	152.5	90.2
Mpika	113.1	126.9	137.9	127.0	133.3	74.6
Mporokoso	140.4	127.5	139.5	126.4	202.6	139.2

In Chilubi, unlike the remaining districts, there are less disabled males than females. However, in the "crippled" and "mentally retarded" categories, there are more males than females.

#### Age Structure

The age structure of the disabled in broad age groups is shown in Table 10.4. Out of 2,753 disabled children aged less than 15 years, close to half have multiple disabilities. About 19 percent are crippled, 12 percent blind, 14 percent deaf/dumb and 7 percent mentally retarded.

Table 10.4

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

Type of Disability	Age Group			
	Total	0 - 14	15 - 59	60+
Blind	18.7	12.2	17.9	35.0
Deaf/Dumb	13.7	14.5	12.5	16.4
Crippled	24.7	19.4	27.6	24.6
Mentally Retarded	13.8	7.4	18.8	7.5
Multiple Disabilities	29.1	46.5	23.2	16.5
Total	100.0	100.0	100.0	100.0
Total Number	9,356*	2,753	5,245	1,356

Note: (\*) This total includes even those who did not state their age.

In the age group 15-59 years, the crippled make up the majority (28 percent) followed by those with multiple disabilities (23 percent). Blindness is the most common disability among those aged 60 years and above (35 percent). The lowest proportion in this age group is that of the mentally retarded and these make up 8 percent.



### Usually Economically Active Disabled Population

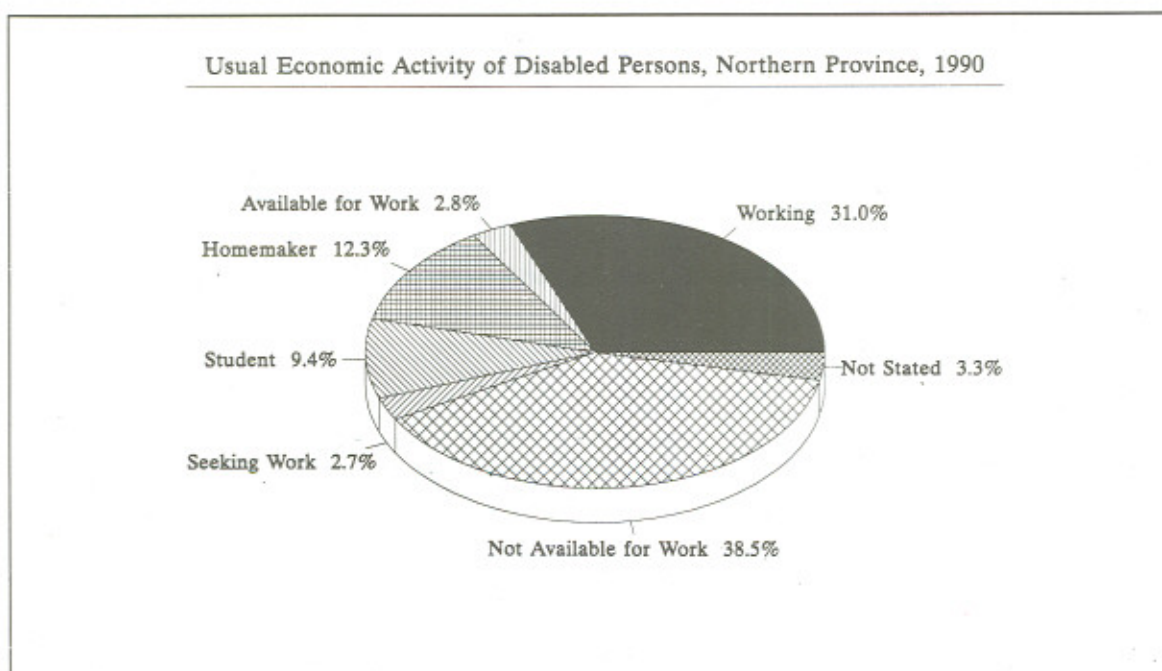
Table 10.5 and Figure 10.1 show that out of 7,200 disabled persons 12 years and older, 39 percent are not available for work, 31 percent are working, and 12 percent are homemakers. Students make up 9 percent of this population while 3 percent comprise those who are seeking and available for work in each case.

Table 10.5

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

Usual Economic Activity	Type of Disability					
	Total	Blind	Deaf/Dumb	Crippled	Mentally Retarded	Multiple Disabilities
Working	31.0	28.5	37.3	33.4	25.4	30.8
Seeking work	2.7	2.0	2.6	2.6	2.4	3.6
Available for work	2.8	2.1	3.5	2.6	2.5	3.2
Homemaker	12.3	13.6	12.3	12.4	8.7	13.7
Student	9.4	5.3	7.3	11.7	5.2	14.4
Not available for work	38.5	45.8	34.1	35.5	52.4	28.6
Not Stated	3.3	2.7	2.9	1.8	3.4	5.7
Percentage total	100.0	100.0	100.0	100.0	100.0	100.0
Total Number	7,200	1,200	975	1,928	1,143	1,675

Figure 10.1



Within the "blind", "crippled" and "mentally retarded" categories, the largest proportion is that of the 'not available for work' followed by those who are working. In the remaining categories, those who are working make up the largest proportion closely followed by those not available for work. In all disability groups, very small proportions comprise those seeking or available for work.

The employment status of the disabled is shown in Table 10.6. Over half of the 347 usually active disabled household heads in the province are family workers, while less than 1 percent are employers. The self employed make up about 29 percent and 10 percent comprises employees. About 6 percent have not stated their employment status.

**Table 10.6**

**Disabled Household Heads Usually Active by Disability and Employment Status, (Percent), Northern Province, 1990**

Type of Disability	Employment Status						
	Total Number	Percentage Total	Employer	Employee	Self Employed	Family Worker	Not Stated
Total	347	100.0	0.6	9.5	29.4	54.7	5.8
Blind	49	100.0	2.0	10.2	38.8	44.9	4.1
Deaf/Dumb	57	100.0	1.7	8.8	24.6	61.4	3.5
Crippled	81	100.0	-	11.1	32.1	49.4	7.4
Mentally Retarded	87	100.0	-	8.0	23.0	65.5	3.5
Multiple Disabilities	73	100.0	-	9.6	31.5	49.3	9.6

The proportions of family workers range from 45 percent among the blind to 66 percent among the mentally retarded. The second largest proportion after family workers is that of the self employed in all disability groups. Very small proportions comprise employers, the largest being 1.7 percent within the deaf/dumb category.

#### *Educational Status of Disabled Population*

The distribution of disabled persons (5 years and older) by level of education completed is presented in Table 10.7. Out of 8,505 persons in this age range, 62 percent have had no education at all, 28 percent have only completed primary level, 7 percent secondary level and 0.1 percent, higher level. About 3 percent did not state the level of education they have completed.

**Table 10.7**

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

Type of Disability	Level of Education						
	Total Number	Percentage Total	No Education	Primary	Secondary	Higher Level	Not Stated
Total	8,505	100.0	62.1	28.3	6.6	0.1	2.9
Blind	1,641	100.0	70.5	22.6	5.2	0.1	1.6
Deaf/Dumb	1,185	100.0	70.6	23.0	2.8	-	3.6
Crippled	2,199	100.0	52.7	35.1	9.5	0.1	2.6
Mentally Retarded	1,248	100.0	66.1	23.1	8.3	0.2	2.3
Multiple Disabilities	2,232	100.0	58.5	31.4	6.0	0.0	4.1

Less than 1 percent of the disabled in each of the disability groups have completed higher education levels while in the deaf/dumb category, none has. The majority in all groups have had no education.

## **10.5 SUMMARY**

Out of 855,177 persons in Northern province, 9,356 are disabled. Slightly over half, (53 percent) of the disabled are male and less than half (47 percent) are female. About 90 percent of the disabled live in rural areas. Altogether, about 70 percent of the disabled persons aged 12 years and above are either working or not available for work. Data on employment activities of disabled household heads shows that about 55 percent of these heads are employed as family workers. Slightly over 60 percent of the disabled persons aged five years and older have not completed any level of education and only 0.1 percent have completed higher levels of education.





## HOUSEHOLDS AND HOUSING CHARACTERISTICS

### 11.1 INTRODUCTION

During the 1990 census, data on housing characteristics for every housing unit and household was collected. The following information was solicited :-

- Type of structure
- Materials used for roofing, walls and floors
- Water and energy sources
- 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 household 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 of members.

#### *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.

#### *Aqua Privy*

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

### 11.3 HOUSING CHARACTERISTICS

Analysis of housing characteristics helps to gauge the standard of living of a community. To avoid the occurrence of diseases, it is important to provide good quality housing. Housing characteristics in this chapter are analysed in terms of number of rooms per housing unit, building materials, toilet facilities, main sources of water and energy for cooking and lighting.

#### *Number of rooms per housing unit*

The number of rooms includes bedrooms and living rooms. Verandas, lobbies, kitchens, bathrooms and toilets are not included. If a garage or store room is large enough to fit a bed for an adult and is used for living purposes, it is counted as a room. In rural areas, several huts belonging to one household are treated as rooms of one housing unit.

Table 11.1 shows that out of 172,522 households in Northern Province, 47 percent occupy two roomed housing structures and 27 percent occupy three roomed structures. Small proportions occupy at least seven roomed housing units. In both rural and urban areas the majority of households occupy two roomed houses. The second largest proportion occupy one roomed houses in rural areas and three roomed units in urban areas.

In all districts, the largest proportions of households occupy two-roomed structures. Housing structures with at least seven rooms are not commonly occupied.

Table 11.1

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

Residence	Number of H/holds	Total	Number of Rooms										
			1	2	3	4	5	6	7	8	9	10+	Not Stated
<b>Northern Province</b>													
Total	172,522	100.0	8.9	47.0	27.3	10.0	3.7	1.2	0.6	0.3	0.1	0.2	0.7
Rural	150,783	100.0	9.7	48.4	26.3	9.2	3.5	1.1	0.5	0.3	0.1	0.2	0.7
Urban	21,739	100.0	2.9	37.6	34.2	15.9	4.7	1.7	1.2	0.6	0.2	0.3	0.7
<b>Districts</b>													
Chilubi	9,140	100.0	8.7	48.3	26.1	11.0	3.6	1.0	0.4	0.2	0.1	0.0	0.6
Chinsali	16,806	100.0	6.7	54.1	25.6	7.6	3.4	1.0	0.5	0.3	0.1	0.2	0.5
Isoka	23,101	100.0	3.2	44.9	30.5	10.3	5.7	2.0	1.1	0.6	0.3	0.4	1.0
Kaputa	10,164	100.0	13.3	36.2	28.1	15.4	3.9	1.1	0.4	0.4	0.1	0.2	0.9
Kasama	38,274	100.0	7.5	53.9	25.7	8.4	2.2	0.8	0.4	0.2	0.1	0.2	0.6
Luwingu	13,492	100.0	14.5	43.2	27.3	9.0	3.4	1.1	0.4	0.3	0.1	0.2	0.5
Mbala	28,767	100.0	4.3	46.0	29.5	11.5	4.9	1.8	0.8	0.5	0.1	0.1	0.5
Mpika	22,550	100.0	18.1	45.2	24.9	8.1	2.1	0.5	0.2	0.1	0.1	0.1	0.6
Mporokoso	10,228	100.0	10.8	36.3	28.2	14.6	5.6	2.0	1.0	0.4	0.2	0.3	0.6

Figure 11.1 shows the percentage distribution of households by district for Northern Province. Kasama has the largest proportion (22 percent) of households while Chilubi has the least with 5 percent.

