

ZAMBIA

2010 CENSUS OF POPULATION AND HOUSING

NORTHERN PROVINCE ANALYTICAL REPORT

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Page Table of Content

ix Foreword

xi Acknowledgements

1 Chapter 1: Provincial Profile; Northern Province

- 2 1.0 Introduction
- 2 1.1 Administration
- 2 1.2 Natural Resources
- 2 1.3 Languages
- 2 1.4 Religion
- 2 1.5 Health
- 3 1.6 Economy
- 3 1.7 Education
- 3 1.8 Gender Issues
- 3 1.9 Census of Population and Housing Undertaking
- 3 1.9.1 The Main Objectives of the Census of Population and Housing
- 4 1.9.2 Methodologies Applied in the 2010 Census of Population and Housing
- 4 1.9.3 Presentation of Results

5 Chapter 2: Population Size, Growth and Distribution

- 6 2.1 Introduction
- 6 2.2 Concepts and definitions
- 6 De Facto Population
- 6 De jure Population
- 6 De Jure and De Facto Populations
- 6 Population Growth Rate
- 6 2.3 Population Size
- 7 2.4 Population Growth
- 8 2.5 Population Distribution
- 9 2.6 Population Density

11 Chapter 3: Population Composition and Demographic Characteristics

- 12 3.1 Population Composition
- 12 3.2 Age and Sex Composition
- 13 3.3 Median Age
- 13 3.4 Age Dependency Ratios
- 14 3.5 Sex Composition
- 14 3.5.1 Sex Ratio and Percent Deficit of Males
- 14 3.5.2 Sex Ratio at Birth

17 Chapter 4: Social Characteristics

- 18 4.1 Marital Status
- 18 4.2 Median Age At First Marriage
- 19 4.3 Household Composition
- 19 4.3.1 Household Headship
- 19 4.3.2 Household Size
- 20 4.3.3 Relationship To Head
- 20 4.4 Religion
- 20 4.5 Birth Certificates
- 20 4.6 Holders of Green National Registration Cards
- 21 4.7 The Voting Population

23 Chapter 5: Education Characteristics

- 24 5.1: Introduction
- 24 5.2: Concepts and Definitions
- 24 School Attendance
- 24 Gross School Attendance Rate
- 24 Net School Attendance Rate
- 24 Education Attainment
- 24 Literacy
- 24 Gender Parity Index
- 24 5.3. Literacy
- 25 5.3.1: Literacy Rate for the Youth Population (15 24 years)
- 25 5.3.2: Literacy Rate for the Adult Population (15 Years and Older)
- 25 5.4 School Attendance
- 26 5.4.1 Primary School Attendance Rate
- 27 5.4.2 Gross Primary School Attendance Rate
- 27 5.4.3 Net Primary School Attendance Rate
- 27 5.4.4 Gross Secondary School Attendance Rate
- 28 5.4.5 Net Secondary School Attendance Rate
- 28 5.5 Gender Parity Index
- 29 5.6 Highest Education Level Completed
- 30 5.7 Highest Professional/Vocational Qualification Completed
- 30 5.8 Field of Study

33 Chapter 6: Economic Characteristics

- 34 6.1 Introduction
- 34 6.2 Concepts and Definitions
- 34 6.3 Working Age Population
- 35 6.3.1 Population 12 Years and Older, Northern Province 2010
- 35 6.4 Economic Activity Status
- 35 6.4.1 Economically Active
- 35 6.4.2 Economically Inactive
- 35 6.5 Labour Force Participation Rate
- 36 6.6 Employed Population

- 36 6.7 Unemployment
- 37 6.7.1 Youth Unemployment
- 37 6.8 Economically Inactive Population
- 38 6.9 Economic Dependency Ratio
- 38 6.10 Employment Status, Occupation and Industrial Classification
- 38 6.10.1 Employment Status
- 39 6.10.2 Working Population by Occupation
- 39 6.10.3 Working Population by Industry

41 Chapter 7: Fertility Characteristics

- 42 7.1 Introduction
- 42 7.2. Concepts and Definitions
- 42 7.3 Data Availability and Limitations
- 42 7.4 Evaluation and Justification for Adjustments
- 43 7.5 Fertility Indicators
- 43 7.5.1 Adjusted Age Specific Fertility Rate
- 43 7.5.2 Total Fertility Rate
- 43 7.5.2.1 Total Fertility Rate by District
- 43 7.5.3 Mean Age at Child Bearing (MACB)
- 44 7.5.5 Net Reproduction Rate (NRR)
- 44 7.6 Fertility Differentials and Selected Background Characteristics of Women Aged 15-49 years
- 44 7.6.1 Total Fertility Rate by District and Religious Affiliation of Women Aged 15-49 Years
- 44 7.5.6 Other Fertility Indicators
- 45 7.6.2 Total Fertility Rate by District and Education attainment of Women Aged 15-49 years
- 45 7.6.3 Total Fertility Rate by Economic Activity Status of Women

47 Chapter 8: Childhood Mortality Characteristics

- 48 8.1 Introduction
- 48 8.2 Concepts and definitions
- 48 8.3 Collection of Childhood Mortality data in the 2010 Census
- 48 8.4 Childhood Mortality data evaluation and estimation procedure
- 48 8.4.1 Crude Death Rate
- 49 8.5 Infant Mortality Rate
- 50 8.6 Child Mortality Rate
- 50 8.7 Under-Five Mortality Rate (U5MR)

53 Chapter 9: General and Maternal Mortality Characteristics

- 54 9.1 Introduction
- 54 9.2 Concepts and definitions
- 54 9.3 Collection of Mortality Data in the 2010 Census
- 54 9.4 General Mortality
- 54 9.4.1 Crude Death Rate (CDR)

- 55 9.4.2 Age-Sex Specific Death Rate
- 56 9.5 Life Expectancy
- 56 9.6 Cause of Death

59 Chapter 10: Language and Ethnicity

- 60 10.1 Introduction
- 60 10.2 Concepts and Definitions
- 60 10.3 Widely Used Language of Communication
- 60 10.3.1: Language Groups
- 61 10.3.2: Widely Used Languages of Communication by Sex
- 61 10.3.3 Widely Used Language of Communication by District
- 62 10.4 Ethnicity
- 62 10.4.2. Ethnicity by Rural/Urban and Sex

63 Chapter 11: Disability

- 64 11.1 Introduction
- 64 11.2 Concepts and Definitions
- 64 11.2.1 Type of Disability:
- 65 11.3 Causes of Disability
- 65 11.4 Limitations of Disability Data
- 65 11.5 General Characteristics
- 65 11.5.1 Distribution of the Disabled and Non-Disabled Population
- 65 11.5.2 Distribution of the Disabled
- 65 11.5.3 Disability by Sex
- 66 11.5.4 Disability by Age
- 66 11.5.5 Disability by Household Headship
- 66 11.5.6 Type of Disability
- 67 11.5.7 Cause of Disability
- 67 11.6 Characteristics of the Population with Disability
 - 11.6.1 Literacy Levels among the Disabled and Non-Disabled
- 67 11.6.2 School Attendance
- 68 11.6.3 Education Level among the Disabled
- 68 11.7 Economic Activity

67

- 68 11.7.1 Employment Status
- 68 11.7.2 Employment Status of Disabled Household Heads
- 68 11.7.3 Occupation Status
- 69 11.8 Marital Status of the Disabled by Sex

71 Chapter 12: Evaluation of Coverage and Content Errors

- 72 12.1. Introduction
- 72 12.2. Concepts and Definitions
- 72 12.3. Type of Population used in Evaluating the Coverage and Content Errors
- 72 12.4. Methods of Evaluation
- 72 12.5. Coverage Error
- 73 12.6. Age Composition

2010 Census of Population and Housing - Northern Province Analytical Report

- 73 12.7. Child-Woman Ratio
- 73 12.8. Dependency Ratio
- 73 12.9. Content Error
- 74 12.9.1. Digit Preference
- 75 12.9.2. Sex Ratios
- 76 12.9.3. Age Ratios
- 76 12.9.4. Survival Ratios
- 77 12.9.5. Population Pyramids

79 Annex Tables And References

- 80 Annex A: Population Composition and Demographic Characteristics
- 80 Annex B: Social Characteristics
- 81 Annex C: Education
- 82 Annex D: Economic Characteristics
- 83 Annex E: Fertility Levels, Patterns and Trends
- 83 Annex F: Mortality
- 84 Annex H: Disability
- 84 Annex I: Evaluation of Coverage and Content Errors
- 86 Life Tables

89 References

- 91 2010 Census of Population and Housing Questionnaire
- 97 Key Persons Involved in the Production of the Report

Page List of Tables

- 2 Table 1.1: Number of Health Facilities by Facility Type, Ownership and District, Northern Province 2010
- 7 Table 2.1: Population Size by Rural/Urban, Northern Province 2000-2010
- 7 Table 2.2: Total Population (De jure) and Percent Distribution by Sex and Rural/ Urban, Northern Province 2010
- 7 Table 2.3: Total Population (De jure) by Sex, Rural/Urban and District, Northern Province 2010
- 7 Table 2.4: Population (De Jure) by Sex and District, Northern Province 2000 and 2010
- 8 Table 2.5: Population Size and Average Annual Population Growth Rate by Rural/ Urban and District, Northern Province 2000-2010
- 9 Table 2.6: Population Distribution by Rural/Urban and District, Northern Province 2000-2010.
- 9 Table 2.7: Area and Population Density (De Jure) by District, Northern Province 2000 and 2010
- 14 Table 3.1: Age Dependency Ratio, Northern Province 2010
- 14 Table 3.2: Overall, Child and Aged Dependency Ratios by District, Northern Province, 2010
- 14 Table 3.3: Sex Ratio and Percent Deficit of Males by Rural/Urban and District, Northern Province 2010
- 21 Table 4.1: Percentage Distribution of Eligible Voters (18 Years and Older) and Registered Voters by Sex and Rural/Urban, Northern Province 2010.
- 31 Table 5.1: Percentage Distribution of Population (25 years and older) by Field of Study and Sex, Northern Province 2010
- 44 Table 7.1: Fertility Indicators By Rural/Urban and District, Northern Province 2010
- 44 Table 7.2: Total Fertility Rates by Religious Affiliation of Women Aged 15-49 years and District, Northern Province 2010
- 45 Table 7.3: Total Fertility Rate by Education Attainment of Women Aged 15-49 years and District, Northern Province 2010
- 49 Table 8.1: Observed Crude Death Rates (CDR) by Sex and Single Age for Population Aged 0-4 Years and Rural/Urban, Northern Province 2010
- 49 Table 8.2: Infant Mortality Rate (IMR) by Sex and Rural/Urban, Northern Province 2010
- 50 Table 8.3: Child Mortality Rate by Sex and Rural/Urban, Northern Province 2010
- 50 Table 8.4: Under-Five Mortality Rate (U5MR) by Sex and Rural/ Urban, Northern Province 2010
- 55 Table 9.1: Observed Crude Death Rate by Sex and District, Northern Province 2010
- 56 Table 9.2: Life Expectancy at Birth by Sex and Rural/Urban, Northern Province 2010
- 60 Table 10.1: Percent Distribution of the Population by Widely Spoken Language of Communication and Rural/urban, Northern Province 2010
- 61 Table 10.2: Percentage Distribution of the Population by Major Language Group and Rural/Urban, Northern Province 2010
- 61 Table 10.3: Percentage Distribution of Widely Used Language of Communication by Sex and Rural/Urban, Northern Province 2010
- 61 Table 10.4: Percentage Distribution of Widely Used Language of Communication by District, Northern Province 2010
- 62 Table 10.5: Percentage Distribution of the Population by Ethnicity and Rural/Urban, Northern Province 2010