Figure 11.1

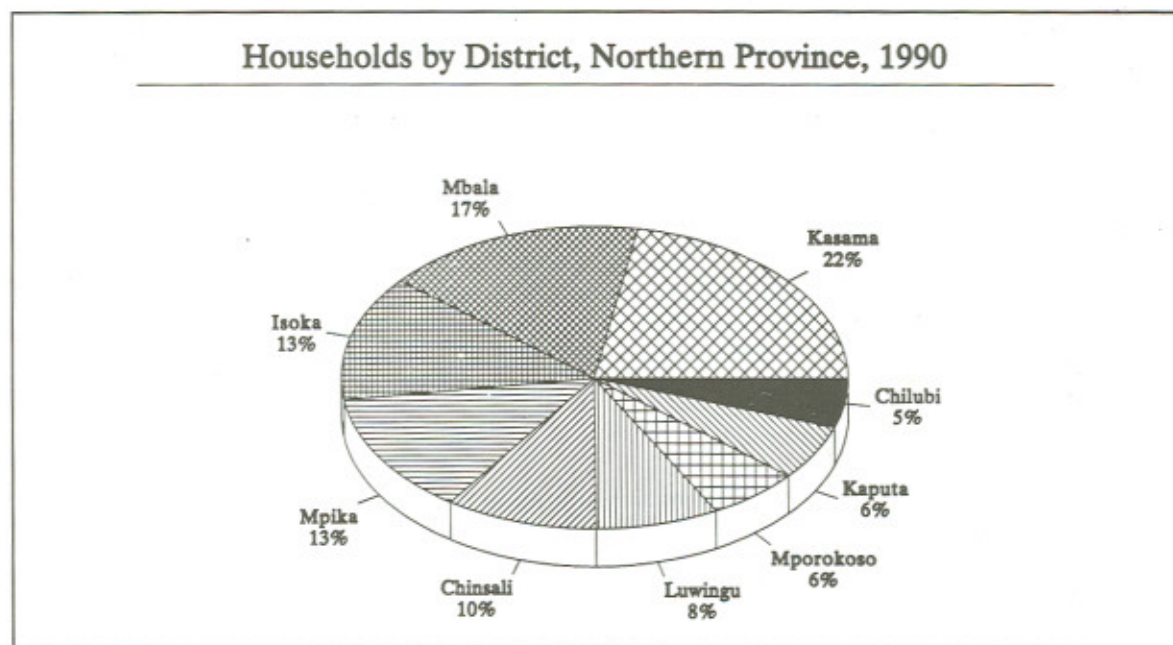




Table 11.2 indicates household size and number of rooms per housing unit in the province as well as rural and urban areas. The average number of rooms per household in the province is 2.6 while the average number of persons per room is 1.9. The average number of persons per room is marginally higher in rural than urban areas; 1.9 and 1.8, respectively. Taking the ideal number of persons per room to be 2, data in Table 11.2 implies that there is no overcrowding in Northern Province except in households with 5 persons or more.

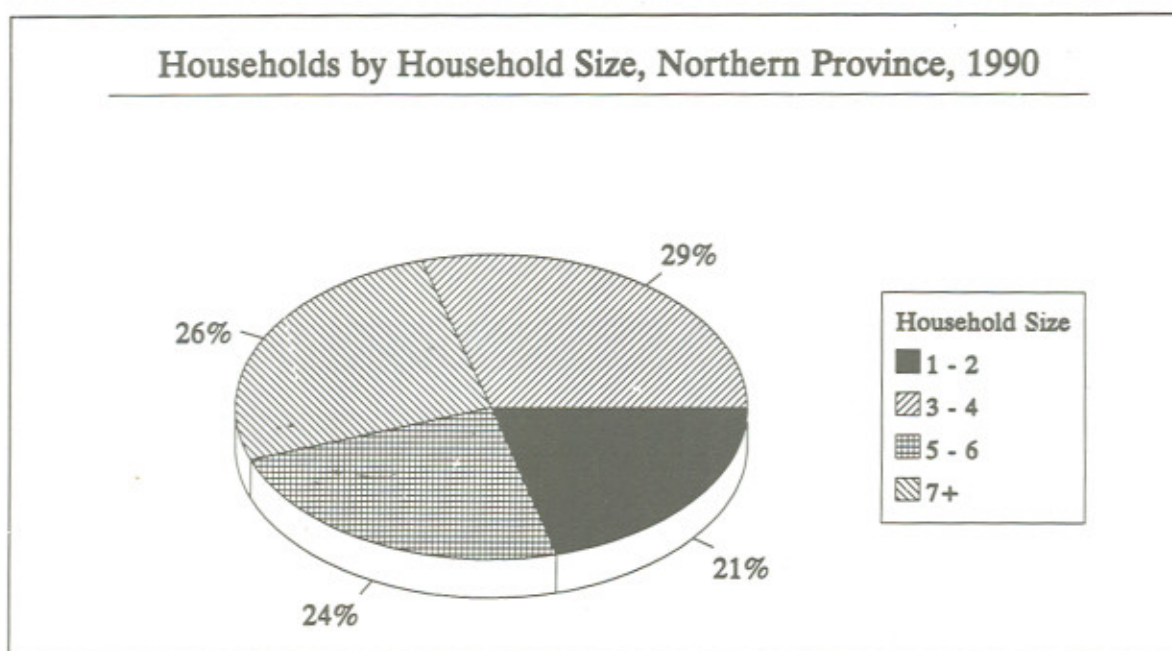
**Table 11.2**

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

Residence and Household Size	Households	Number of Rooms									
		Total	1	2	3	4	5	6+	Not Stated	Average Number of Rooms	Average Persons per Room
<b>Northern Province</b>											
Total	172,522	100.0	8.9	47.0	27.3	10.0	3.7	2.4	0.7	2.6	1.9
1-2	35,908	100.0	13.0	55.6	21.4	6.1	2.0	1.2	0.7	2.3	0.7
3-4	50,814	100.0	10.1	53.0	25.0	7.3	2.6	1.4	0.6	2.4	1.4
5-6	40,684	100.0	7.8	45.9	29.6	10.2	3.7	2.2	0.6	2.6	2.1
7+	45,116	100.0	5.1	34.5	32.6	15.9	6.2	5.0	0.7	3.0	2.8
<b>Rural</b>											
Total	150,783	100.0	9.7	48.4	26.3	9.2	3.5	2.2	0.7	2.6	1.9
1-2	32,116	100.0	13.7	56.1	20.8	5.7	1.9	1.1	0.7	2.3	0.7
3-4	45,516	100.0	10.9	53.7	24.1	6.8	2.6	1.3	0.6	2.4	1.4
5-6	35,497	100.0	8.6	47.1	28.6	9.6	3.5	2.0	0.6	2.6	2.1
7+	37,654	100.0	5.8	36.6	31.5	14.6	6.1	4.8	0.7	3.0	2.9
<b>Urban</b>											
Total	21,739	100.0	2.9	37.6	34.2	15.9	4.7	4.0	0.7	3.0	1.8
1-2	3,792	100.0	6.5	52.0	26.5	9.4	2.5	2.2	0.9	2.6	0.6
3-4	5,298	100.0	3.4	47.2	32.2	11.7	2.9	2.4	0.2	2.7	1.3
5-6	5,187	100.0	2.0	37.5	36.0	15.4	4.8	3.8	0.5	3.0	1.8
7+	7,462	100.0	1.4	23.6	38.1	22.6	6.9	6.4	1.0	3.4	2.6

Figure 11.2 shows that the largest proportion of households in the province comprises 3 to 4 persons (29 percent) followed by those with at least seven members (26 percent). Households with 5-6 members make up the third largest proportion (24 percent) while with 1-2 members make up the lowest (21 percent).

Figure 11.2



#### *Construction materials of walls and roofs*

Good quality building materials for constructing walls, roofs, and floors increase the durability of housing units. Generally, the quality of a housing unit as seen from its walls and roof reflects the socio-economic status of the households within the community.

Tables 11.3 and 11.4 show the construction materials of walls and roofs of housing units of Northern Province.

Table 11.3

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

Construction Materials of Walls	Number of H/units	Total	Construction Materials of Roofs						
			Concrete/Cement	Asbestos Sheets	Iron Sheet Corrugated	Grass/Thatch	Tiles	Other	Not Stated
Burnt Bricks	28,407	100.0	2.0	5.3	24.4	67.9	0.2	0.1	0.1
Unburnt/Mud Bricks	90,880	100.0	0.5	1.4	4.4	93.4	0.1	0.1	0.1
Concrete Blocks/Slab	7,199	100.0	2.5	62.6	31.8	2.8	0.1	0.0	0.2
Stone	236	100.0	2.1	6.8	15.3	73.7	-	-	2.1
Iron Sheets	320	100.0	1.3	5.0	63.1	21.6	2.2	0.6	6.2
Asbestos/Wood/Hardboard	172	100.0	1.2	10.5	23.8	48.8	0.6	8.7	6.4
Pole and Dagga	40,733	100.0	-	0.2	0.3	98.8	0.1	0.5	0.1
Grass	2,335	100.0	-	0.2	0.5	95.2	0.5	2.1	1.5
Other	2,054	100.0	0.2	0.6	1.4	70.1	0.4	5.6	21.7
Total	172,336	100.0	0.7	4.4	7.9	86.2	0.1	0.3	• 0.4

Table 11.3 clearly shows that the vast majority of housing units in the province have grass/thatched roofs which are in 86 percent of the structures. However, for houses with concrete block/slab walls, only 3 percent have grass/thatched roofs and 22 percent of those with iron sheet walls have grass/thatched roofs. About 63 percent of those with concrete block/slab walls have asbestos roofs and 63 percent of those with iron sheet walls have iron roofs. Tiles and concrete are not common roofing materials for housing units with walls of any sort. Asbestos sheets are generally not common roofing materials except for housing units with concrete block/slab walls and relatively so for those with asbestos walls.

Table 11.4 shows that the most common building materials for walls are unburnt/mud bricks used in 53 percent of housing structures. The majority of housing units with roofs made of concrete/cement, iron sheets and tiles, however, have burnt brick walls. Close to a third of those with asbestos roofs, have concrete block/slab walls. Stone, iron sheets, asbestos/wood/hardboard and grass are not common building materials for walls.

Table 11.4

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

Construction Materials of Walls	Total	Construction Materials of Roofs						
		Concrete/Cement	Asbestos Sheets	Iron Sheet Corrugated	Grass/Thatch	Tiles	Other	Not Stated
Burnt Bricks	16.5	46.7	20.0	50.8	13.0	33.5	3.2	4.7
Unburnt/Mud Bricks	52.7	37.5	17.5	29.2	57.1	29.1	15.8	12.3
Concrete Blocks/Slab	4.2	14.6	60.3	16.8	0.1	3.4	0.4	1.8
Stone	0.1	0.4	0.2	0.3	0.1	-	-	0.7
Iron Sheets	0.2	0.3	0.2	1.5	0.0	3.4	0.4	3.0
Asbestos/Wood/Hardboard	0.1	0.2	0.2	0.3	0.1	0.5	3.0	1.6
Pole and Dagga	23.6	-	1.3	0.8	27.1	20.2	44.7	4.7
Grass	1.4	-	0.1	0.1	1.5	5.4	9.6	5.3
Other	1.2	0.3	0.2	0.2	1.0	4.4	22.8	65.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
H/units	172,336	1,223	7,467	13,629	148,639	203	499	676
<b>Rural</b>								
Burnt Bricks	16.4	48.1	25.2	59.4	13.5	36.1	3.3	5.7
Unburnt/Mud Bricks	52.2	42.7	17.5	30.3	54.6	29.0	14.6	13.2
Concrete Blocks/Slab	1.5	7.8	52.4	6.6	0.1	2.7	0.2	0.4
Stone	0.1	0.6	0.4	0.3	0.1	-	-	0.9
Iron Sheets	0.1	0.4	0.4	1.4	0.0	1.1	0.5	2.3
Asbestos/Wood/Hardboard	0.1	0.2	0.5	0.2	0.1	0.5	2.0	0.9
Pole and Dagga	26.8	-	3.1	1.4	29.0	21.9	48.8	6.0
Grass	1.5	-	0.1	0.1	1.6	6.0	10.0	5.7
Other	1.3	0.2	0.4	0.3	1.0	2.7	20.6	64.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
H/units	150,641	853	2,712	8,240	137,672	183	451	530
<b>Urban</b>								
Burnt Bricks	17.0	43.5	17.1	37.7	6.2	10.0	2.1	1.4
Unburnt/Mud Bricks	56.5	25.7	17.5	27.4	89.6	30.0	27.1	8.9
Concrete Blocks/Slab	23.1	30.0	64.9	32.4	0.5	10.0	2.1	6.8
Stone	0.2	-	0.1	0.2	0.2	-	-	-
Iron Sheets	0.5	0.3	0.1	1.7	0.1	25.0	-	5.5
Asbestos/Wood/Hardboard	0.2	-	0.1	0.4	0.0	-	12.5	4.1
Pole and Dagga	1.5	-	0.2	0.0	2.8	5.0	6.2	-
Grass	0.3	-	0.0	0.1	0.4	-	6.2	4.1
Other	0.7	0.5	0.0	0.1	0.2	20.0	43.8	69.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
H/units	21,695	370	4,755	5,389	10,967	20	48	146



Rural areas of the province have a similar pattern to that of the whole province, as regards the construction materials of walls and roofs. There are minor disparities in the construction materials between rural and urban areas. In urban areas, pole and dagga are not common building materials for walls while in rural areas, they are used in slightly over a quarter of the housing units. Concrete block/slab walls are not very common in rural areas but common in urban areas.

#### *Construction materials of Walls and Floors*

Construction materials of walls and floors are shown in Tables 11.5 and 11.6. The most common construction material for floors is mud (82 percent) as shown in Table 11.5. However, only 2 percent of houses with concrete block/slab walls have mud floors. Wood and marble are not common construction materials for floors.

Table 11.5

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

Construction Materials of Walls	Number of H/units	Total	Construction Material of Floor					
			Concrete/Cement	Mud	Wood (not Wooden Tile)	Marble	Other	Not Stated
Burnt Bricks	28,407	100.0	37.9	61.5	0.2	0.1	0.1	0.2
Unburnt/Mud Bricks	90,880	100.0	10.7	88.6	0.2	0.2	0.1	0.2
Concrete Blocks/Slab	7,199	100.0	95.4	2.3	1.3	0.3	0.4	0.3
Stone	236	100.0	24.2	72.5	-	0.8	2.1	0.4
Iron Sheets	320	100.0	57.5	39.7	1.2	-	1.6	-
Asbestos/Hardboard/Wood	172	100.0	29.6	51.2	12.8	0.6	3.5	2.3
Pole and Dagga	40,733	100.0	0.9	98.2	0.3	0.2	0.1	0.3
Grass	2,335	100.0	1.8	73.8	0.2	0.4	22.3	1.5
Other	2,054	100.0	3.3	67.6	0.2	0.2	6.7	22.0
Total	172,336	100.0	16.3	82.2	0.3	0.2	0.5	0.5

For housing units with concrete or iron sheet walls, 95 and 58 percent have concrete/cement floors, respectively.

Table 11.6 shows that although unburnt/mud bricks are the most common construction materials for walls (53 percent), burnt brick walls are the most common in housing units with concrete/cement floors closely followed by unburnt/mud bricks walls used in 35 percent. Concrete block/slab walls too, are common in housing units with concrete/cement floors.

Table 11.6

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

Construction Materials of Walls	Total	Construction Material of Floors					
		Concrete/Cement	Mud	Wood (not Wooden Tile)	Marble	Other	Not Stated
Burnt Bricks	16.5	38.3	12.3	12.3	16.8	2.2	6.4
Unburnt/Mud Bricks	52.7	34.6	56.9	39.7	45.7	12.2	21.9
Concrete Blocks/Slab	4.2	24.4	0.1	19.4	9.0	3.5	2.0
Stone	0.1	0.2	0.1		0.7	0.6	0.1
Iron Sheets	0.2	0.7	0.1	0.8	-	0.6	-
Asbestos/Hardboard/Wood	0.1	0.2	0.1	4.5	0.4	0.7	0.5
Pole and Dagga	23.6	1.3	28.2	21.3	22.5	5.8	14.4
Grass	1.4	0.1	1.2	1.2	3.4	58.9	3.9
Other	1.2	0.2	1.0	0.8	1.5	15.5	50.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
H/units	* 172,336	28,141	141,668	489	267	883	888
<b>Rural</b>							
Burnt Bricks	16.4	47.1	12.8	12.1	17.2	2.3	5.8
Unburnt/Mud Bricks	52.2	36.8	54.5	48.4	47.2	11.5	23.2
Concrete Blocks/Slab	1.5	12.5	0.1	6.3	5.6	1.2	1.1
Stone	0.1	0.3	0.1	-	0.8	0.5	0.1
Iron Sheets	0.1	0.6	0.1	0.5	-	0.5	-
Asbestos/Hardboard/Wood	0.1	0.2	0.1	1.7	0.4	0.6	0.1
Pole and Dagga	26.8	2.1	30.0	28.3	24.0	5.9	17.2
Grass	1.5	0.1	1.3	1.6	3.6	62.7	4.4
Other	1.3	0.3	1.0	1.1	1.2	14.8	48.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
H/units	150,641	16,092	132,379	364	250	827	729
<b>Urban</b>							
Burnt Bricks	17.0	26.3	5.1	12.8	11.8	1.8	9.4
Unburnt/Mud Bricks	56.5	31.6	90.1	14.4	23.5	23.2	15.7
Concrete Blocks/Slab	23.1	40.4	0.4	57.6	58.8	37.5	6.3
Stone	0.1	0.1	0.1	-	-	1.8	-
Iron Sheets	0.6	0.8	0.2	1.6	-	1.8	-
Asbestos/Hardboard/Wood	0.2	0.2	0.1	12.8	-	1.8	1.9
Pole and Dagga	1.5	0.3	3.0	0.8	-	3.5	1.9
Grass	0.3	0.1	0.5	-	-	1.8	1.9
Other	0.7	0.2	0.2	-	5.9	26.8	62.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
H/units	21,695	12,049	9,289	125	17	56	159

There are variations between rural and urban areas as regards construction materials of walls and floors. The majority of housing units with concrete/cement floors have concrete block/slab walls in urban areas and burnt brick walls in rural areas. Concrete block/slab walls are in 58 percent of housing units with wood floors in urban areas and 6 percent in rural areas. Over half of the structures with marble floors have concrete block/slab walls in urban areas while in rural areas, only 6 percent have such walls.



## Water Supply and Sanitation

The availability of clean water supply for households helps to prevent the occurrence of water-borne 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. However, protected and unprotected wells are grouped together, hence, it becomes difficult to distinguish between sources of clean and unclean water supply.

Table 11.7 shows the main sources of water supply in the province. Dependence on water from rivers/stream is the most prominent in the province followed by the use of water from wells/boreholes. Piped water is not very commonly used in Northern Province. While the vast majority of households in rural areas use water drawn from rivers/streams (60 percent), the most common source of water in urban areas is piped water outside the housing unit and within 100 metres radius from the housing unit, used in 33 percent of the households. Rivers and streams are used in 10.4 percent of urban households.

Table 11.7

Households by Main Source of Water Supply, Residence and District, (Percent), Northern Province, 1980 and 1990

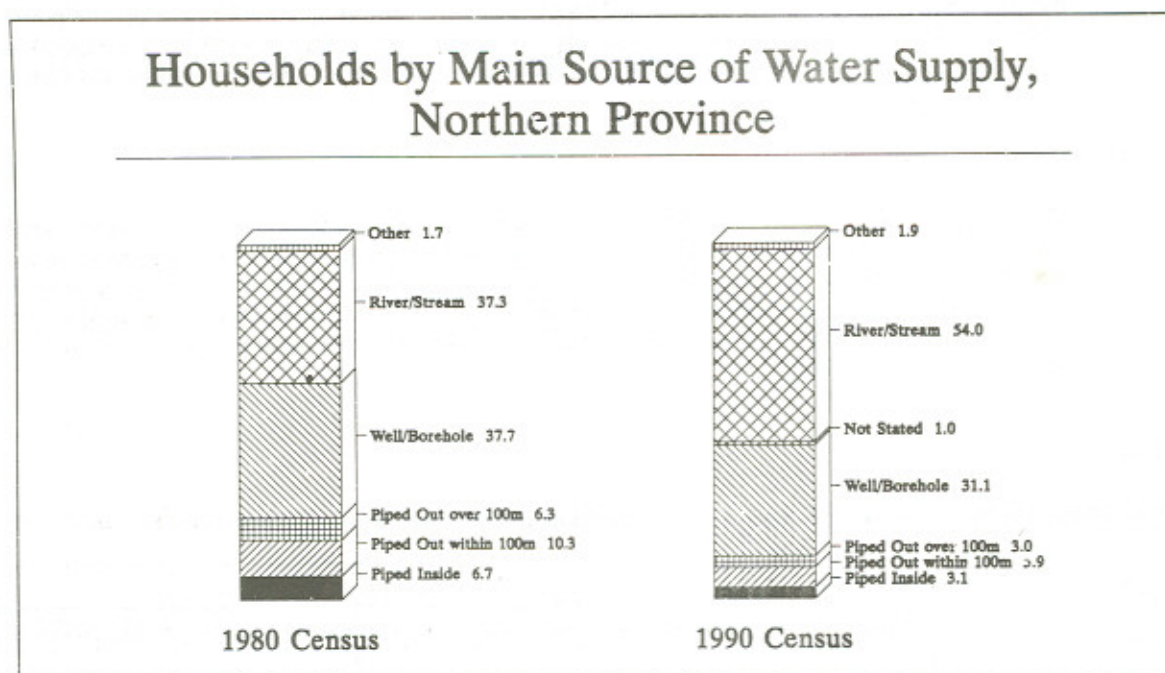
Main source of water supply	1980	Residence - 1990											
		Total	Rural	Urban	Chilubi	Chinsali	Isoka	Kaputa	Kasama	Luwingu	Mbala	Mpika	Mporokoso
Piped water inside H/unit	6.7	3.1	0.9	18.2	0.6	1.8	2.0	1.5	4.8	1.5	3.4	5.7	1.5
Piped water out within 100m	10.3	5.9	1.9	33.4	0.5	3.6	6.0	2.1	6.4	2.8	8.9	9.0	4.4
Piped Water Beyond 100m	6.3	3.0	1.4	14.2	0.1	5.7	3.0	1.4	2.6	0.7	3.3	4.7	2.5
Well/borehole	37.7	31.1	32.4	22.0	43.7	14.0	23.7	50.8	48.7	54.2	15.8	15.0	27.9
River or Stream	37.3	54.0	60.3	10.4	48.3	73.7	62.3	38.2	36.3	38.9	63.2	64.3	61.1
Other	1.7	1.9	2.1	0.6	6.0	0.3	1.5	5.5	0.2	1.1	4.5	0.3	1.4
Not Stated	-	1.0	1.0	1.2	0.8	0.9	1.5	0.5	1.0	0.8	0.9	1.0	1.2
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
Total Household	141,514	172,522	150,783	21,739	9,140	16,806	23,101	10,164	38,274	13,492	28,767	22,550	10,228

Figure 11.3 shows that during the 1980-90 inter-censal period, the proportion of households using piped water decreased from 23 percent to 12 percent and that of households using river/stream increased from 37 percent to 54 percent. The use of wells/boreholes decreased from 38 percent to 31 percent.