- 62 Table 10.6: Percent Distribution of the Population by Ethnicity, Sex and Rural/Urban, Northern Province 2010
- 64 Table 11.1: Disability Categories used in Censuses, Zambia 1969-2010
- 69 Figure 11.18: Percent Distribution of Persons with Disabilities (15 years and older) by Marital Status and Sex, Northern Province 2010
- 73 Table 12.1: Population Distribution by Broad Age Groups, Northern Province 2000 and 2010
- 74 Figure 12.3: Myers' Index by Rural/Urban, Northern Province 2000 and 2010
- 74 Table 12.2: Most Preferred Digits by Sex and Rural/Urban, Northern Province 2000 and 2010
- 76 Table 12.3: Sex Ratio by Age and Rural/Urban, Northern Province 2000 and 2010
- 80 A1: Percent Distribution of the Population (De jure) by Age Group, Sex and Rural/ Urban, Northern Province 2010
- 80 A 2: Percent Age Distribution of the Population by Selected Age Groups and Rural/ Urban, Northern Province 2010
- 80 B 1: Percent Distribution of Household Heads by Age Group and Sex, Northern Province 2010
- 80 B 2: Relationship to Household Head by Rural/Urban, Northern Province 2010
- 81 C 1: Population 5 Years and Older by Age (Single and 5 Year Groups), Sex and Literacy Status, and Rural/Urban, Northern Province 2010
- 81 C 2: Population 5 Years and Older by Age, Sex, and School Attendance and Rural/ Urban, Northern Province 2010
- 82 D 1: The Usually Working Population (12 years and Older) By District, Northern Province 2010
- 83 E 1: Adjusted ASFRs and TFRs by District, Northern Province 2010
- 83 E 2: Observed and Adjusted ASFR, TFR and Mean Age at Childbearing (MACB), Northern Province 1990 – 2010
- 83 E 3: GRR and NRR by Rural/Urban, Northern Province 1990 2010
- 83 F 1 : Proportion Distribution of Reported Deaths by Age Group, District and Rural/ Urban, Northern Province 2010
- 84 H 1: Disabled Population by Sex, Rural/Urban and District, Northern Province 2010
- 84 H2: Disabled Population by Age and Sex, Northern Province 2010
- 84 I 1: Population by Age Group, Sex, Age Ratio and Sex Ratio, Northern Province 2000
- 85 12: Population by Age Group, Sex, Age Ratio and Sex Ratio, Northern Province 2010
- 86 Table 1: Abridged Life Table for Both Sexes, Northern Province 2010
- 86 Table 2: Abridged Life Table for Males, Northern Province 2010
- 86 Table 3: Abridged Life Table for Females, Luapula Province 2010
- 87 Table 4: Abridged Life Table Northern Province Rural Both Sexes, 2010
- 87 Table 5: Abridged Life Table Northern Province Urban Both Sexes, 2010

Page Table of Figures

- 6 Figure 2.1: Diagrammatic Presentation of the De facto and the De jure Populations
- 8 Figure 2.2: Percent Average Annual Rate of Population Growth by Rural/Urban, Northern Province 2000-2010
- 8 Figure 2.3: Percent Distribution of Population by Rural/Urban, Northern Province 2000 and 2010
- 9 Figure 2.4: Percentage Distribution of Population by District, Northern Province 2010
- 12 Figure 3.1: Percent Age Distribution by Sex, Northern Province 2010
- 12 Figure 3.2: Percent Age Distribution by Rural/Urban, Northern Province 2010
- 12 Figure 3.2.1: Population Age and Sex Structure, Northern Province 2010
- 12 Figure 3.3: Population Proportions by Selected Age Groups, Northern Province 2010
- 13 Figure 3.4: Percent Distribution of Population Aged below 15 years and the Population 65 Years and Older by District, Northern Province 2010
- 13 Figure 3.5: Median Age by Rural/Urban, Northern Province 2010
- 13 Figure 3.6: Median Age by Sex and Rural/Urban, Northern Province 2010
- 13 Figure 3.7: Median Age by District, Northern Province 2010
- 15 Figure 3.8: Sex Ratio at Birth by Rural/urban and District, Northern Province 2010
- 18 Figure 4.1: Percent Distribution of the Population (15 Years and Older) by Marital Status, Northern Province 2010
- 18 Figure 4.2: Percent Distribution of the Population (15 Years and Older) by Marital Status and Rural/Urban, Northern Province 2010
- 18 Figure 4.3: Percent Distribution of the Population (15 Years and Older) by Marital Status and Sex, Northern Province 2010
- 18 Figure 4.4: Median Age at First Marriage by sex, Rural/Urban and District, Northern Province 2010
- 19 Figure 4.5: Percent Distribution of Household Heads by Age, Northern Province 2010
- 19 Figure 4.6: Percent Distribution of Household Heads by Sex and Rural/Urban, Northern Province 2010
- 19 Figure 4.7: Average Household Size by Rural/Urban and District, Northern Province 2010
- 19 Figure 4.8: Average Household Size by Sex of the Household Head, District and Rural/ Urban, Northern Province 2010
- 20 Figure 4.9 Percentage Distribution of the Population by Relationship to Household Head, Northern Province 2010
- 20 Figure 4.10 Percentage Distribution of the Population by Religious Affiliation, Northern Province 2010
- 20 Figure 4.11 Percent Distribution of the Population Aged Below 18 Years With or Without Birth Certificates by Rural/Urban, Northern Province 2010
- 20 Figure 4.12: Percent Distribution of the Population Aged Below 18 Years Without Birth Certificates by District, Northern Province 2010
- 20 Figure 4.13 Percentage Distribution of Population (16 Years and Older) with Green National Registration Cards by Sex, District and Rural/Urban, Northern Province 2010
- 21 Figure 4.14: Percentage Distribution of Registered Voters Among Eligible Voters by District, Northern Province 2010
- 24 Figure 5.1: Literacy Rate for Population Aged 5 years and Older by Sex and Rural/ Urban, Northern Province, 2010.
- 24 Figure 5.2: Literacy Rate for the Population Aged 5 Years and Older by District, Northern Province 2010
- 25 Figure 5.3: Literacy Rate for the Youth Population (15-24 years) by Sex and Rural/ Urban, Northern Province, 2010.

- 25 Figure 5.4: Literacy Rate for the Youth Population (15-24 years) by District, Northern Province, 2010
- 25 Figure 5.5: Literacy Rate for the Adult Population (15 years and older) by Sex and Rural/Urban, Northern Province, 2010
- 25 Figure 5.6: Literacy Rate for the Adult Population (15 years and older) by District, Northern Province 2010
- 25 Figure 5.7: Percent of Population Aged 5 Years and Older Currently Attending School by Sex and Rural/Urban, Northern Province, 2010
- 26 Figure 5.8: Percentage Distribution of the Population (5 Years and Older) Currently Attending School by Age Group, Northern Province 2010
- 26 Figure 5.9: Percentage Distribution of the Population (5 Years and Older) Currently Attending School by Age Group and Rural/Urban, Northern Province 2010.
- 26 Figure 5.10: Percentage Distribution of the Population (5 Years and Older) Currently Attending School by Sex and Age, Northern Province 2010
- 26 Figure 5.11: Percentage Distribution of the Population aged 5 years and older Currently Attending School by District, Northern Province 2010
- 26 Figure 5.12: Percentage Distribution of the Population aged 7 to 13 years Currently Attending Primary School by Sex and Rural/Urban, Northern Province, 2010
- 27 Figure 5.13: Percentage Distribution of the Population Aged 7 to 13 Years Currently Attending Primary School by District, Northern Province 2010
- 27 Figure 5.14: Gross Primary School Attendance Rate by Sex and Rural/Urban, Northern Province, 2010.
- 27 Figure 5.15: Gross Primary School Attendance Rate by District, Northern Province 2010
- 27 Figure 5.16: Net Primary School Attendance Rate by Sex and Rural/Urban, Northern Province 2010
- 27 Figure 5.17: Net Primary School Attendance Rate by District, Northern Province 2010
- 28 Figure 5.18: Gross Secondary School Attendance Rate by Sex and Rural/Urban, Northern Province 2010
- 28 Figure 5.19: Gross Secondary School Attendance Rate by District, Northern Province 2010
- 28 Figure 5.20: Net Secondary School Attendance Rate by Sex and Rural/Urban, Northern Province, 2010.
- 28 Figure 5.21: Net Secondary School Attendance Rate by District, Northern Province 2010
- 28 Figure 5.22: Gender Parity Index by District and Rural/Urban, Northern Province, 2010.
- 29 Figure 5.23: Gender Parity Index for Population Currently Attending Primary School by District and Rural/Urban, Northern Province 2010
- 29 Figure 5.24: Gender Parity Index for the Population Currently Attending Secondary School by District and Rural/Urban, Northern Province 2010
- 29 Figure 5.25: Percentage Distribution of Population (25 Years and Older) that Ever Attended School by Highest Level of Education Completed and Rural/Urban, Northern Province, 2010.
- 29 Figure 5.26: Percentage Distribution of Population (25 Years and Older) that Ever Attended School by Highest Level of Education Completed and Sex, Northern Province 2010
- 30 Figure 5.27: Percentage Distribution of Population (25 Years and Older) that Ever Attended School by Highest Level of Education Completed and District, Northern Province, 2010.
- 30 Figure 5.28: Percent Distribution of population (25 Years and Older) by Highest Professional/Vocational Qualification Completed, Northern Province, 2010
- 30 Figure 5.29: Percentage Distribution of Population (25 Years and Older) by Highest Professional/Vocational Qualification Completed and Sex, Northern Province, 2010