In all the districts, except Kaputa, Kasama and Luwingu, the most common source of water supply is river/stream, and proportions range from 48 percent in Chilubi to 74 percent in Chinsali. In Chilubi district, proportions using well/borehole and river/stream as sources of drinking water are quite close; 44 percent and 48 percent respectively. In Kaputa, Kasama and Luwingu, the largest proportions of households use wells and boreholes. Proportions using piped water range from 1 percent in Chilubi district to 19 percent in Mpika.



Figure 11.3



Households drawing water from rivers, streams or wells in areas where pit-latrines are common are vulnerable to various forms of water borne diseases. Seepage containing germs from pit latrines may contaminate water in rivers, streams or wells.

The types of toilet facility used in Northern Province are shown in Table 11.8. The table shows that 79 percent of households use pit latrines. Flush toilet is used by 4 percent of the households in the province. Less than 1 percent use the bucket or aqua privy.

Table 11.8

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

Type of Toilet	Residence											
	Total	Rural	Urban	Chilubi	Chinsali	Isoka	Kaputa	Kasama	Luwingu	Mbala	Mbala	Mporokoso
Flush	4.3	1.2	25.9	0.6	3.2	2.5	1.8	6.8	2.2	4.2	6.8	3.8
Bucket	0.2	0.1	0.7	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	0.1
Aqua-Privy	0.2	0.2	0.5	0.3	0.2	0.4	0.1	0.4	0.3	0.1	0.1	0.1
Pit Latrine	78.7	80.2	68.3	48.7	80.0	78.5	81.6	81.1	77.8	83.8	74.4	87.6
Other	15.0	16.7	3.0	48.5	14.9	16.6	14.6	9.9	18.0	9.7	17.2	7.0
Not Stated	1.6	1.6	1.6	1.8	1.6	1.9	1.8	1.7	1.6	1.7	1.4	1.4
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
Total Households	172,522	150,783	21,739	9,140	16,806	23,101	10,164	37,274	13,492	28,767	22,550	10,228

In both rural and urban areas, the largest proportions of households use pit-latrines. The proportion using flush toilet is much higher in urban than rural areas (26 and 1 percent respectively). Toilet facilities other than the stated are used by 17 percent of rural households and 3 percent of urban households. Proportions of households using pit latrines in the districts range from 49 percent in Chilubi to 88 percent Mporokoso. Bucket and aqua privy are not common toilet facilities in all the districts as they are used by less than one percent of the households in each case.

### Domestic Energy

The six main sources of cooking energy in the province are shown in Table 11.9. These include, electricity, gas, paraffin, wood, charcoal, and coal. Wood is the most common cooking energy source, used by 86.4 percent of the households in the province. Electricity is used by 2 percent, gas by 0.3 percent, paraffin by 2 percent, charcoal by 8 percent and coal by 0.1 percent. Sources of energy, other than the stated are used by 0.2 percent of the households while 0.4 percent have not stated what source of energy they use for cooking.

Table 11.9

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

Main source of Energy for cooking	Total	Residence		Districts								
		Rural	Urban	Chilubi	Chinsali	Isoka	Kaputa	Kasama	Luwingu	Mbala	Mpika	Mporokoso
Electricity	2.1	0.5	13.0	-	1.1	1.4	0.0	4.0	0.5	2.1	3.5	0.7
Gas	0.3	0.3	0.4	0.2	0.2	0.4	0.4	0.4	0.4	0.3	0.2	0.4
Paraffin	2.2	2.2	1.9	1.0	2.5	1.9	2.1	2.5	1.5	3.2	1.2	2.3
Wood	86.4	93.2	39.5	94.8	92.1	89.7	88.2	80.2	92.7	83.1	83.9	90.0
Charcoal	8.3	3.2	43.9	2.9	3.2	5.6	8.8	12.2	4.5	10.7	10.6	6.3
Coal	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0
Other	0.2	0.2	0.3	0.6	0.5	0.3	0.1	0.1	0.1	0.1	0.1	0.0
Not Stated	0.4	0.3	0.8	0.4	0.4	0.6	0.3	0.5	0.3	0.4	0.4	0.3
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
Total households	172,523	150,784	21,739	9,140	16,806	23,102	10,164	38,274	13,492	28,767	22,550	10,228

There is a variation in the sources of cooking energy between rural and urban areas. While 93 percent of rural households use wood as a source of cooking energy, 40 percent of their urban counterparts use this source. The largest proportion of urban households (44 percent) use charcoal for cooking while 3 percent of rural households use charcoal. Electricity is used by 13 and 0.5 percent of urban and rural households, respectively. None of the households in Chilubi district use electricity for cooking. A negligible proportion uses electricity in Kaputa. Within the remaining districts, the proportion using electricity ranges from 0.5 percent in Luwingu to 4 percent in Kasama. In all the districts, the large majority use wood for cooking. Gas, paraffin and coal are not common sources of cooking energy. Proportions of households using charcoal range from 3 percent in Chilubi to 12 percent in Kasama.

Table 11.10 shows that the proportion of households using electricity decreased from 2.8 percent in 1980 to 2.1 percent in 1990. That of households using gas and paraffin almost doubled during this period (from 1.2 to 2.5 percent). Use of wood, charcoal and coal slightly decreased from 95.7 to 94.8 percent. During the 1980 census, wood, charcoal and coal were combined. Gas and paraffin too were combined unlike in the 1990 census. For comparative purposes, the energy source from the 1990 census were also combined (Table 11.10). However, the separate sources are shown in Table 11.9.



Table 11.10

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

Energy Source	1980	1990
Electricity	2.8	2.1
Gas and Kerosene	1.2	2.5
Wood, Charcoal, Coal	95.7	94.8
Other	0.3	0.2
Not stated	-	0.4
Total	100.0	100.0
Number of H/Holds	141,514	172,523

Sources of lighting energy are shown in Table 11.11. These include electricity, gas, paraffin and candle. The table shows that paraffin is the most common source of lighting energy used in 84 percent of housing units. Electricity is used in 4 percent of the housing units, 0.7 percent use gas and 0.6 percent use candle. In both rural and urban areas, paraffin is the most common source of lighting energy.

Table 11.11

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

Main source of energy for lighting	Total	Rural	Urban	Districts								
				Chilubi	Chinsali	Isoka	Kapota	Kasama	Luswingu	Mbala	Mpika	Mporokoso
Electricity	4.1	1.2	23.9	0.2	2.0	2.9	0.3	6.7	1.6	4.8	6.9	2.4
Gas	0.7	0.7	0.9	0.3	0.7	0.7	1.3	0.6	0.7	0.8	0.7	0.9
Paraffin	83.5	85.1	71.9	41.8	84.7	86.1	90.8	86.8	79.5	91.1	77.0	91.4
Candle	0.6	0.6	1.0	0.9	0.5	0.7	0.8	0.6	0.7	0.6	0.5	0.7
Other	10.5	11.8	1.3	56.3	11.5	8.8	6.3	4.6	17.1	2.1	14.3	4.1
Not Stated	0.6	0.6	1.0	0.5	0.6	0.8	0.5	0.7	0.4	0.6	0.6	0.5
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
Number of H/units	172,336	150,641	21,695	9,136	16,801	23,071	10,161	38,205	13,480	28,743	22,512	10,227

In Chilubi district, energy sources for lighting, other than electricity, gas, paraffin or candle are used in over half of housing units. The 'other' sources of lighting energy may include wood, diesel and batteries. In the remaining districts, paraffin is the most common source of lighting energy. Proportions using paraffin range from 42 percent in Chilubi to 91 in Mporokoso. Gas and candle are not common sources of lighting energy within all the districts. Proportions using electricity range from 0.2 percent in Chilubi to 6.9 in Mpika.

#### 11.4 OWNERSHIP STATUS OF HOUSING UNITS

Table 11.12 presents data on housing units by ownership status. Houses are usually provided by various institutions and individuals. The table shows that out of 172,336 housing units in Northern Province, 93 percent are owned by individuals, 3 percent are owned by the Central Government, 1 percent by the district council, another 1 percent by parastatal organisations and yet another 1 percent by private organisations. In both rural and urban areas the large majority of housing units are owned by individuals; 96 percent in rural areas and 72 percent in urban areas. The central government, district council, parastatal and private organisations own a larger proportion of housing structures in urban than rural areas.



Table 11.12

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

Ownership Status	Total	Rural	Urban	DISTRICTS								
				Chilubi	Chinsali	Isoka	Kaputa	Kasama	Luwingu	Mbala	Mpika	Mporokoso
Central Govt.	3.2	1.8	12.7	1.5	3.8	2.4	2.9	4.1	2.6	2.9	3.2	4.2
District Council	1.3	0.2	9.4	0.4	0.5	1.1	0.5	2.7	1.2	1.5	0.7	1.0
Parastatal	1.3	0.9	4.1	0.2	0.2	0.3	0.0	1.8	0.3	1.2	4.1	0.3
Private Org.	0.5	0.4	1.2	0.3	0.7	0.2	0.4	0.4	0.2	0.6	0.8	0.8
Individual	92.9	95.9	71.5	96.4	94.1	95.0	95.3	90.2	95.2	92.7	90.5	93.0
Not Stated	0.8	0.8	1.1	1.2	0.7	1.0	0.9	0.8	0.5	1.1	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	100.0
H/units	172,336	150,641	21,695	9,136	16,801	23,071	10,161	38,205	13,480	28,743	22,512	10,227

In all districts of the province, at least 90 percent of the houses are owned by individuals. Proportions of housing structures owned by the central government range from 1.5 percent in Chilubi district to 4.2 percent in Mporokoso while that of those owned by parastatal organisations range from 0.2 percent in Isoka and Luwingu to 0.8 percent in Mpika and Mporokoso.

Table 11.13 presents data on households that occupy rented housing units from various landlords. Out of 172,522 households in the province, 10,651 occupy rented housing units. The most common landlords in the province are the individuals who rent out 45 percent of the housing units.

Table 11.13

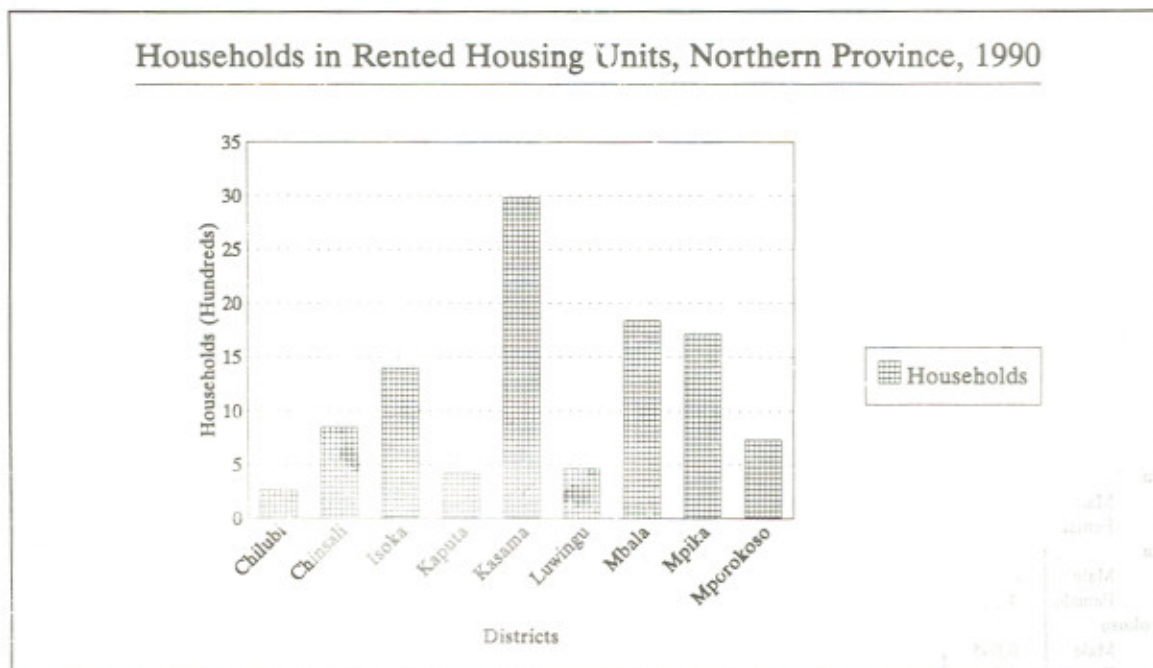
Households in Rented Housing Units by Residence and Ownership, (Percent), Northern Province, 1990