- 34 Figure 6.1: Organogram for the structure of Population aged 12 years and above
- 35 Figure 6.2: Percentage of Population (12 Years And Older) by Economic Activity Status, Northern Province 2010
- 35 Figure 6.3: Labour Force Participation Rate for Population (12 Years and Older) by Sex and Rural/Urban, Northern Province 2010
- 35 Figure 6.4: Labour Force Participation Rate for the Population (12 Years and Older) by Age Group and Sex, Northern Province 2010
- 36 Figure 6.5: Labour Force Participation Rate for the Population 12 years and older by District, Northern Province 2010
- 36 Figure 6.6: Percentage of Employed Population (12 Years and Older) by Sex and Rural/ Urban, Northern Province 2010.
- 36 Figure 6.7: Unemployment Rate for the Population 12 Years and Older by District, Northern Province 2010
- 36 Figure 6.8: Unemployment Rate for the Population (12 Years and Older) by Age Group, Northern Province 2010
- 37 Figure 6.9: Unemployment rate for the Population (12 Years and Older) by Sex and Rural/Urban, Northern Province 2010
- 37 Figure 6.10: Youth Unemployment Rate by Age Group, Northern Province 2010
- 37 Figure 6.11: Youth Unemployment Rate by Age Group and Sex, Northern Province 2010
- 37 Figure 6.12: Youth Unemployment Rate by Rural/Urban and District, Northern Province 2010
- 38 Figure 6.13: Percent Distribution of the Economically Inactive Population by Reason of Inactivity, Northern Province 2010
- 38 Figure 6.14 Dependency Ratio by Sex and Rural/Urban, Northern Province 2010.
- 38 Figure 6.15: Percentage Distribution of Usually Working Population (12 Years and Older) by Employment Status, Northern Province 2010
- 38 Figure 6.16: Percentage Distribution of Usually Working Population (12 Years and Older) by Employment Status and Sex, Northern Province 2010
- 39 Figure 6.17: Percentage Distribution of Usually Working Population (12 Years and Older) by Occupation, Northern Province 2010
- 39 Figure 6.18: Percentage Distribution of Usually Working Population (12 Years and Older) by Occupation and Sex, Northern Province 2010
- 39 Figure 6.19: Percentage Distribution of Usually Working Population (12 Years and Older) by Occupation, Rural Northern Province 2010
- 39 Figure 6.20: Percentage Distribution of Usually Working Population (12 Years and Older) by Occupation, Urban, Northern Province 2010
- 40 Figure 6.21: Percentage Distribution of Usually Working Population (12 Years and Older) by Industry, Northern Province 2010
- 40 Figure 6.22: Percentage Distribution of Usually Working Population (12 Years and Older) by Industry, Rural, Northern Province 2010
- 40 Figure 6.23: Percentage Distribution of Usually Working Population (12 Years and Older) by Industry, Urban, Northern Province 2010
- 43 Figure 7.1: Adjusted Age Specific Fertility Rate by Age Group, Northern Province 2010
- 43 Figure 7.2: Adjusted Age Specific Fertility Rate by Age Group and Rural/Urban, Northern Province 2010
- 43 Figure 7.3: Total Fertility Rate by Rural/Urban, Northern Province, 2010
- 43 Figure 7.4: Total Fertility Rate by District Northern Province, 2010
- 43 Figure 7.5 Mean Age at Child Bearing by Rural/Urban, Northern Province 2010
- 44 Figure 7.6: Gross Reproduction Rate by Rural/Urban, Northern Province 2010
- 44 Figure 7.7: Net Reproduction Rate by Rural/Urban, Northern Province 2010

- 45 Figure 7.8: Total Fertility Rates by Economic Activity Status of Women 15-49 and District, Northern Province 2010
- 48 Figure 8.1: Observed Crude Death Rate per 1000 Population aged 0-4 Years by Single Age, Northern Province 2010.
- 49 Figure 8.2: Observed Crude Death Rate per 1000 Population aged 0-4 Years by Rural/ Urban, Northern Province 2010.
- 49 Figure 8.3: Infant Mortality Rate (IMR) by Rural/Urban, Northern Province 2010
- 50 Figure 8.4: Infant Mortality Rate (IMR) by District, Northern Province 2010
- 50 Figure 8.5: Child Mortality Rate (CMR) by Rural/Urban, Northern Province 2010
- 50 Figure 8.6: Child Mortality Rate (CMR) by District, Northern Province 2010
- 50 Figure 8.7: Under-five Mortality Rate (U5MR) by Rural/Urban, Northern Province 2010
- 51 Figure 8.8: Under Five Mortality Rate (U5MR) by District, Northern Province 2010
- 54 Figure 9.1: Observed Crude Death Rate (CDR) per 1,000 Population by Sex and Rural/ Urban, Northern Province 2010
- 54 Figure 9.2: Crude Death Rate (CDR) by District, Northern Province 2010
- 55 Figure 9.3: Observed Age-Sex Specific Death Rate by Age Group and Sex, Northern Province 2010
- 55 Figure 9.4: Observed Age-Sex Specific Death Rate by Age Group and Sex, Northern Province Rural 2010
- 55 Figure 9.5: Observed Age-Sex Specific Death Rate by Age Group and Sex, Northern Province Urban 2010
- 55 Figure 9.6: Observed Age Specific Death Rate by Age Group and Rural/Urban, Northern Province 2010
- 56 Figure 9.7: Percent Reported Adult Deaths by Age Group and Sex, Northern Province, 2010
- 56 Figure 9.8: Life Expectancy at Birth by District, Northern Province 2010
- 56 Figure 9.9: Life Table Probability of Dying (nqx) by Age and Sex, Northern Province 2010
- 57 Figure 9.10: Percent Reported Cause of Death for Deceased Household Members that Died 12 months Prior to the Census, Northern Province 2010
- 57 Figure 9.11: Percent Reported Cause of Death for Deceased Household Members that Died 12 Months Prior to the Census by Sex of Deceased, Northern Province 2010
- 57 Figure 9.12: Percent Reported Adult Deaths Due to illness/Disease by Age and Sex of Deceased Person, Northern Province 2010
- 65 Figure 11.1: Percentage Distribution of the Population by Disabled and Non-Disabled, Northern Province 2010
- Figure 11.2: Percentage Distribution of the Population with Disability by Rural/Urban and District, Northern Province 2010
 Figure 11.3: Percentage Distribution of the Population with Disability by Sex and District, Northern Province 2010
- 66 Figure 11.4: Percentage Distribution of Persons with Disabilities by Age Group, Northern Province 2010
- 66 Figure 11.5: Median Age of the Disabled and Non-Disabled Population by Sex, Northern Province 2010
- 66 Figure 11.6: Percentage Distribution of Household Heads with Disabilities by Sex and Rural/Urban, Northern Province 2010.
- 66 Figure 11.7: Percentage Distribution of Household Heads with Disabilities, by District, Northern Province 2010
- 66 Figure 11.8: Percentage Distribution of Persons with Disabilities by Type of Disability, Northern Province 2010
- 67 Figure 11.9: Percentage Distribution of Persons with Disabilities by Cause of Disability, Northern Province 2010

- 67 Figure 11.10: Percentage Distribution of Literate Population (5 Years and Older) by Disability Status and Rural/Urban, Northern Province, 2010.
- 67 Figure 11.11: Percentage Distribution of Literate Population (5 years and older) with Disability by District, Northern Province 2010
- 67 Figure 11.12: Percentage Distribution of Disabled and Non-Disabled Population (5 years and Older) by School Attendance and Rural/Urban, Northern Province 2010
- 68 Figure 11.13: Percentage Distribution of Persons with Disability (25 years and older) by Highest Level of Education Completed and Sex, Northern Province 2010
- 68 Figure 11.14: Percentage Distribution of Employed Population (12 years and older) by Disability Status and Rural/Urban, Northern Province 2010
- 68 Figure 11.15: Percent Distribution of Persons with Disability (12 Years and Older) by Employment Status and Rural/Urban, Northern Province 2010
- 68 Figure 11.16: Percentage Distribution of Household Heads with Disabilities (12 years and older) by Employment Status, Northern Province 2010
- 69 Figure 11.17: Percent Distribution of the Disabled Population by Occupation and Disability Status, Northern Province 2010.
- 73 Figure 12.1: Child Woman Ratio, Northern Province 2000 and 2010
- 73 Figure 12.2: Dependency Ratio, Northern Province 2000 and 2010
- 74 Figure 12.4: Population Distribution in Single Years, Northern Province 2000
- 74 Figure 12.5: Population Distribution in Single Years, Northern Province 2010
- 75 Figure 12.6: Population Distribution by 5 Year Age Group, Northern Province 2000
- 75 Figure 12.7: Population Distribution by 5 Year Age Group, Northern Province 2010
- 75 Figure 12.8: Sex Ratios by Rural/Urban, Northern Province 2000 and 2010
- 75 Figure 12.9: Sex Ratio by 5 Year Age Group, Northern Province 2000 and 2010
- 76 Figure 12.10: Age Ratio by Sex, Northern Province 2010
- 76 Figure 12.11: Age-Sex Accuracy Index, Northern Province 2000 and 2010
- 77 Figure 12.12: Cohort Survival Ratio by Age and Sex, Northern Province 2000-2010
- 77 Figure 12.13: Overall Survival Ratio by Age and Sex, Northern Province 2000-2010
- 77 Figure 12.14: Population Distribution in Single Years, Northern Province 2010
- 77 Figure 12.15: Population Distribution in Single Years, Northern Province Rural 2010
- 77 Figure 12.16: Population Distribution in Single Years, Northern Province Urban 2010
- 78 Figure 12.17: Reported and Smoothed Population for Males by Age and Smoothing Technique, Northern Province 2010
- 78 Figure 12.18: Reported and Smoothed Population for Females by Age and Smoothing Technique, Northern Province 2010

The 2010 Census of Population and Housing was conducted between 16th October and 15th November 2010. Complete enumeration in all parts of the country was achieved by 30th November 2010. The 2010 Census of Population and Housing marked the fifth national population census that Zambia has successfully conducted since independence in 1964. Previous censuses were conducted in 1969, 1980, 1990 and 2000.

This report presents analytical results of the population in Northern Province based on data from the 2010 Population and Housing Census. The report presents detailed analysis of issues of Population Size, Growth and Distribution; Education and Economic characteristics, Disability and Coverage and Content errors.

I would like to thank all our cooperating partners that supported the 2010 Census of Population and Housing. Special gratitude goes to the United Nations Population Fund (UNFPA), the United Kingdom AID (UKAID - formerly DFID), the United States Agency for International Development (USAID) and the African Development Bank (AfDB) for their material, financial and technical support to the Government of the Republic of Zambia (GRZ) and the Central Statistical Office (CSO) during this mammoth national exercise.

I also extend my sincere gratitude to the people of Northern Province and all the residents of Northern Province for the support and cooperation during the census. I hope the information contained in this report will be effectively used by all to plan and deliver development to the people of Northern Province.

10

Alexander B. Chikwanda, MP Minister of Finance and National Planning

March, 2014

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The 2010 Census of Population and Housing was successfully conducted between 16th October and 15th November 2010. However, field enumeration was only concluded in all parts of the country on 30th November 2010. Scanning of the 2010 Census questionnaires started in April 2011 and was successfully concluded in August 2011. Data verification and development of edit and imputation specifications and programmes started in May and was completed in November 2011.

I would like to commend and thank the Government of the Republic of Zambia (GRZ) for its commitment to take stock of its population including special groups by conducting the 2010 Census of Population and Housing. I would like to pay gratitude to the Treasury headed by the then Secretary to the Treasury Mr. Likolo Ndalamei and the current Secretary to the Treasury Mr. Fredson K. Yamba for their personal commitment to the 2010 Census. The continued support from the Government is a great indicator of the importance attached to information for planning and monitoring the development agenda set forth.

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I hope all stakeholders and data users will make effective use of this Analytical Report.

John Kalumbi Director - Census and Statistics

March, 2014



1.0 Introduction

Northern Province covers an area of 77,650 square kilometers, which is about 10.3 percent of the total area of Zambia. The province has the sixth highest land area and the sixth highest concentration of people in Zambia.

1.1 Administration

Northern Province is administratively divided into eight districts, namely: Chilubi, Kaputa, Kasama, Luwingu, Mbala, Mporokoso, Mpulungu, and Mungwi. At the time of the 2010 Census, Northern Province had 13 constituencies and 148 wards. The provincial administration offices are situated in Kasama.

1.2 Natural Resources

The province is in the high rainfall zone, with average annual rainfall of above 1200 millimeters. The province has moderate temperatures ranging between 15°C and 35°C. The major strength of the Northern Province is the abundance of scenic waterfalls, rivers and lakes. The lakes are Tanganyika, Bangweulu and the corresponding swamps and wetlands, and Mweruwa-Ntipa. The province boasts of exotic beaches around Lake Tanganyika, which is the second deepest lake in the world. Due to the mountainous landscape, waterfalls are found in many places. The waterfalls include Lumangwe, Kabwelume, Chishimba and Kalambo Falls. The Kalambo Falls are nearly twice as high as the Victoria Falls and are the second highest uninterrupted waterfalls on the African continent at 235 meters high.

Northern Province has some of the biggest game reserves and rich wildlife resources in the country. Lying on the southern shores of Lake Tanganyika in the northern most tip of Zambia is the Nsumbu National Park covering an area of over 2000 square kilometers. The park provides a haven for hippo, crocodile, flamingo and other water birds. A motorboat on the lake is a great vantage point from which to watch the variety of birdlife and game, which includes buffalo, lion, antelope, zebra and leopard. Situated on the south western edge of the Lake Bangweulu basin is Kasanka National Park. The park may be small but has diverse vegetation from lush wetlands and papyrus swamps to evergreen forests and harbours a great variety of unusual birds and mammals. Millions of fruit bats congregate here towards the end of every year in a spectacular display.

1.3 Languages

English is the official language of communication and instruction in Zambia. The widely spoken language in Northern Province is Bemba. Other main local languages spoken include Mambwe, Lungu and Bisa.

1.4 Religion

Zambia was declared a Christian nation in the 1996 constitution while upholding the right of every person to enjoy that person's freedom of conscience or religion.

1.5 Health

Health plays a critical role in the development of the country and no meaningful development can be attained without a sound health policy. Since 1991, the health sector has been making strides to improve the health delivery system in the country. Some of these efforts include a move from a strongly centralised health system in which the central structures provided support and national guidance to the peripheral structures to a more decentralized system.

In 2010, the health system in the province had 139 health facilities. The health system had 2 General Hospitals, 2 District Hospitals, 9 Urban Health Centres and 93 Rural Health Centres and 33 Health Posts (The List of Health Facilities in Zambia, 2010).

Table 1.1: Number of Health Facilities by Facility Type, Ownership and District, Northern Province 2010									
	District								
Type of Facility	Total	Chilubi	Kaputa	Kasama	Luwingu	Mbala	Mporokoso	Mpulungu	Mungwi
Level 3 Hospitals	0	0	0	0	0	0	0	0	0
Level 2 Hospitals	2	0	0	1	0	1	0	0	0
Level 1 Hospitals	2	0	0	0	1	0	1	0	0
Urban Health Centres	9	0	0	3	1	4	0	1	0
Rural Health Centres	93	9	9	22	9	12	12	6	14
Health Posts	33	3	5	8	5	5	2	4	1
Total	139	12	14	34	16	22	15	11	15
Type of Ownership									
GRZ Health Facilities	127	11	14	28	16	20	14	11	13
Mission Health Facilities	7	1	0	2	0	1	1	0	2
Private Health Facilities	5	0	0	4	0	1	0	0	0
Total	139	12	14	34	16	22	15	11	15
Source: Ministry of Health 2010									



2010 Census of Population and Housing - Northern Province Analytical Repon

1.6 Economy

Northern Province has no major industries and its primary economic activity is agriculture. Farming, fishing and trading are the mainstay of the majority of the population. There are very few farmers who grow crops on a commercial basis. Most of the people are peasant subsistence farmers. Major crops grown include; cassava, millet, sorghum, groundnuts, beans, maize and rice.

While agriculture is the most important source of livelihood, the province boasts of water in the form of rivers, lakes and swamps which provide the basis for extensive freshwater fisheries. However, demand for domestic fish for consumption still outstrips production. The sector, because of its mostly rural setting, continues to contribute significantly to rural development in terms of employment, income generation and poverty reduction. Commercial fishing is being done on Lake Tanganyika and Lake Bangweulu. Lake Bangweulu is exploited more as a fish source than as a tourist attraction. The fisheries of the Bangweulu and Tanganyika are among the largest in Zambia. This has led to some of the highest population densities around the lakes where commercial fishermen have settled. The type of fish mainly found in the lake is bream, tiger, yellow belly and catfish. Lake Tanganyika boasts of over three hundred species of fish of which, most are endemic. Species of particular interest include the Giant Nile Perch and Small Nile Perch which are important commercial and sports fishing species. Others are Goliath Tiger and the English Fish or Lake Tanganyika yellowbelly, the Kapenta which is an important source of fish-protein in Zambia, and the rare Bichir. Fishing is also done by smallscale fishermen who sell their small catches to local traders. Industrial fishing activities are limited to Lake Tanganvika and are associated with production of kapenta.

The development of the Northern Tourism Circuit presented an opportunity to not only diversify the economy away from copper as the country's economic mainstay, but also the tourism sector away from the focus of Livingstone as the main centre of tourism activities. In this regard, the Kasaba Bay Tourism Project area became the focus. The area encompasses Sumbu National Park, Iyendwe valley, parts of Tondwa and Kaputa Game Management areas and Sumbu Township. Museums play a significant role in interpreting the country's heritage through their research, collections, preservation and exhibitions. One such museum is the Moto-Moto. The Moto-Moto Museum is located in Mbala, near the tourist attractions of Lake Tanganyika and Kalambo Falls. It is the second largest museum in Zambia with the second largest collection of artifacts in the country. The prehistory collection includes the Kalambo Falls' findings that record the oldest evidence of the use of fire by man, south of the Sahara.

Nevertheless, the fishing industry is not economically well developed. Inadequate controls and marketing facilities threaten both sustainability and profitability of the industry as a whole.

1.7 Education

Education is a powerful tool for economic development of an individual and nation. The Sixth National Development Plan (SNDP) identifies education, training, science and technology as prime movers of Zambia's development.

Zambia has a three-tier education system consisting of sevenyear primary education, followed by five-year secondary education and post secondary schooling. Government has in the past decade embarked on a number of initiatives to ensure universal access to education. The number of basic schools offering grades 1 to 9 in Northern Province has increased. An increase was also recorded in the number of high schools (Grade 10-12) which was largely attributed to the upgrading of some basic schools into high schools and construction of new high schools. With such measures in place, Northern Province has recorded improvements in the education sector contributing to high enrolment levels of both girls and boys at primary, basic and high school levels (Ministry of Education, Educational Statistical Bulletin, 2010).

The continuous teacher recruitment programme introduced by the government resulted in additional teachers being recruited in 2010 leading to an improvement in the Pupil-Teacher Ratio at all levels of basic education in the province (Ministry of Education, Educational Statistical Bulletin, 2010).

Higher learning institutions in Northern Province offering Technical Education, Vocational and Entrepreneurship, and Tertiary Education also recorded an increase in their enrolment rates in 2010 (Ministry of Education, 2010).

1.8 Gender Issues

Gender issues are concerned with promoting equality between the sexes and improvement in the status of both women and men in society. It is well understood that social and economic development can only be attained when there is equal participation of both men and women in the development process.

Zambia's vision on gender as stated in the "Vision 2030" is to achieve gender equity and equality in the social-economic development process by 2030. In this regard, the government has put in place a Gender policy which ensures the advancement of gender mainstreaming policies and legislation.

1.9 Census of Population and Housing Undertaking

The 2010 Census is the fifth National Census of Population and Housing conducted in Zambia since independence in 1964. The country has so far conducted censuses in 1969, 1980, 1990 and 2000.

The 2010 Census of Population and Housing was carried out from 16th October to 15th November, 2010. The Field staff included school leavers who worked as Enumerators and Census Supervisors who were mostly teachers. Some of the Civil Servants from various government departments and ministries worked as Master Trainers, Assistant Master Trainers and Provincial Census Officers.

1.9.1 The Main Objectives of the Census of Population and Housing

The main objectives of the 2010 Census of Population and Housing included:

• To provide accurate and reliable information on the size, composition and distribution of the population of Zambia at the time of the census;

- To provide information on the demographic and socioeconomic characteristics of the population of Zambia at the lowest administrative level - the Constituency and Ward;
- To provide indicators for measuring progress towards national and international development goals in a timely and user friendly manner;
- To provide census information on the number and characteristics of households engaged in agriculture and other economic activities;
- To provide an accurate sampling frame and sample weights for future inter-censal household and population based surveys;
- To provide information identifying the number of eligible voters for the 2011 General Elections.
- To provide a census that meets national and international standards and allows for comparability with other censuses;
- To provide information on the housing characteristics of the population.