Residence	Landlord							
	Number of H/holds	Total	Central Government	District Council	Parastatal	Private Organisation	Individual	Not Stated
<b>Northern Province</b>								
- Total	10,651	100.0	24.9	11.9	8.4	3.0	45.2	6.6
- Rural	5,160	100.0	18.0	1.8	8.0	3.6	60.0	8.6
- Urban	5,491	100.0	31.4	21.5	8.7	2.4	31.3	4.7
<b>Districts</b>								
Chilubi	260	100.0	27.7	4.6	3.1	3.1	33.1	28.4
Chinsali	848	100.0	43.4	6.2	1.4	5.0	39.0	5.0
Isoka	1,397	100.0	15.6	12.5	2.3	1.6	61.4	6.6
Kaputa	419	100.0	25.1	4.3	1.2	3.3	58.5	7.6
Kasama	2,981	100.0	27.1	15.8	9.0	2.6	39.1	6.4
Luwingu	461	100.0	38.2	22.3	5.0	1.5	25.8	7.2
Mbala	1,840	100.0	16.5	14.6	8.3	3.4	52.1	5.1
Mpika	1,715	100.0	16.7	6.2	22.1	4.0	44.7	6.3
Mporokoso	730	100.0	43.0	9.2	1.6	1.9	39.5	4.8

In urban areas, the proportions of households with the central government or individuals as their landlords are almost the same; 31.4 percent and 31.3 percent, respectively. In Chinsali, Luwingu and Mporokoso, the most common landlord is the central government followed by individuals. The district council is a fairly common landlord in Isoka, Kasama, Luwingu and Mbala while parastatal organisations are a fairly common landlord only in Mpika. Private organisations are not very common landlords. Proportions of households occupying houses rented from private organisations range from 1.5 percent in Luwingu to 5 percent in Chinsali.

Figure 11.4 shows households occupying rented housing units in Northern Province. In Kasama, about 3,000 households occupy rented housing units. In Chilubi, Kaputa and Luwingu, less than 500 households occupy rented housing units.

Figure 11.4



## 11.5 HOUSEHOLD SIZE AND COMPOSITION

### *Household Size*

Household size by sex of household head is shown in Table 11.14. There are more male (138,392) than female (34,144) headed households in the province. Proportions of male headed households are larger than those of female headed ones for households with 4 or more members. Of the 138,392 male headed households, 5.2 percent have one member each compared to 20.2 percent of the 34,144 female headed households. About 29 and 14 percent of male and female headed households respectively, have at least 7 persons altogether. All the districts portray a similar picture to that of the province as regards sex of household head.



Table 11.14

## Households by Size, Sex of Head and District, (Percent), Northern Province, 1990

Sex of Household Head and District	Number of H/holds	Total	Household Size									
			1	2	3	4	5	6	7	8	9	10+
Northern												
Male	138,392	100.0	5.2	11.9	14.8	14.4	13.1	11.3	9.4	7.1	4.8	8.0
Female	34,144	100.0	20.2	15.7	16.3	14.3	11.6	8.4	5.4	3.4	2.0	2.7
Chilubi												
Male	6,731	100.0	5.9	13.4	16.7	17.3	14.2	11.5	8.3	5.5	3.4	3.8
Female	2,409	100.0	20.2	18.0	18.5	15.7	11.0	7.2	4.3	2.0	1.5	1.6
Chinsali												
Male	13,476	100.0	4.3	11.6	15.5	14.4	13.2	10.8	9.6	7.6	5.2	7.8
Female	3,330	100.0	20.7	15.7	15.9	14.0	12.5	7.9	5.6	3.2	2.1	2.4
Isoka												
Male	18,371	100.0	3.6	11.1	14.3	13.6	13.2	11.4	9.8	7.2	5.1	10.7
Female	4,733	100.0	18.0	15.4	15.7	14.4	12.0	8.9	6.1	4.1	2.2	3.2
Kaputa												
Male	8,473	100.0	6.7	12.4	14.5	14.0	13.0	11.8	9.3	6.4	4.7	7.2
Female	1,696	100.0	19.8	15.5	15.3	14.3	13.2	7.9	5.3	3.7	1.8	3.2
Kasama												
Male	30,753	100.0	5.7	11.4	14.3	14.6	13.1	11.3	9.5	7.2	4.7	8.2
Female	7,521	100.0	22.1	15.9	15.9	13.4	11.1	8.7	4.8	3.3	2.0	2.8
Luwingu												
Male	10,735	100.0	4.5	11.5	15.2	14.9	13.2	11.9	9.5	7.0	4.9	7.4
Female	2,758	100.0	20.4	15.1	15.2	14.2	12.3	8.6	5.8	3.7	1.9	2.8
Mbala												
Male	23,732	100.0	6.5	13.1	15.9	14.8	13.4	10.9	8.5	6.0	4.3	6.6
Female	5,039	100.0	21.5	15.8	17.3	15.4	10.4	8.0	5.1	2.9	1.8	1.8
Mpika												
Male	18,026	100.0	4.8	12.1	13.4	13.7	12.5	11.4	9.8	8.1	5.6	8.6
Female	4,524	100.0	17.9	15.3	16.9	13.8	12.2	8.6	5.6	3.7	2.4	3.6
Mporokoso												
Male	8,095	100.0	4.5	11.1	13.9	13.6	12.1	12.1	10.1	8.2	5.7	8.7
Female	2,134	100.0	19.1	14.0	15.5	14.4	11.8	9.4	7.1	3.6	2.0	3.1

The average household size for the province is shown in Table 11.15. The average household size increased marginally from 4.8 in 1980 to 5.0 in 1990. In rural areas, it increased slightly from 4.7 to 4.9 while that of urban areas increased from 4.9 to 5.6.

Table 11.15

## Average Household Size by Residence and Sex of Head, Northern Province, 1980 and 1990

Sex of Household Head and Residence	1980	1990
Northern Province		
Total	4.8	5.0
Male	5.2	5.2
Female	4.0	3.8
Rural	4.7	4.9
Urban	4.9	5.6
Districts		
Chilubi	-	4.4
Chinsali	-	5.0
Isoka	-	5.3
Kaputa	-	4.9
Kasama	-	4.9
Luwingu	-	4.9
Mbala	-	4.7
Mpika	-	5.1
Mporokoso	-	5.1



For male headed households, the average household size of 5.2 has not changed in the intercensal period 1980-90 while that of female headed ones dropped from 4.0 to 3.8. In the districts of the province this average size ranges from 4.4 in Chilubi to 5.3 in Isoka.

Table 11.16 shows that the proportion of single member households decreased from 10 percent in 1980 to 5 percent in 1990. That of 2 to 3 member households also decreased while proportions of households with at least 4 members, increased.

**Table 11.16**

**Household Size, (Percent), Northern Province, 1980 and 1990**

Number of Household Members	1980	1990
1	10.4	5.2
2-3	27.9	26.7
4-6	37.0	38.8
7+	24.7	29.3
Total	100.0	100.0
Number of H/Holds	141,514	172,522

### *Household Composition*

The household composition, in this report is described in terms of marital status, educational level of household heads, economic activity of household members, relationship of household members to head of household and the presence of children below 12 years of age.

### *Marital Status of Household Heads*

Data on marital status of household heads is displayed in Table 11.17. The table shows that 82.7 percent of male household heads are married while 16.4 percent of their female counterparts are in this category. The majority of female heads of households are in the 'widowed' and 'divorced' categories and make up 41.8 and 21.3 percent, respectively. Less than 1 percent of male headed households are separated from their spouses while 13.3 percent of the female heads of households are separated.

**Table 11.17**

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

Marital Status	Northern Province		Rural		Urban	
	Male	Female	Male	Female	Male	Female
Never Married	2.0	4.0	1.6	3.1	4.5	10.4
Married	82.7	16.4	82.8	16.7	81.5	14.4
Widowed	0.8	41.8	0.9	43.3	0.7	31.4
Divorced	0.6	21.3	0.6	20.7	0.8	25.6
Separated	0.6	13.3	0.6	13.3	0.7	12.8
Not Stated	13.3	3.2	13.5	2.9	11.8	5.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
Total Number	138,392	341,144	120,741	30,053	17,651	4,091

In both rural and urban areas, the majority of male heads of households are married while the female heads are concentrated in the widowed, divorced and separated categories. The proportions of female heads of households who have never been married are higher than their male counterparts' in both rural and urban areas.

The percentage distribution of household heads by age sex and marital status is shown in Table 11.18. The table shows that the largest proportions of household heads in age group 12-14 for both males and females, and 15-19 years for males only, have never been married. Proportions of household heads who have never been married decrease with increasing age. From age 15 and above, the majority of male heads of households are married. Proportions of married female heads are largest in age groups 15-19, 20-24 and 25-29. In the older age groups large proportions of female heads are either widowed or divorced.

**Table 11.18**

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

Age of Household Head	Marital Status and Sex of Household Head															
	Number of Heads		Percentage Total		Never Married		Married		Widowed		Divorced		Separated		Not Stated	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
12-14	20	15	100.0	100.0	50.0	66.7	35.0	13.3	5.0	-	-	13.3	-	6.7	10.0	-
15-19	860	463	100.0	100.0	32.3	30.2	60.8	31.8	-	4.7	-	15.3	0.5	16.0	6.4	2.2
20-24	11,042	1,781	100.0	100.0	8.6	16.3	81.3	29.7	0.1	5.8	0.4	26.0	0.4	19.8	9.2	2.4
25-29	20,078	2,705	100.0	100.0	3.9	10.4	83.4	25.6	0.2	8.9	0.5	30.9	0.4	21.6	11.6	2.6
30-34	20,178	3,019	100.0	100.0	1.5	5.1	84.1	22.7	0.2	16.2	0.5	32.0	0.6	20.1	13.1	3.9
35-39	14,611	2,752	100.0	100.0	0.9	2.4	83.2	21.9	0.3	20.9	0.5	31.2	0.6	19.4	14.5	4.1
40-44	13,067	3,523	100.0	100.0	0.5	1.8	81.8	20.0	0.4	30.3	0.7	27.6	0.7	16.2	15.9	4.0
45-49	12,042	3,658	100.0	100.0	0.5	1.8	82.0	16.8	0.7	39.2	0.9	23.5	0.6	15.1	15.3	3.6
50-54	11,798	4,240	100.0	100.0	0.3	1.6	81.6	13.7	0.8	50.5	0.6	18.9	0.7	11.4	16.0	3.9
55-59	10,785	3,371	100.0	100.0	0.2	1.5	82.6	11.7	1.0	59.2	0.8	15.8	0.7	8.8	14.7	3.0
60-64	8,558	3,349	100.0	100.0	0.3	1.7	82.4	8.8	1.5	67.7	0.9	12.6	0.8	6.7	14.1	2.5
65+	15,353	5,256	100.0	100.0	0.3	2.2	83.7	7.0	3.8	75.1	0.8	9.0	0.8	4.7	10.6	2.0
Not Stated	-	12	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0
Total	138,392	34,144	100.0	100.0	2.0	4.0	82.7	16.4	0.8	41.8	0.6	21.3	0.6	13.3	13.3	3.2

#### *Educational level of household heads*

Educational level completed by heads of households is shown in Table 11.19. The table shows that 44 percent of household heads have not completed any level of education while 37 and 16 percent have completed primary and secondary education, respectively. The proportion of those who have completed higher education is only 0.1 percent. In rural areas, the highest proportion of household heads have had no schooling while in urban areas, most household heads have completed secondary education. The proportion of heads who have completed higher education is higher in urban than rural areas.