1.9.2 Methodologies Applied in the 2010 Census of Population and Housing

Prior to the 2010 Census undertaking, a comprehensive mapping exercise was conducted. The mapping strategy for 2010 census was Geographical Information System (GIS) driven and involved the use of the Global Positioning System (GPS) and Satellite imagery. The GPS was used to map rural areas while the urban areas were mapped using high resolution satellite imagery.

The 2010 Census used a single questionnaire to capture individual, household and housing characteristics from the population,

whereas the 2000 Census used two different questionnaires, Form A (Household and Housing Characteristics) and Form B (Individual Characteristics) to collect information from the population.

During data capturing, the 2010 Census used Optical Mark Reading (OMR) and Intelligent Character Recognition (ICR) technology, whereas the 2000 Census used the OMR technology only.

The 2010 Census included the following questions which were not in the 2000 census:

- Deaths of Household Members during the 12 months period prior to the census enumeration, as well as cause of death for all reported deaths.
- Maternal deaths to women aged 12-49 years during the reference period (12 months prior to the Census).
- Albinism.
- Orphanhood and Fosterhood

The 2010 Census used school leavers that had completed their Secondary School Education within 2 to 5 years prior to the Census as Enumerators while the 2000 Census used Grade Eleven School Pupils.

1.9.3 Presentation of Results

The analysis in this report is based on the geography that existed at the time of the census in 2010.

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CHAPTER 2 POPULATION SIZE, GROWTH AND DISTRIBUTION

2.0 Summary

The population for Northern Province in 2010 was 1,105,824. This was an increase from 809,400 recorded in 2000.

The population grew at an average annual rate of 3.2 percent between 2000 and 2010.

In 2010, 81.7 percent of the population in the province was residing in rural areas and 18.3 percent in urban areas.

Kasama District had the largest population at 231,824 while Chilubi District had the smallest population at 81,248.

The province has a population density of 14.2 persons per square kilometre. Mbala District was the most densely populated with 24.3 persons per square kilometre while Mporokoso District was the most sparsely populated with 8.2 persons per square kilometre.



2.1 Introduction

This chapter presents an analysis of the population size, growth, distribution and composition of the 2010 Census for Northern Province. Trends in the population size, growth and distribution are also presented using data from the previous census.

2.2 Concepts and definitions

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

De Facto Population

This refers to household members and visitors who spent the census night at a household. This, however, excludes:

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

De jure Population

This refers to usual household members present and usual household members temporarily absent at the time of the census. In a de jure Census, institutional populations in places such as hospitals or health centres, prisons and academic institutions like universities, colleges and boarding schools are counted as members of their usual household. Figure 2.1 presents a diagrammatic picture of the de facto and de jure populations.

De Jure and De Facto Populations

The De Jure count is considered the true or resident population of a country. It is used for the age sex distribution and is also used as a denominator in the calculation of vital indicators for sectors such as education e.g. deriving Gross and Net enrolment rates.

However, the de jure population is not used in the analysis of data on various social, economic and health characteristics as some variables would be missing for individuals who were absent from the household at the time of the census

Figure 2.1: Diagrammatic Presentation of the De facto and the De jure Populations



Population Growth Rate

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

2.3 Population Size

This is the absolute number of people that was enumerated at the time of the census. Table 2.1 shows population size for Northern Province by rural/urban in 2000 and 2010. The population increased from 809,400 in 2000 to 1,105,824 in 2010. This represented a percent change of 36.6 percent.

Table 2.1: Population Size by Rural/Urban, Northern Province 2000-2010						
Pural /Urban	Population and Percent Change					
kordi/ orban	2000	2010	Percent Change			
Total	809,400	1,105,824	36.6			
Rural	690,486	903,208	30.8			
Urban	118,914	202,616	70.4			
Source: 2000 and 2010 Consuses of Population and Housing						

The population in rural areas increased from 690, 486 in 2000 to 903,208 in 2010 while the urban population increased from 118, 914 in 2000 to 202,616 in 2010. This represents a population increase of 30.8 percent in rural and 70.4 percent in urban areas. Table 2.2 shows the percent distribution of the population by sex and rural/urban for Northern Province in 2010. Of the total population in 2010, there were 546,851 males and 558,973 females. This represented a percentage of 49.5 for males and 50.5 for females.

Table 2.2: Total Population (De jure) and Percent Distribution by Sex and Rural/Urban, Northern Province 2010							
Pural/Urban	Total Population		Male Pa	pulation	Female Population		
Korai/ orban	Number	Percent	Number	Percent	Number	Percent	
Total	1,105,824	100	546,851	49.5	558,973	50.5	
Rural	903,208	100	447,755	49.6	455,453	50.4	
Urban	202,616	100	99,096	48.9	103,520	51.1	
Source: 2010 Census of Population and Housing.							

Table 2.3 shows the distribution of the population by sex, rural/ urban and district for Northern Province. Kasama District had the largest population at 231,824 while Chilubi District had the smallest population at 81,248.

able 2.3: Total Population (De jure) by	Sex, Rural/Urban c	and District, Northerr	Province 2010
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District	Total			Rural			Urban		
DISILICI	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total	1,105,824	546,851	558,973	903,208	447,755	455,453	202,616	99,096	103,520
Chilubi	81,248	39,792	41,456	76,953	37,696	39,257	4,295	2,096	2,199
Kaputa	119,514	59,312	60,202	110,304	54,804	55,500	9,210	4,508	4,702
Kasama	231,824	114,208	117,616	129,979	64,526	65,453	101,845	49,682	52,163
Luwingu	122,136	60,294	61,842	111,370	54,989	56,381	10,766	5,305	5,461
Mbala	203,129	100,703	102,426	179,119	88,935	90,184	24,010	11,768	12,242
Mporokoso	98,842	49,161	49,681	83,286	41,566	41,720	15,556	7,595	7,961
Mpulungu	98,073	48,651	49,422	68,970	34,362	34,608	29,103	14,289	14,814
Mungwi	151,058	74,730	76,328	143,227	70,877	72,350	7,831	3,853	3,978
Source: 2010 Consus	Source: 2010 Consus of Population and Housing								

The most urbanised district was Kasama with an urban population of 101,845. Mbala District recorded the largest rural population of 179,119

Table 2.4 shows population distribution by district and sex in 2000 and 2010. In both 2000 and 2010, Kasama District had the largest population while Chilubi District had the smallest population.

Table 2.4: Population (De Jure) by Sex and District, Northern Province 2000 and 2010							
D 1111		2000		2010			
District	Total	Male	Female	Total	Male	Female	
Total	809,400	405,726	403,674	1,105,824	546,851	558,973	
Chilubi	66,338	32,936	33,402	81,248	39,792	41,456	
Kaputa	87,233	44,556	42,677	119,514	59,312	60,202	
Kasama	170,929	85,070	85,859	231,824	114,208	117,616	
Luwingu	80,758	40,612	40,146	122,136	60,294	61,842	
Mbala	149,634	75,085	74,549	203,129	100,703	102,426	
Mporokoso	73,929	36,975	36,954	98,842	49,161	49,681	
Mpulungu	67,602	34,292	33,310	98,073	48,651	49,422	
Mungwi	112,977	56,200	56,777	151,058	74,730	76,328	
Source: 2000 and 2010 Censuses of Population and Housing							

2.4 Population Growth

The population of Northern Province has grown over the past decade. Figure 2.2 shows the average annual population growth rate for Northern Province between 2000 and 2010. The population grew at a rate of 3.2 percent.

The urban population grew at a rate of 5.5 percent in 2000-2010.

Figure 2.2: Percent Average Annual Rate of Population Growth by Rural/Urban, Northern Province 2000-2010



Table 2.5 shows the population size and the average annual population growth rate for Northern Province by rural/urban and district.

Luwingu District had the fastest growing population with an average annual population growth rate of 4.2 percent. Chilubi District had the lowest growth rate of 2.0 percent.

able 2.5: Population Size and Average Annual Population Growth Rate by Rural/Urban and District, Northern Province 2000-2010							
Rural/Urban and District	Population Size 2000	Population Size 2010	Annual Growth Rate (2000-2010)				
Total	809,400	1,105,824	3.2				
Rural	690486	903,208	2.7				
Urban	118914	202,616	5.5				
District							
Chilubi	66,338	81,248	2.0				
Kaputa	87,233	119,514	3.2				
Kasama	170,929	231,824	3.1				
Luwingu	80,758	122,136	4.2				
Mbala	149,634	203,129	3.1				
Mporokoso	73,929	98,842	2.9				
Mpulungu	67,602	98,073	3.8				
Mungwi	112,977	151,058	2.9				
Source: 2000 and 2010 Censuses of Population and Housing							

2.5 Population Distribution

The population of Northern Province has remained largely rural. Figure 2.3 shows the percent distribution of the population by rural/urban in 2000 and 2010.

Figure 2.3: Percent Distribution of Population by Rural/Urban, Northern Province 2000 and 2010 The rural population reduced from 85.3 percent in 2000 to 81.7 percent in 2010. The urban population increased from 14.7 percent in 2000 to 18.3 percent in 2010.

Table 2.6 shows the percent distribution of population by rural/ urban and district for 2000 and 2010. In both 2000 and 2010, Kasama District had the highest percentage of the population while Chilubi District had the lowest.



Table 2.6: Population Distribution by Rural/Urban and District, Northern Province 2000-2010.							
District and Rural/	20	00	20	Percent Change			
Urban	Number	Percent	Number	Percent			
Total	809,400	100	1,105,824	100	N/A		
Rural	690486	85.3	903,208	81.7	-3.6		
Urban	118914	14.7	202,616	18.3	3.6		
Distict							
Chilubi	66,338	8.2	81,248	7.3	0.9		
Kaputa	87,233	10.8	119,514	10.8	0.0		
Kasama	170,929	21.1	231,824	21.0	-0.1		
Luwingu	80,758	10.0	122,136	11.0	1.0		
Mbala	149,634	18.5	203,129	18.4	-0.1		
Mporokoso	73,929	9.1	98,842	8.9	-0.2		
Mpulungu	67,602	8.4	98,073	8.9	0.5		
Mungwi	112,977	14.0	151,058	13.7	-0.3		
Source: 2000 and 2010 Censuses of Population and Housing							

Figure 2.4 shows the percent distribution of population by district in 2010. Kasama District had highest percentage of the population at 21.0 percent while Chilubi District had the lowest at 7.3 percent.

Figure 2.4: Percentage Distribution of Population by District, Northern Province 2010



2.6 Population Density

Population density is defined as the total number of persons per square kilometre. Table 2.7 shows the area and population density by district in 2000 and 2010. Northern Province has a total surface area of 77,650 square kilometres. The province is sparsely populated with a population density of 14.2 persons per square kilometre in 2010, representing an increase of 3.8 persons per square kilometre from 2000.

Source: 2010 Census of Population and Housing.

Table 2.7: Area and Population Density (De Jure) by District, Northern Province 2000 and 2010						
District		Population Density/ Census Year (Population per sq. km)				
DISTRICT	Area (sq. km)	2000	2010			
Total	77,650	10.4	14.2			
Chilubi	4,648	14.3	17.5			
Kaputa	13,004	6.7	9.2			
Kasama	10,788	15.8	21.5			
Luwingu	8,892	9.1	13.7			
Mbala	8,343	17.9	24.3			
Mporokoso	12,043	6.1	8.2			
Mpulungu	9,865	6.9	9.6			
Mungwi	9,766	11.6	15.5			
Source: 2000 and 2010 Censuses of population and Housing						

In 2010, Mbala District had the highest population density of 24.3 persons per square kilometre. Kasama District was second with a population density of 21.5 persons per square kilometre.

Mporokoso District was the least densely populated district at 8.2 persons per square kilometre.

CHAPTER 3 POPULATION COMPOSITION AND DEMOGRAPHIC CHARACTERISTICS

3.0 Chapter Summary

Northern Province has a young population with 48.7 percent of persons aged below 15 years. The median age was 15.5 years. The median age was higher in urban areas at 17.1 years compared to 15.2 years in rural areas.

The Overall Dependency Ratio was recorded at 106.3 persons per 100 persons aged between 15 and 64 years. Child and Aged Dependency Ratios were 100.4 and 5.9, respectively.

The overall sex ratio was 97.8 males per 100 females, while the sex ratio at birth was 103.6 males per 100 females.

3.1 Population Composition

Information on the age and sex structure of the population is essential in the analysis of demographic processes such as fertility, mortality and migration. The analysis in this chapter focuses on the age and sex composition of the population.

3.2 Age and Sex Composition

The 2010 Census collected information on sex and age in completed years at the time of enumeration. Figure 3.1 presents the percent age distribution by sex for the province in 2010. The distribution shows higher percentages of population in the younger ages. The percentages decrease with increase in age.

Figure 3.1: Percent Age Distribution by Sex, Northern Province



Source: 2010 Census of Population and Housing

A comparison between the sexes shows minimal differences in the percent age distribution with an exception of the population aged 20-29 years which had fewer males than females.

Figure 3.2 presents the percent age distribution by rural/urban. A comparison of the percent age distribution shows a higher percent of the population aged 0-9 years in rural than urban areas. However, the percent of the population aged 10-39 years in urban areas was higher than that of rural areas.



Figure 3.2: Percent Age Distribution by Rural/Urban, Northern Province 2010



Population Source: 2010 Census of Population and Housing

For the purpose of policy interventions, proportions of some selected age groups have been presented. Selected age groups include adolescents aged 10-19 years; young people aged 10-24 years; children aged below 15 years; children aged below 18 years; persons in middle and later adolescence stages aged 15-19 years; youths aged 15-24 years; persons in the reproductive age group aged 15-49 years; youths aged 15-35 years; persons aged 15-64 years and the elderly aged 60 years and older and 65 years and older.

Figure 3.3 shows the population proportions by selected age groups. The population aged below 18 years had the highest percent at 55.3. The elderly population aged 65 years and older had the lowest percent at 2.9. The population aged 15-24 and 15-35 years had proportions of 19.2 and 33.6 percent, respectively.





Source: 2010 Census of Population and Housing

Figure 3.4 shows the percent distribution of children aged below 15 years and the elderly (65 years and older) by district. Kaputa District had the highest percent of the population below 15 years at 50.0 percent while Kasama District had the lowest at 46.5 percent.

Figure 3.2.1: Population Age and Sex Structure, Northern Province 2010

Figure 3.4: Percent Distribution of Population Aged below 15 years and the Population 65 Years and Older by District, Northern Province 2010



Source: 2010 Census of Population and Housing

3.3 Median Age

Median age is the age that divides the population into two numerically equal groups i.e. half the population are younger than that age while half are older. A median age that is lower than 20 years shows a young population; that between 20 and 30 years indicates an intermediate population that is either becoming younger or ageing; while a population with a median age above 30 years is an old population.

Figure 3.5 shows the median age by rural/urban. In 2010, the median age was higher in urban areas than in rural areas at 17.1 and 15.2 years, respectively.

Figure 3.5: Median Age by Rural/Urban, Northern Province 2010



Source: 2010 Census of Population and Housing

Figure 3.6 shows the median age by sex and rural/urban in 2010. Overall, the median age was 15.3 and 15.8 years for males and females, respectively. In rural areas, the median age for females was higher than that of males at 15.5 and 14.9 years, respectively.

Figure 3.6: Median Age by Sex and Rural/Urban, Northern Province 2010





Figure 3.7 shows the median age by district in 2010. The median age ranges from 15.0 years in Kaputa District to 16.4 years in Kasama District.

Figure 3.7: Median Age by District, Northern Province 2010



Source: 2010 Census of Population and Housing

3.4 Age Dependency Ratios

Age Dependency Ratio is the ratio of population aged 0-14 years and persons aged 65 years and older, per 100 persons in the working age group of 15-64 years old. It shows the burden of dependency on the productive population.

The following age dependency ratios have been calculated in this section:

a) Child Dependency Ratio: The number of children aged below 15 years per 100 persons aged between 15 and 64 years.

b) Aged Dependency Ratio: The number of persons aged 65 years and older per 100 persons aged between 15 and 64 years

c) Overall Dependency Ratio: The number of children below 15 years and elderly persons aged 65 and older years per 100 persons aged between 15 and 64 years.

Table 3.1 shows Age Dependency Ratio in 1990, 2000 and 2010. In 2010, the Overall Dependency Ratio was 106.3 per 100 persons aged 15-64 years; while the Child and Aged Dependency Ratios were 100.4 and 5.9 persons for every 100 persons aged 15-64 years, respectively. The Overall and Child Dependency Ratios have increased from 2000 while the Aged Dependency Ratio has declined.

Table 3.1: Age Dependency Ratio, Northern Province 2010							
Province	Age Dependency Ratios	1990	2000	2010			
Northern Province	Overall Dependency Ratio	99.8	104.5	106.3			
	Child Dependency Ratio	93.9	98.3	100.4			
	Aged Dependency Ratio	6.0	6.2	5.9			
Source: 2010 Census of Population and Housing							

Table 3.2 shows the Overall, Child and Aged Dependency Ratios by District. Mungwi District had the highest Overall Dependency Ratio while Kasama District had the lowest at 112.2 and 98.3 per 100 persons aged 15-64 years, respectively.

Table 3.2: Overall, Child and Aged Dependency Ratios by District, Northern Province, 2010						
District	Age Dependency Ratios					
	Overall	Child	Aged			
Chilubi	110.1	103.9	6.1			
Kaputa	107.9	104.0	3.9			
Kasama	98.3	92.3	6.0			
Luwingu	106.8	100.3	6.5			
Mbala	108.3	102.7	5.6			
Mporokoso	111.4	104.4	7.0			
Mpulungu	102.9	98.4	4.5			
Mungwi	112.2	104.7	7.6			
Source: 2010 Census of Population and Housing						

3.5 Sex Composition

This section analyses the composition of males and females in the population using sex ratio. Sex ratio is the number of males per 100 females. This type of sex ratio is also called the masculinity ratio. A value above 100 indicates excess of males over females.

Another indicator analysed is sex ratio at birth, which is the ratio of males per 100 females at birth. The percent deficit male has been used to show the percent at which males are fewer than females. It is the difference between the male and female population divided by the total population, expressed as a percentage. A negative value shows a deficit of males while a positive value shows an excess of males.

3.5.1 Sex Ratio and Percent Deficit of Males

Table 3.3 shows the sex ratio and percent deficit of males by rural/urban and district in 2010. Northern Province had fewer males per 100 females, with a sex ratio of 97.8. This implies a deficit of males of 1.1 percent of the total population.

Mporokoso District had the highest sex ratio of 99.0 males per 100 females with a 0.5 percent deficit of males. Chilubi District had the lowest sex ratio of 96.0 males per 100 females with a 2.0 percent deficit of males.

Burgl / Urban and District	Sex Patio	Percent Male Deficit
	JEX RUIO	reiceili Male Delicii
Total	97.8	-1.1
Rural	98.3	-0.9
Urban	95.7	-2.2
District		
Chilubi	96.0	-2.0
Kaputa	98.5	-0.7
Kasama	97.1	-1.5
Luwingu	97.5	-1.3
Mbala	98.3	-0.8
Mporokoso	99.0	-0.5
Mpulungu	98.4	-0.8
Mungwi	97.9	-1.1
Source: 2010 Census of Population and Housing		

3.5.2 Sex Ratio at Birth

The births in the last twelve (12) months were used as a proxy for the calculation of the sex ratio at birth. Figure 3.8 shows the sex ratio by rural/urban and district in 2010. The sex ratio at birth in Northern Province was 103.6 males per 100 females. In rural and urban areas, the sex ratio at birth was 103.7 and 103.1 males per 100 females, respectively.

Figure 3.8: Sex Ratio at Birth by Rural/urban and District, Northern Province 2010



Source: 2010 Census of Population and Housing

Chilubi District had the highest sex ratio at birth of 107.0 males per 100 females while Mpulungu District had the lowest at 100.3 males per 100 females.

CHAPTER 4 SOCIAL CHARACTERISTICS

4.0 Summary

In 2010, Northern Province had 525,241 persons aged 15 years and older. Of these, 59.8 percent were married. Rural areas had a higher percentage of the population aged 15 years and older who were married (61.9 percent) compared to urban (51.0 percent).

The median age at first marriage was 20.1 years for the population aged 15 years and older. The median age at first marriage was lower in rural areas at 20.1 years compared to urban areas at 20.6 years. Males had a higher median age at first marriage than females at 23.4 years and 18.3 years, respectively.

Northern Province had 220,561 households in 2010. There were more households in rural than urban areas at 180,442 and 40,119, respectively. The average household size was 5.0 persons. Male headed households had a larger average household size of 5.3 persons than female headed households with 3.9 persons.