Table 11.19

Household Heads by Level of Education Completed, Residence and District, (Percent), Northern Province, 1990

Residence	Number of Household Heads	Total	Level of education				
			No Schooling	Primary	Secondary	Higher	Not Stated
<b>Northern</b>							
Total	172,536	100.0	44.0	37.1	15.6	0.1	3.2
Rural	150,794	100.0	45.7	38.0	12.1	0.1	3.1
Urban	21,742	100.0	26.4	30.3	40.1	0.5	3.7
<b>Sex of Head</b>							
Male	138,392	100.0	37.7	40.9	18.0	0.2	3.2
Female	34,144	100.0	69.5	21.3	5.9	0.0	3.3
<b>Districts</b>							
Chilubi	9,140	100.0	58.2	30.6	8.6	0.0	2.6
Chinsali	10,806	100.0	39.1	41.9	16.0	0.1	2.9
Isoka	21,104	100.0	43.6	38.3	13.6	0.1	4.4
Kaputa	10,169	100.0	50.0	36.6	10.7	0.0	2.7
Kasama	38,274	100.0	41.6	34.1	20.3	0.2	3.8
Luswingu	13,493	100.0	43.6	40.7	13.7	0.1	1.9
Mbala	28,771	100.0	48.8	35.2	12.5	0.1	3.4
Mpika	22,550	100.0	40.7	37.4	19.1	0.2	2.6
Mporokoso	10,229	100.0	38.0	42.8	16.6	0.1	2.5

There are disparities in levels of education completed between male and female heads of households. Over two-thirds of female heads of households have had no schooling, 21 percent have completed primary education and 6 percent have completed secondary education. A negligible proportion have completed higher education (0.0 percent). About 38 percent of male heads of households have had no formal education while 41 percent have completed primary education.

The majority of heads of households in Chinsali and Mporokoso have only completed primary education. In the remaining districts, the majority have had no formal schooling. In all the districts, small proportions of household heads have completed higher levels of education.

#### *Usually Economically Active*

Table 11.20 shows that in 21 percent of the households, there are no economically active members. In 1 percent of the households, there are at least six economically active members. Of the households with at least seven persons, 11 percent have no economically active members and in 36 percent, there is only one member who is economically active.



Table 11.20

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

Residence and Household Size	Number of HHs	Total	Members usually economically active						
			0	1	2	3	4	5	6+
<b>Northern Province</b>									
Total	172,536	100.0	20.7	44.3	21.7	6.9	3.4	1.6	1.4
1-2	35,096	100.0	36.7	49.9	13.4	-	-	-	-
3-4	50,815	100.0	21.2	48.3	23.9	5.4	1.2	-	-
5-6	40,683	100.0	16.6	43.8	25.0	8.6	4.1	1.5	0.4
7+	45,142	100.0	11.2	35.7	22.7	12.5	7.9	4.8	5.2
<b>Rural</b>									
Total	150,794	100.0	21.2	42.7	22.2	7.1	3.6	1.7	1.5
1-2	35,167	100.0	37.5	48.6	13.9	-	-	-	-
3-4	45,515	100.0	21.3	47.1	24.8	5.5	1.3	-	-
5-6	35,499	100.0	16.6	41.8	25.9	9.1	4.5	1.7	0.4
7+	37,673	100.0	11.3	33.2	22.7	13.1	8.5	5.4	5.8
<b>Urban</b>									
Total	21,742	100.0	17.5	55.3	17.9	5.6	2.1	0.8	0.8
1-2	3,789	100.0	30.1	60.8	9.1	-	-	-	-
3-4	5,300	100.0	19.9	59.0	16.2	4.3	0.6	-	-
5-6	5,184	100.0	16.0	57.2	19.1	5.4	1.7	0.5	0.1
7+	1,469	100.0	10.5	48.5	22.8	9.6	4.6	1.9	2.1

In rural and urban areas, proportions with one economically active person are 43 and 55 percent, respectively. In households with 5-6 persons, the proportions with one economically active person for rural areas is 42 percent and 57 percent for urban areas.

#### *Relationship to household head*

The distribution of households by relationship of household head to household members is displayed in Table 11.21. Out of 130,092 households in which there are spouses of household heads, 97 percent are in monogamous unions and the rest (3 percent) are in polygamous unions. The proportion of household heads in monogamous unions is higher in urban than in rural areas. The number of households in which there is the head's own sons or daughters is 138,312. The largest proportion in this category has at least six sons or daughters. Over half of the households with step-sons or daughters have one such person. About 55 percent of household heads only keep one unrelated person.

Table 11.21

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

Relationship to Head and Residence	Number of Households	Total	Number of Persons					
			1	2	3	4	5	6+
<b>Northern Total</b>								
Spouse	130,692	100.0	97.1	2.5	0.3	0.1	0.0	0.0
Own son/daughter	138,312	100.0	19.4	17.9	15.8	13.5	11.2	22.2
Step son/daughter	6,219	100.0	54.1	22.5	11.1	5.8	3.1	3.4
Other relations	50,217	100.0	48.3	23.6	12.5	6.6	3.8	5.2
Unrelated	2,447	100.0	53.3	16.9	9.1	4.8	2.6	11.3
Not stated	860	100.0	57.1	13.8	7.5	6.0	5.0	10.6
<b>Rural</b>								
Spouse	114,726	100.0	97.0	2.6	0.4	0.0	0.0	0.0
Own son/daughter	120,897	100.0	19.8	18.2	15.9	13.5	11.1	21.5
Step son/daughter	5,516	100.0	53.7	22.5	11.3	6.0	3.0	3.5
Other relations	41,134	100.0	49.0	23.2	12.2	6.5	3.8	5.3
Unrelated	1,925	100.0	54.2	16.8	10.1	5.5	2.8	10.6
Not stated	683	100.0	58.1	14.5	7.0	6.6	5.9	7.9
<b>Urban</b>								
Spouse	15,966	100.0	98.3	1.5	0.1	0.1	0.0	0.0
Own son/daughter	17,415	100.0	16.2	16.3	15.3	13.4	12.1	26.7
Step son/daughter	703	100.0	57.0	22.8	9.4	4.8	3.3	2.7
Other relations	9,083	100.0	45.1	25.7	13.8	7.1	3.6	4.7
Unrelated	522	100.0	59.0	17.4	5.6	2.5	1.7	13.8
Not Stated	177	100.0	53.1	11.3	9.0	4.0	1.7	20.9

*Children Below 12 years of Age*

Table 11.22 shows that male headed households have more children below the age of 12 years than those headed by females. Proportions of male headed households with none or one child below the age of 12 are lower than those headed by females. For households with 2 or more children below the age of 12 years, proportions are higher for male than female headed households. There are no major variations between rural and urban areas as regards the presence of children below the age of 12 years in a household. The pattern in the province can be generalised to rural and urban areas, as well as to the districts.

Table 11.22

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

Sex of Household Head and Residence	Total Households	Members below 12 years of age					
		Total	0	1	2	3	4+
Northern Province							
Male	138,392	100.0	24.3	19.6	18.6	16.2	21.3
Female	34,144	100.0	40.5	20.5	17.4	11.6	10.0
Rural							
Male	120,741	100.0	24.6	20.0	18.8	16.0	20.6
Female	30,053	100.0	41.3	20.3	17.2	11.5	9.7
Urban							
Male	17,651	100.0	22.4	16.8	17.7	16.8	26.3
Female	4,091	100.0	34.2	21.7	19.1	12.5	12.5
Chilubi							
Male	6,731	100.0	25.8	22.2	21.5	15.5	15.0
Female	2,409	100.0	40.6	23.7	18.4	10.5	6.8
Chinsali							
Male	13,476	100.0	23.5	20.2	17.9	16.4	22.0
Female	3,330	100.0	41.2	20.3	16.7	12.5	9.4
Isoka							
Male	18,371	100.0	22.8	19.9	18.6	16.3	22.4
Female	4,733	100.0	38.3	19.5	17.9	13.0	11.3
Kaputa							
Male	8,473	100.0	24.7	18.7	17.4	17.1	22.1
Female	1,696	100.0	34.9	21.0	17.7	13.5	12.8
Kasama							
Male	30,753	100.0	25.8	19.3	18.6	16.2	20.1
Female	7,521	100.0	43.1	20.2	16.4	10.9	9.3
Luwingu							
Male	10,735	100.0	23.8	19.9	19.4	16.0	20.9
Female	2,758	100.0	40.6	21.1	17.1	11.8	9.5
Mbala							
Male	23,732	100.0	24.9	19.7	19.0	15.9	20.5
Female	5,039	100.0	41.1	19.8	17.8	11.3	10.0
Mpika							
Male	18,026	100.0	23.1	18.7	18.2	16.2	23.8
Female	4,524	100.0	39.0	20.9	17.7	11.3	11.1
Mporokoso							
Male	8,095	100.0	23.5	18.7	18.0	15.9	23.9
Female	2,134	100.0	40.2	19.9	17.8	11.3	10.8

## 11.6 SUMMARY

The analysis of households and housing characteristics for Northern Province shows that 47 percent of the households occupy two roomed housing structures, this being the largest proportion. It is also observed that the most common construction materials are grass for roofs, mud bricks for walls and mud for floors, used in 86 percent, 53 percent and 82 percent of the housing units, respectively.

The most common source of water supply is river/stream used by 54 percent of households. As regards toilet facilities, 79 percent use pit latrines. Bucket and aqua privy are not common toilet facilities. The main sources of energy for cooking and lighting are wood and paraffin, used by 86 percent of the households and in 84 percent of the housing units, respectively.

The majority of housing units are owned by individuals (93 percent). About 45 percent of the rented housing units are rented from individuals, and almost a quarter are rented from the Central Government. Private Organisations are the least common landlords, renting out 3 percent.

Male headed households out-number female headed ones. There are 138,392 households headed by males compared to 34,144 headed by females. Male headed households tend to be larger than those headed by female. The majority of male heads of households are married (83 percent) while female heads are concentrated in the divorced (21 percent) and widowed (42 percent) categories. Forty-four percent of household heads have had no formal schooling and only 0.1 percent have completed higher education.



## REFERENCES

---

- Agriculture, Ministry of (1994): 1989/90 Agriculture Statistics Bulletin, Statistics Section, Planning Division, Printed by Central Statistics Office, P.O. Box 31908, Lusaka, Zambia.
- Bureau of the Census (1979): Popstan: "A Case Study for the 1980 Censuses of Population and Housing, Part E" Washington D.C. USA.
- Bureau of the Census (1989): "Surveys on Economically Active Population, Employment, Unemployment and Underemployment: A Manual on Concepts and Methods", Paper presented at ILO Conference, Geneva, Switzerland.
- Central Statistical Office (1973): Census of Population and Housing 1969, Final Report, Vol II(a): Central Province, P.O. Box 31908, Lusaka, Printed by the Government Printers, Lusaka, Zambia.
- Central Statistical Office (1973): Census of Population and Housing 1969, Final Report, Vol I: Total Zambia, P.O. Box 31908, Lusaka, Printed by the Government Printers, Lusaka, Zambia.
- Central Statistical Office (1984): Selected Socio-Economic Indicators, P.O. Box 31908, Lusaka, Printed by the Government Printers, Lusaka, Zambia.
- Central Statistical Office (1985): 1980 Population and Housing Census of Zambia, Vol I. "Administrative Report", P.O. Box 31908, Lusaka, Printed by the CSO, Lusaka, Zambia.
- Central Statistical Office (1985): 1980 Population and Housing Census of Zambia, Analytical Report, Vol II. "Demographic and Socio-Economic Characteristics of Zambia Population", P.O. Box 31908, Lusaka, Printed by the Government Printers, Lusaka, Zambia.
- Central Statistical Office (1985): 1980 Population and Housing Census of Zambia, Analytical Report, Vol III. "Major Findings and Conclusions", P.O. Box 31908, Lusaka, Printed by the Government Printers, Lusaka, Zambia.
- Central Statistical Office (1985): 1980 Population and Housing Census of Zambia, Analytical Report, Vol IV. "Fertility and Mortality Levels and Trends" P.O. Box 31908 Lusaka, Printed by the Government Printers, Lusaka, Zambia.
- Central Statistical Office (1985): 1980 Population and Housing Census of Zambia, Analytical Report, Vol V. "Demographic Projections" P.O. Box 31908 Lusaka, Printed by the Government Printers, Lusaka, Zambia.
- Central Statistical Office (1985): 1980 Population and Housing Census of Zambia, Vol I. "General Population and Migration Tables" P.O. Box 31908 Lusaka, Printed by the Government Printers, Lusaka, Zambia.
- Central Statistical Office (1985): 1980 Population and Housing Census of Zambia, Vol 2. "Socio-Economic Tables", Parts 1 and 2, P.O. Box 31908 Lusaka, Printed by the Government Printers, Lusaka, Zambia.

- Central Statistical Office (1985): 1980 Population and Housing Census of Zambia, Vol 3. "Fertility Tables", P.O. Box 31908 Lusaka, Printed by the Government Printers, Lusaka, Zambia.
- Central Statistical Office (1986): Labourforce Survey, 1986, P.O. Box 31908 Lusaka, Printed by the Government Printers, Lusaka, Zambia.
- Central Statistical Office (1990): 1990 Population and Housing Census of Zambia, "Preliminary Report", P.O. Box 31908 Lusaka, Printed by Central Statistics Office, Lusaka, Zambia.
- Central Statistical Office (1990): 1990 Population and Housing Census of Zambia, "Enumerators Instructions Manual", P.O. Box 31908 Lusaka, Printed by Central Statistics Office, Lusaka, Zambia.
- Central Statistical Office (1991): 1990 Population and Housing Census of Zambia, "Draft Administrative Report", P.O. Box 31908 Lusaka, Printed by Central Statistics Office Lusaka, Zambia.
- Central Statistical Office (1994): National Census of Agriculture (1990/92) "Census Report (Part I)", P.O. Box 31908 Lusaka, Printed by Central Statistics Office, Lusaka, Zambia.
- Central Statistical Office (1994): "Provincial Profile of Matebeleland North", Harare, Zimbabwe.
- Central Statistical Office (1992): Country Profile - 1992, P.O. Box 31908 Lusaka, Printed by Central Statistics Office, Lusaka, Zambia.
- Central Statistical Office (1993): "Mineral and Electricity Production Statistics Quarterly Bulletin" Unpublished report, P.O. Box 31908, Lusaka, Zambia.
- Central Statistical Office (1993): Priority Survey I - 1991 Report, Social Dimensions of Adjustment (SDA), P.O. Box 31908, Lusaka, Printed by Co-operative College, Lusaka, Zambia.
- Central Statistical Office (1986): 1983 Housing and Population Census of Mauritius, Analysis Report Vol.I, "Evaluation of Data", Rose Hill, Mauritius.
- Central Statistical Office (1986): 1983 Housing and Population Census of Mauritius, Analysis Report Vol.II, "Education : Characteristics, Prospects and some Implications", Rose Hill, Mauritius.
- Central Statistical Office (1986): 1983 Housing and Population Census of Mauritius, Analysis Report Vol.III, "Households and Housing Needs: Estimates and Implications", Rose Hill, Mauritius.
- Central Statistical Office (1987): 1983 Housing and Population Census of Mauritius, Analysis Report Vol.IV, "Economic Activity: Characteristics and Prospects", Rose Hill, Mauritius.
- Central Statistical Office (1987): 1983 Housing and Population Census of Mauritius, Analysis Report Vol.V, "Population Distribution and Migration", Rose Hill, Mauritius.
- Central Statistical Office (1989): 1983 Housing and Population Census of Mauritius, Analysis Report Vol.VII, "Fertility", Rose Hill, Mauritius.
- Central Statistical Office (1988): 1983 Housing and Population Census of Mauritius, Analysis Report Vol.VIII, "Rodrigues: A Population Profile", Rose Hill, Mauritius.



- Coale, A. & Demeny, D. (1966): Regional Model Life Tables and Stable Populations, Princeton University Press, New Jersey, USA.
- Education, Ministry of (1988): Annual Report for the year 1987, Printed by Printing Services, Lusaka, Zambia.
- Education, Ministry of (1988): Educational Statistics - 1982, Printed by Printing Services, Lusaka, Zambia.
- Education, Ministry of (1991): Educational Statistics, 1986, Development Planning and Research Unit, P.O. Box 50464, Lusaka, Zambia.
- Education, Ministry of (1987): Educational Statistics, 1984, Development and Planning Unit, P.O. Box 50464, Printed by Printing Services, Educational Services Centre, Lusaka, Zambia.
- Education, Ministry of (1987): Annual Report - 1986, Department of Technical Education and Vocational Training, Printed by Printing Services, Educational Services Centre, Lusaka, Zambia.
- Education, Ministry of (1987): Educational Statistics, 1983, Development and Planning Unit, P.O. Box 50093, Printed by Printing Services, Educational Services Centre, Lusaka, Zambia.
- Education, Ministry of (1982): Educational Statistics, 1980, Development and Planning Unit, P.O. Box 50093, Printed by Printing Services, Educational Services Centre, Lusaka, Zambia.
- ECA/RIPS (1989): Workbook on Demographic Data Evaluation and Analysis, Based on ECA sub-Regional Training Workshop for Anglophone Countries held at RIPS, Accra, 1-19 August, 1988, Addis Ababa, Ethiopia.
- Etienne van de Walle (1982): Multilingual Demographic Dictionary, English Section, IUSSP, rue des Augustins, 34-4000 Liege, Belgium.
- Health, Ministry of (1990): Bulletin of Health Statistics, 1987-1988, Major Health Trends 1978-1988, Health Information Unit, P.O. Box 30205, Lusaka, Printed by Co-operative College, Lusaka, Zambia.
- Health, Ministry of (1989): Bulletin of Health Statistics, 1985-1986, Major Health Trends 1976-1986, Health Information Unit, P.O. Box 30205, Lusaka, Printed by Co-operative College, Lusaka, Zambia.
- Health, Ministry of (1982): Country Health Profile 1978, Planning Unit, P.O. Box 30205, Lusaka, Printed by Government Printers, Lusaka, Zambia.
- Health, Ministry of (1990): Health Facilities in Zambia, 1990, Health Information Unit, P.O. Box 30205, Printed by Co-operative College, Lusaka, Zambia.
- Kelly, M.J. (1991): "Education in a Declining Economy, The Case of Zambia - 1975-1985", EDI Development Policy Case Series, Analytical Case Studies, Number 8, The World Bank, 1818 H Street, N.W. Washington, D.C. 20433, USA.
- Mitchell (1965) The Rhodes-Livingstone Journal, Human Problems in British Central Africa, "An Estimate of Fertility Among Africans on the Copperbelt of Northern Rhodesia". (University of Zambia, Manchester University Press).



- NCDP, Ministry of (1988): New Economic Recovery Programme, Interim National Development Plan, Progress Report No.2, P.O. 50268, Lusaka, Zambia. Printed by Government Printers, Lusaka, Zambia.
- NCDP, Ministry of (1989): New Economic Recovery Programme, Fourth National Development Plan, 1989-1993, Vol. II. P.O. Box 50268, Lusaka, Zambia. Printed by the Government Printers.
- NCDP, Ministry of (1993): Economic Review - January - June, 1993, P.O. Box 50268, Lusaka, Zambia. Printed by the Government Printers.
- NCDP, Ministry of (1989): Zambia's National Population Policy, P.O. Box 50268, Lusaka, Zambia. Printed by the Government Printers.
- NCDP, Ministry of (1989): Economic Report 1989, P.O. Box 50268, Lusaka, Zambia. Printed by the Government Printers.
- Newell, Colin (1988): Methods and Models in Demography, Belhaven Press, A division of Printer Publishers, London, UK.
- McGirr, N. & Pinal, J. (1985): Micro-Computer Programs for Demographic Analysis (MCPDA), (MS-DOS Version), Demographic Data for Development, Institute for Resource Development at Westinghouse, P.O. Box 866, Columbia, MD.21044, USA.
- Roland Pressat (1985): The Dictionary of Demography, Christopher Wilson (eds.) Basil Blackwell Ltd. 432 Park Avenue South, Suite 1503, New York 10016, USA.
- Shryock, S. & Siegel, S. (1976): Studies in Population, "The Methods and Materials of Demography", Condensed Edition, Academic Press, INC., 1250 Sixth Avenue, San Diego, California 92101, USA.
- United Nations (1968): "A System of Nations Accounts", Studies in Methods, Series F. No. 2, Rev.3 New York, USA.
- United Nations (1983): "Indirect Techniques for Demographic Estimation", Population Studies, No.81, Department of International Economic and Social Affairs.
- United Nations (1984): "Handbook of Household Surveys", Revised Edition, Studies in Methods, Series F No. 31, New York, USA.
- United Nations (1988): Population Studies, No.104, "MortPak-Lite, The United Nations Software Package for Mortality Measurement", Department of International Economic and Social Affairs, ST/ESA/SER.A/104.

## APPENDIX I

### KEY PERSONS INVOLVED IN THE 1990 CENSUS ANALYSIS

#### SECRETARIATE

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

#### EDITORS

Mr. Kumbutso Dzikedzeke  
Ms. Margaret Tembo  
Mr. Richard Zulu  
Mr. Patrick M. Chewe  
Mr. Alfred M. Kaili

#### PROGRAMMERS

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

#### ANALYSTS

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

#### CONSULTANTS

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

#### DESKTOP SPECIALISTS

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





## APPENDIX II

STRICTLY CONFIDENTIAL

CENTRAL STATISTICAL OFFICE  
P.O. BOX 31908,  
LUSAKA



REPUBLIC OF ZAMBIA

QUESTIONNAIRE SERIAL NO:

FORM 

C	P	H	A	9	0	0	1
---	---	---	---	---	---	---	---

QUESTIONNAIRE NO 

--	--

 OF 

--	--

### 1990 CENSUS OF POPULATION, HOUSING AND AGRICULTURE

QUESTIONNAIRE IDENTIFICATION			
1. PROVINCE NAME	1		
2. DISTRICT NAME	2 - 3		
3. CSA NUMBER	4 - 6		
4. RURAL/URBAN	7		
5. SEA NUMBER	8	CD	9
6. CENSUS BUILDING NUMBER (CBN)	13 - 14		
7. HOUSING UNIT NUMBER (HUN)	15		
8. HOUSEHOLD NUMBER (HHN)	15		
AREA IDENTIFICATION			
9. VILLAGE/LOCALITY NAME			
10. RESIDENTIAL ADDRESS/VILLAGE NAME			
11. CHIEF'S AREA	16 - 18		
12. WARD	19 - 20		
13. INSTITUTION/COLLECTIVE QUARTER	21		
ASSIGNMENT RECORD		INTERVIEW STATUS	
Name	Date	1 - Interview completed (Occupied) 2 - Non-contact (Occupied) 3 - Not interviewed (Vacant) - Go to H-1 on page 9 4 - Non-residential - Go to H-1 on page 9	
Enumerator	Completed		
Supervisor	Checked		
Coder	Coded		
Editor	Edited		
		22	
SUMMARY COUNT (DE FACTO POPULATION CODE 1 AND 2 OF P-3)			
CODE	MALE	FEMALE	TOTAL
1			
2			
TOTAL			