The Protestants and Catholics represented 59.3 and 37.9 percent of the population, respectively. Muslims and other religious affiliations made up 1.5 percent of the population.

In 2010, 86.4 percent of persons aged below 18 years did not have birth certificates.

Of the population aged 16 years and older, 82.8 percent had Green National Registration Cards.

Of the population aged 18 years and older, 67.4 percent were registered voters at the time of the census.

Chapter 4 Social Characteristics



4.1 Marital Status

Marital status is the categorization of the population in relation to whether an individual has never been married, is married, cohabiting, separated, divorced or widowed. Marital status was analysed for the population aged 15 years and older. In 2010, the population aged 15 years and older in Northern Province was 525,241. Of these 248,213 were males and 277,028 were females.

Figure 4.1 shows the percentage distribution of the population (15 years and older) by marital status in 2010. The figure shows that 59.8 percent of the population aged 15 years and older in Northern Province was married and 26.8 percent were never married. The widowed and divorced made up 5.4 and 2.1 percent, respectively.

Figure 4.1: Percent Distribution of the Population (15 Years and Older) by Marital Status, Northern Province 2010



Source: 2010 Census of Population and Housing

Figure 4.2 shows the percent distribution of the population aged 15 years and older by marital status and rural/urban. The percent of the married was higher in rural areas at 61.9 percent compared with urban areas at 51.0 percent. Urban areas had a higher percent that had never married at 35.5 percent compared to 24.6 percent in rural areas.





Source: 2010 Census of Population and Housing

Figure 4.3 shows the percent distribution of the population aged 15 years and older by marital status and sex. There were more males who had never been married at 34.7 percent compared to 19.7 percent of the females. More females were widowed (9.3 percent) compared to males (1.1 percent).

Figure 4.3: Percent Distribution of the Population (15 Years and Older) by Marital Status and Sex, Northern Province 2010





4.2 Median Age At First Marriage

Median age at first marriage divides the married population into two parts, showing that 50 percent got married before the median age and 50 percent married after reaching the median age.

Figure 4.4 shows the median age at first marriage by sex, rural/ urban and district. The median age at first marriage for Northern Province was 20.3 years for the population aged 15 years and older. The median age at first marriage was 20.2 years in rural areas and 20.8 years in urban. The median age at first marriage for males was 23.4 years while that of females was 18.5 years.

Kasama District had the highest median age at first marriage at 20.7 years while Chilubi, Mbala and Mpulungu districts had the lowest at 20.1 years.



Source: 2010 Census of Population and Housing
4.3 Household Composition

Household composition is the description of the household according to some aspects of its members such as age, sex, relationship to head and size. It is determined by the people living together and their relationships to one another.

A Household refers to a group of people who normally live and eat together. These may or may not be related by blood, marriage or adoption, but make common provision for food or other essentials for living and they have only one person whom they all regard as head of household. A household can also have one member.

A Household head is a person all members of the household regard as the head. He or she makes day to day decisions governing the running of the household. In cases of one member households, the member is taken as the household head.

A Usual household member is a person who has been living in the household for at least 6 (six) months or has joined the household and intends to live with the household for six months or longer.

4.3.1 Household Headship

In 2010, there were 220,561 households in Northern Province. There were more households in rural than urban areas at 180,442 and 40,119, respectively. Household heads made up 19.9 percent of the population of Northern Province. Figure 4.5 shows the percentage distribution of household heads by age. The 25-29 years age group had the highest percentage of household heads at 15.5 percent. Households headed by persons aged below 20 years made up a total of 0.9 percent.

Figure 4.5: Percent Distribution of Household Heads by Age, Northern Province 2010



Source: 2010 Census of Population and Housing

Figure 4.6 shows the percent distribution of household heads by sex and rural/urban in 2010. There were more male than female headed households at 79.4 and 20.6 percent, respectively. The same pattern was observed at rural and urban levels.

Figure 4.6: Percent Distribution of Household Heads by Sex and Rural/Urban, Northen Province 2010



Source: 2010 Census of Population and Housing

4.3.2 Household Size

Figure 4.7 shows the average household size by rural/urban and district in 2010. The average household size in Northern Province was 5.0 persons. Urban areas had a higher average household size of 5.1 persons compared to 5.0 persons in the rural areas. At district level, the average household size was highest in Mporokoso, Mbala and Kasama Districts at 5.1 persons each and lowest in Mungwi and Chilubi Districts at 4.9 persons each.

Figure 4.7: Average Household Size by Rural/Urban and District, Northern Province 2010



Source: 2010 Census of Population and Housing

Figure 4.8 shows the average household size by sex of household head, rural/urban and district. In Northern Province, male headed households had a higher average household size of 5.3 persons than 3.9 persons for female headed households.

Figure 4.8: Average Household Size by Sex of the Household Head, District and Rural/Urban, Northern Province 2010



4.3.3 Relationship To Head

Figure 4.9 shows the percent distribution of the population by the relationship to the household head in 2010 for Northern Province. The figure shows that 66.2 percent of the population enumerated in households were biological children of the head of household, while 18.9 and 5.8 percent were spouses and grand children of the heads of households, respectively.





Source: 2010 Census of Population and Housing.

4.4 Religion

Figure 4.10 shows the percent distribution of the population by religious affiliation. Protestants and Catholics represented 59.3 and 37.9 percent, respectively, of the population of Northern Province.

Figure 4.10 Percentage Distribution of the Population by Religious Affiliation, Northern Province 2010



Source: 2010 Census of Population and Households

4.5 Birth Certificates

Figure 4.11 shows the percent distribution of persons aged below 18 years with and without birth certificates by rural/ urban. In 2010, 86.4 percent of persons aged below 18 years did not have birth certificates. The percent of those without birth certificates was higher in rural than urban areas at 88.5 and 76.5 percent, respectively.







Figure 4.12 shows the distribution of persons aged below 18 years without birth certificates by district. Chilubi District had the highest percentage of persons without birth certificates at 96.0 percent while Luwingu District had the lowest at 79.7 percent.

Figure 4.12: Percent Distribution of the Population Aged Below 18 Years Without Birth Certificates by District, Northern Province 2010



Source: 2010 Census of Population and Housing

4.6 Holders of Green National Registration Cards

In Zambia, the age at which one is required to obtain a Green National Registration Card (NRC) is 16 years. Figure 4.12 shows the percent distribution of persons aged 16 years and older with green National Registration Cards by sex, rural/urban and district. In 2010, 413,443 Zambian citizens were aged 16 years and older in Northern Province. Of these, 82.8 percent had NRCs.

Figure 4.13 Percentage Distribution of Population (16 Years and Older) with Green National Registration Cards by Sex, District and Rural/Urban, Northern Province 2010



Urban areas had a higher percentage of persons with Green National Registration Cards at 83.7 percent compared to 82.5 percent in rural areas. Luwingu District had the highest percentage of persons with green NRCs at 85.5 percent while Mpulungu District had the lowest at 79.2 percent.

4.7 The Voting Population

The 2010 Census collected information on the number of registered voters at the time of the census. This included people who were registered during the previous registration exercise as well as those registered during the 2010 registration exercise.

In Northern Province, there were 457,232 eligible voters (18 years and older) of which 308,313 (67.4 percent) were registered voters. Table 4.1 shows the percentage distribution of eligible voters (persons aged 18 years and older) and registered voters by rural/urban and sex. There were more registered voters in rural than urban areas at 80.1 and 19.9 percent, respectively. Males made up 48.6 percent while females made up 51.4 percent of registered voters.

Table 4.1: Percentage Distribution of Eligible Voters (18 Years and Older) and Registered Voters by Sex and Rural/Urban, Northern Province 2010.

Sex and Rural/Urban	Eligible Voters(18 years and older)	Registered voter
Total	457,232	308,313
Rural	80.2	80.1
Urban	19.8	19.9
Sex		
Male	46.9	48.6
Female	53.1	51.4
Source: 2010 Census of Population and Housing		

Figure 4.14 shows the percentage distribution of registered voters among eligible voters by district in 2010. Chilubi District had the highest percentage of registered voters at 71.4 percent while Mpulungu District had the lowest at 60.9 percent.

Figure 4.14: Percentage Distribution of Registered Voters Among Eligible Voters by District, Northern Province 2010





CHAPTER 5 EDUCATION CHARACTERISTICS

5.0 Summary

In 2010, Northern Province had a literacy rate of 61.0 percent. The literacy rate for rural and urban areas was 57.2 and 77.0 percent, respectively. Males had a higher literacy rate (66.6 percent) than females (55.8 percent).

Of the population aged 5 years and older, 30.9 percent were currently attending school. The net primary and net secondary school attendance rates were 66.3 percent and 32.6 percent, respectively. The net primary school attendance rate was 64.3 percent in rural areas and 75.6 percent in urban areas. The net secondary school attendance rate was 26.3 percent in rural areas and 55.9 percent in urban areas.

The Gender Parity Index was 0.87 indicating that there are gender inequalities in school attendance for males and females. The rural and urban Gender Parity Index was 0.85 and 0.93, respectively.

Of the population aged 25 years and older, 65.8 percent had completed primary school, 27.4 percent had completed secondary school and 6.3 percent had completed tertiary education.

In rural areas, the completion rate was 73.2 percent, 22.5 percent and 3.6 percent for primary, secondary and tertiary education, respectively. In urban areas, the highest completion rate was for secondary education at 44.3 percent followed by primary education at 40.0 percent. The completion rate for tertiary education in urban areas was 15.5 percent.

A higher percentage of females (75.7 percent) had completed primary education compared to males (57.2 percent). At secondary and tertiary levels, males had higher completion rates of 34.2 and 8.2 percent, respectively. Females had completion rates of 19.5 percent for secondary and 4.0 percent for tertiary.



5.1: Introduction

Education is a basic human right and is of central importance to the economic and social development of a nation. There are various benefits of education such as promoting economic growth, national productivity, innovations and social cohesion.

The current Education Policy supports free primary education for all. This is in line with the second Millennium Development Goal which is to 'achieve universal primary education, that is to ensure by 2015 children everywhere, boys and girls alike, will be able to complete a full course of primary schooling' (UN, 2000). Population censuses in general provide a good basis for monitoring the participation of the population in an education system. The 2010 Census captured the education characteristics of the population such as literacy, school attendance, educational attainment, professional or vocational education attainment and field of study.

5.2: Concepts and Definitions

School Attendance

This is defined as attendance at any accredited educational institution or programme, public or private, for organized learning at any level of education.