FOR ALL PERSONS										
GENERAL CHARACTERISTICS										
RECORD TYPE	SERIAL NUMBER	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)?	MEMBERSHIP STATUS Is.....a 1- Usual member present last night? 2- Visitor? 3- Usual member absent? (Enter Code)	RELATIONSHIP What is.....'s relationship to the head of h/hold? 1- Head 2- Spouse 3- Own Son/daughter 4- Step Son/daughter 5- Other relative 6- Unrelated (Enter Code)	SEX What is.....'s sex? 1 - Male 2 - Female	AGE What is.....'s age? (Enter age in completed year or '00' if less than 1 year)	DISABILITY			
							Is.....			
							(a) BLIND? 1 - Yes 2 - No (Enter Code)	(b) DEAF/DUMB? 1 - Yes 2 - No (Enter Code)	(c) CRIPPLED? 1 - Yes 2 - No (Enter Code)	(d) MENTALLY/RETARDED? 1 - Yes 2 - No (Enter Code)
		P - 1	P - 2	P - 3	P - 4	P - 5	P - 6	P - 7		
		23	24	25	26	27	28	29 - 30	31	32
		33	34							
P	1									
	2									
	3									
	4									
	5									
	6									
	7									
	8									
	9									
	0									
	1									
	2									
	3									
	4									
	5									
	6									
	7									
	8									
	9									
	0									

FORM CPHA - 9001

PAGE 2

FOR ALL PERSONS									
GENERAL CHARACTERISTICS									
MIGRATION									
Where was.....born?									
What is.....'s country of citizenship?									
How long has.....been continuously living in this district?									
(Enter completed years and months)									
Years Months									
P - 8 P - 9 P - 10									
35 - 37 38 39 - 41 42 - 43 44 - 45									
1									
2									
3									
4									
5									
6									
7									
8									
9									
0									
1									
2									
3									
4									
5									
6									
7									
8									
9									
0									



FOR ALL PERSONS					
GENERAL CHARACTERISTICS					
S E R I A L  N U M B E R	MIGRATION		ETHNICITY AND LANGUAGE		
	Where was.....staying in August last year?		What is.....'s ethnic group?	What is.....'s LANGUAGE OF COMMUNICATION?	
	State district if in Zambia and country if outside Zambia (Enter district name 3-digit code from list of provinces and districts)	Is this part of the district rural or urban? 1 - Rural 2 - Urban 8 - Not Applicable (Outside Zambia or child less than 1 year) (Enter Code)	(Enter Zambian tribe, if not applicable enter major racial group) Code - 64 - African 65 - American 66 - Asian 67 - European 68 - Other	a. PREDOMINANT (Write the name of the language and enter the code. If not applicable enter 88)	b. SECOND (Write the name of the language and enter the code. If not applicable enter 88)
	P - 11		P - 12	P - 13	
	46 - 48	49	50 - 51	52 - 53	54 - 54
1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
6	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
9	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
0	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
6	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
9	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
0	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

FORM CPHI-9001

PAGE 4

FOR PERSONS 5 YEARS AND OVER					
EDUCATION					
S E R I A L  N U M B E R	Can ..... read and write in any language ?  1 - Yes 2 - No	Does ..... go to any institution of learning ?  1 - Yes-Full time 2 - Yes-Part time 3 - Yes-Correspondence  Go to P-17 4-No	Did ..... previously go to any institution of learning ?  1 - Yes-Full time 2 - Yes-Part time 3 - Yes-Correspondence 4 - No - Go to P-18	What highest level of academic education has ..... completed ?	What highest professional or vocational education has ..... completed ?  (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 programmes)
	P - 14	P - 15	P - 16	P - 17	P - 18
	56	57	58	59 - 60	61 62 - 63
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

FORM CPHA-9001

PAGE 5

FOR FEMALES 12 YEARS AND OVER								GENERAL COMMENTS
FERTILITY (Own children ever born alive)								
S E R I A L  N U M B E R	Have you had any live birth since.....1989 ?  1 - Yes GO TO next person otherwise go to M-1  (Enter Code)	CHILDREN BORN IN LAST 12 months						
		Of the children born to you alive since.....1989 ?						
		a. How many are still living today ?  How many of these are male and how many are females ?		b. how many are living elsewhere in some other household ?  How many of these are male and how many are female ?		c. How many died ?  How many of these are male and how many are female ?		
		Male	Female	Male	Female	Male	Female	
	F - 5	F - 6						
	93	94	95	96	97	98	99	
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



MORTALITY		HOUSING CHARACTERISTICS	
RECORD TYPE	M-1 Has there been any death in this household since...1989 ?	1 - Yes <input type="checkbox"/> 2 - No - Go to HH-1 24	H-1 Type of housing
	M-2 How many died ? How many of these are -	Male ? <input type="checkbox"/> 25 Female ? <input type="checkbox"/> 26	1 - Single Structure <input type="checkbox"/> 2 - Several Structures <input type="checkbox"/> 3 - Part of Structure <input type="checkbox"/> 4 - Improvised/makeshift <input type="checkbox"/> 5 - Unintended <input type="checkbox"/> 6 - Collective <input type="checkbox"/> 7 - Institutional <input type="checkbox"/> 8 - Other <input type="checkbox"/> 45
H	HOUSEHOLD CHARACTERISTICS		H-2 Type of roofing material
23	HH-1 What is the main source of energy used for energy used for lighting by this household ?	1 - Electricity <input type="checkbox"/> 2 - Gas <input type="checkbox"/> 3 - Paraffin/Kerosene <input type="checkbox"/> 4 - Candle <input type="checkbox"/> 5 - Other <input type="checkbox"/> 27	1 - Concrete/Cement <input type="checkbox"/> 2 - Asbestos sheet <input type="checkbox"/> 3 - Iron sheet/corrugated iron sheet <input type="checkbox"/> 4 - Grass/thatch <input type="checkbox"/> 5 - Tiles <input type="checkbox"/> 6 - Other <input type="checkbox"/> 46
	HH-2 What is the main source of energy used for cooking by this household ?	1 - Electricity <input type="checkbox"/> 2 - Gas <input type="checkbox"/> 3 - Paraffin/Kerosene <input type="checkbox"/> 4 - Wood <input type="checkbox"/> 5 - Charcoal <input type="checkbox"/> 6 - Coal <input type="checkbox"/> 7 - Other <input type="checkbox"/> 28	H-3 What are the walls of this housing unit made of?
	HH-3 What type of toilet is used by members of this household ?	1 - Flush <input type="checkbox"/> 2 - Pit latrine <input type="checkbox"/> 3 - Aqua privy <input type="checkbox"/> 4 - Bucket <input type="checkbox"/> 5 - Other - Go to HH-6 29	1 - Burnt bricks <input type="checkbox"/> 2 - Unburnt or mud bricks <input type="checkbox"/> 3 - Concrete blocks/slab <input type="checkbox"/> 4 - Stone <input type="checkbox"/> 5 - Iron sheets <input type="checkbox"/> 6 - Asbestos/hardboard/Wood <input type="checkbox"/> 7 - Pole and dagga/mud <input type="checkbox"/> 8 - Grass <input type="checkbox"/> 9 - Other <input type="checkbox"/> 47
	HH-4 Is this toilet inside or outside this housing unit ?	1 - Yes <input type="checkbox"/> 2 - No <input type="checkbox"/> 30	H-4 What is the floor of this housing unit made of?
	HH-5 Is this toilet exclusively used by members of this household ?	1 - Yes <input type="checkbox"/> 2 - No <input type="checkbox"/> 31	1 - Concrete/cement <input type="checkbox"/> 2 - Mud <input type="checkbox"/> 3 - Wood(not wooden tiles) <input type="checkbox"/> 4 - Marble <input type="checkbox"/> 5 - Other <input type="checkbox"/> 48
	HH-6 Is this housing unit owned by any member of this household ?	1 - Yes <input type="checkbox"/> 2 - No - Go to HH-8 32	H-5 Occupancy
	HH-7 Was this housing unit -	1 - Built by any member of this household ? <input type="checkbox"/> 2 - Bought ? <input type="checkbox"/> 3 - Inherited/given 33	1 - Single household <input type="checkbox"/> 2 - One household in several housing units <input type="checkbox"/> 3 - Shared (Enter number of households sharing in box 50) <input type="text"/> 49 4 - Vacant <input type="checkbox"/> 5 - Non-residential - END HERE 50
	HH-8 Is this housing unit provided free by the employer/friend or relative of any member of this household ?	1 - Yes-Employer - Go to HH-10 <input type="checkbox"/> 2 - Yes-By friend or relative-Go to HH-13 34 3 - No <input type="checkbox"/>	H-6 How many living rooms and bedrooms does this housing unit have ?
	HH-9 Is this housing unit rented from the employer of any member of this household ?	1 - Yes <input type="checkbox"/> 2 - No - Go to HH-11 35	Living rooms <input type="text"/> 51 bedrooms <input type="text"/> 52 - 53
	HH-10 Is the employer -	1 - The Central Govt? <input type="checkbox"/> 2 - The District Council? <input type="checkbox"/> 3 - A Parastatal ? <input type="checkbox"/> 4 - A Private Organ. ? <input type="checkbox"/> 5 - An individual ? <input type="checkbox"/> 36	H-7 Does this housing unit have a kitchen ?
	HH-11 Is this housing unit rented from -	1 - The Central Govt? <input type="checkbox"/> 2 - The District Council? <input type="checkbox"/> 3 - A Parastatal ? <input type="checkbox"/> 4 - A Private Organ. ? <input type="checkbox"/> 5 - An individual ? <input type="checkbox"/> 37	1 - Yes <input type="checkbox"/> 2 - No <input type="checkbox"/> 54
	HH-12 Is this housing unit owned by -	1 - The Central Govt? <input type="checkbox"/> 2 - The District Council? <input type="checkbox"/> 3 - A Parastatal ? <input type="checkbox"/> 4 - A Private Organ. ? <input type="checkbox"/> 5 - An individual ? <input type="checkbox"/> 38	H-8 What is the main source of water supply for this house ?
	HH-13 a. How many radios does this household/institution have ? b. How many television sets does this household/institution have?	<input type="text"/> 39-41 <input type="text"/> 42-44	1 - Piped water inside the housing unit <input type="checkbox"/> 2 - Piped water outside the housing unit and within distance of 100 metres <input type="checkbox"/> 3 - Piped water outside the housing unit and beyond 100 metres <input type="checkbox"/> 4 - Well or borehole <input type="checkbox"/> 5 - River/Streams <input type="checkbox"/> 6 - Other <input type="checkbox"/> 55
			AGRICULTURAL ACTIVITY
			A-1 Has any member of this household been engaged in any agricultural activity for this household since 1st October 1989 ?
			1 - Yes <input type="checkbox"/> 2 - No - Go to A-3 <input type="checkbox"/> 56
			A-2 Is this holding managed by someone else who is not a member of this household ?
			1 - Yes <input type="checkbox"/> 2 - No - COMPLETE AGRICULTURE SUPPLEMENT <input type="checkbox"/> 57
			A-3 Has any member of this household been managing any holding which does not belong to this household since 1st October 1989 ?
			1 - Yes - COMPLETE AGRICULTURE SUPPLEMENT <input type="checkbox"/> 2 - No - End interview & thank respondent <input type="checkbox"/> 58
			ENUMERATOR - Complete an Agriculture supplement questionnaire for each of the responses 'NO' in A-2 and 'Yes' in A-3.