Gross School Attendance Rate

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

Net School Attendance Rate

The net school attendance rate measures the percentage of the school-age population that is attending a designated level of education. This indicator is much more refined than the gross attendance rate and is widely used in education planning. The gross and net attendance rates are used to determine the extent of under and over age school attendance in an education system.

Education Attainment

This is the highest level of formal education that an individual has completed regardless of duration in school. It is the highest grade completed within the most advanced level attended in the education system of the country where the education was received.

Literacy

Literacy refers to the ability to both read and write in any language. Members of the population who are able to read and write are literate, while those who cannot read and write in any language are considered illiterate.

Gender Parity Index

The Gender Parity Index (GPI) is the number of female students enrolled in primary, secondary and tertiary education

to the number of male students in each level. A GPI of less than 1 indicates that there are fewer females than males in the formal education system to the appropriate school-age population. A gender parity index of more than 1 means that there are more females than males attending school. A score of 1 reflects equal enrolment rates for males and females.

5.3. Literacy

Figure 5.1 shows the literacy rate for the population aged 5 years and older by sex and rural/urban in 2010. The percentage of persons aged 5 years and older that were literate in 2010 was 61.0 percent. The literacy rate for males was higher (66.6 percent) than that of females (55.8 percent). The literacy rate in urban areas was higher (77.0 percent) than in rural areas (57.2 percent).

Figure 5.1: Literacy Rate for Population Aged 5 years and Older by Sex and Rural/Urban, Northern Province, 2010.





Figure 5.2 shows the literacy rate for the population aged 5 years and older by district. In 2010, Kasama District had the highest literacy rate at 71.8 percent while Chilubi District had the lowest at 48.2 percent.

Figure 5.2: Literacy Rate for the Population Aged 5 Years and Older by District, Northern Province 2010



5.3.1: Literacy Rate for the Youth Population (15 -24 years)

Youth literacy is one of the indicators used to assess the achievement of the universal primary education. Figure 5.3 shows the literacy rate for the population aged 15 to 24 years by sex and rural/urban. In 2010, the youth literacy for Northern Province was 82.2 percent. The literacy rate for males and females was 88.9 and 76.5 percent, respectively. Urban areas had a higher literacy rate of 93.8 percent than 79.0 percent in rural areas.

Figure 5.3: Literacy Rate for the Youth Population (15-24 years) by Sex and Rural/Urban, Northern Province, 2010.



Source: 2010 Census of Population and Housing

Figure 5.4 shows the literacy rate for the youth population aged 15 to 24 years by district in 2010. Kasama District had the highest youth literacy rate (92.1 percent) while Chilubi District had the lowest (68.9 percent).

Figure 5.4: Literacy Rate for the Youth Population (15-24 years) by District, Northern Province, 2010



Source: 2010 Census of Population and Housing

5.3.2: Literacy Rate for the Adult Population (15 Years and Older) Figure 5.5 shows the literacy rate for the adult population (15 years and older) by sex and rural/urban in 2010. The adult literacy rate in Northern Province was 75.8 percent. The adult literacy rate for urban areas was higher than that of rural areas at 90.2 percent and 72.2 percent, respectively. Males recorded a higher adult literacy rate (85.6 percent) than females (67.0 percent).

Figure 5.5: Literacy Rate for the Adult Population (15 years and older) by Sex and Rural/Urban, Northern Province, 2010



Source: 2010 Census of Population and Housing

Figure 5.6 shows the literacy rate for the adult population (15 years and older) by district. Kasama District had the highest adult literacy rate at 87.1 percent while Chilubi District had the lowest at 61.7 percent.

Figure 5.6: Literacy Rate for the Adult Population (15 years and older) by District, Northern Province 2010



Source: 2010 Census of Population and Housing

5.4 School Attendance

The official primary school entry age in Zambia is seven years. Grades 1 to 7 correspond to pupils aged 7 to 13 years while 8 to 9 correspond to pupils aged 14 to 15 years. Grades 10 to 12 correspond to pupils aged 16 to 18 years. The population 18 years and older are expected to be in institutions of higher learning.

Figure 5.7 shows the percent of the population aged 5 years and older that were currently attending school by sex and rural/ urban. In 2010, 30.9 percent of the population aged 5 years and older was currently attending school.





In rural and urban areas, the percentage of the population aged 5 years and older that was currently attending school in 2010 was 29.3 and 38.1 percent, respectively. The percentage of males that were currently attending school was higher (34.3 percent) than that of females (27.8 percent).

Figure 5.8 shows the percentage distribution of the population aged 5 years and older that were currently attending school by age group in 2010. The 10-14 years age group had the highest population that was currently attending school at 79.6 percent. The current school attendance rate for the 15-19 years age group was 58.4 percent.

Figure 5.8: Percentage Distribution of the Population (5 Years and Older) Currently Attending School by Age Group, Northern Province 2010



Figure 5.9 shows the percentage distribution of the population (5 years and older) that were currently attending school by age group and rural/urban. Across all age groups, the population currently attending school was higher in urban than in rural areas. The 10-14 years age group had the highest percentage of the population currently attending school in both rural and urban areas at 77.8 and 87.7 percent, respectively.

Figure 5.9: Percentage Distribution of the Population (5 Years and Older) Currently Attending School by Age Group and Rural/ Urban, Northern Province 2010.



Source: 2010 Census of Population and Housing

Figure 5.10 shows the percent distribution of the population that were currently attending school by sex and age group. There were more females that were currently attending school in younger ages (5-9 years) than males. The 10-14 years age group had the highest percentage of the population that was currently attending school for both males and females at 80.7 and 78.6 percent, respectively.

Figure 5.10: Percentage Distribution of the Population (5 Years and Older) Currently Attending School by Sex and Age, Northern Province 2010





Figure 5.11 shows percentage distribution of population aged 5 years and older that were currently attending school by district. Mporokoso District had the highest percentage of the population that was currently attending school at 35.6 percent while Chilubi District had the lowest at 24.0 percent.

Figure 5.11: Percentage Distribution of the Population aged 5 years and older Currently Attending School by District, Northern Province 2010



Source: 2010 Census of Population and Housing

5.4.1 Primary School Attendance Rate

Figure 5.12 shows the percentage distribution of the population aged 7 to 13 years that were currently attending primary school by sex and rural/urban. In 2010, the primary school attendance rate was 67.9 percent in Northern Province. The primary school attendance rate was higher in urban areas at 79.9 percent compared to 65.3 percent in rural areas. The primary school attendance rate for males and females was 68.1 and 67.6 percent, respectively.







Current primary school attendance rate by district is shown in Figure 5.13. Mporokoso District had the highest percentage of the population currently attending primary school (77.6 percent) while Chilubi District had the lowest (52.0 percent).

Figure 5.13: Percentage Distribution of the Population Aged 7 to 13 Years Currently Attending Primary School by District, Northern Province 2010



Source: 2010 Census of Population and Housing

5.4.2 Gross Primary School Attendance Rate

Figure 5.14 shows gross primary school attendance rate by sex and rural/urban. In 2010, the gross primary school attendance rate was 91.2 percent. The gross primary attendance rate was higher in urban areas (96.8 percent) than rural areas (89.9 percent). Males recorded a higher gross primary school attendance rate of 94.0 percent compared to 88.3 percent for females.

Figure 5.14: Gross Primary School Attendance Rate by Sex and Rural/Urban, Northern Province, 2010.



Source: 2010 Census of Population and Housing

Figure 5.15 shows the gross primary school attendance rate by district. Mporokoso District had the highest gross primary school attendance rate of 98.1 percent followed by Kasama District at 97.6 percent. Chilubi District had the lowest gross primary school attendance rate of 73.1 percent.

Figure 5.15: Gross Primary School Attendance Rate by District, Northern Province 2010



Source: 2010 Census of Population and Housing

5.4.3 Net Primary School Attendance Rate

Net primary school attendance rate shows the percentage of the primary school age population (7 to 13 years) currently attending primary grades (Grades 1 to 7). Figure 5.16 shows the net primary school attendance rate by sex and rural/urban. In 2010, the net primary school attendance rate was 66.3 percent. In rural areas, the net primary school attendance rate was 64.3 percent while that of urban areas was 75.6 percent. The net primary school attendance rate for males and females was 66.6 and 66.0 percent, respectively.

Figure 5.16: Net Primary School Attendance Rate by Sex and Rural/Urban, Northern Province 2010



Source: 2010 Census of Population and Housing

Figure 5.17 shows the net primary school attendance rate by district. Mporokoso District had the highest net primary school attendance rate of 75.4 percent while Chilubi District had the lowest at 51.1 percent.

Figure 5.17: Net Primary School Attendance Rate by District, Northern Province 2010



Source: 2010 Census of Population and Housing

5.4.4 Gross Secondary School Attendance Rate

In Zambia, the official secondary school age ranges from 14-18 years. Figure 5.18 shows the gross secondary school attendance rate by sex and rural/urban. The gross secondary school attendance rate for the population aged 14-18 years was 51.3 percent. Urban areas recorded a higher gross secondary school attendance rate of 87.2 percent than 41.5 percent in rural areas. The male gross secondary school attendance rate was 61.6 percent while that of females was 41.2 percent.





Source: 2010 Census of Population and Housing

Figure 5.19 shows the gross secondary school attendance rate by district. Kasama District had the highest gross secondary school attendance rate of 69.4 percent while Chilubi District had the lowest at 35.8 percent.

Figure 5.19: Gross Secondary School Attendance Rate by District, Northern Province 2010



Source: 2010 Census of Population and Housing

5.4.5 Net Secondary School Attendance Rate

Net secondary school attendance rate shows the percentage of the secondary school age population (14-18 years) currently attending secondary school grades 8 to 12. Figure 5.20 shows the net secondary school attendance rate by sex and rural/ urban. In 2010, the net secondary school attendance rate was 32.6 percent. More children in urban areas (55.9 percent) were attending secondary school than in rural areas (26.3 percent). The net secondary school attendance rate was 36.6 percent and 28.7 percent for males and females, respectively.

Figure 5.20: Net Secondary School Attendance Rate by Sex and Rural/Urban, Northern Province, 2010.



Figure 5.21 shows the net secondary school attendance rate by district. Kasama District recorded the highest net secondary school attendance rate of 45.7 percent while Chilubi District had the lowest at 22.2 percent.





Source: 2010 Census of Population and Housing

5.5 Gender Parity Index

Gender Parity Index (GPI) shows the disparities in education and helps in addressing unequal access to education among females in developing countries. Figure 5.22 shows the gender parity index by district and rural/urban. Overall, the gender parity index for persons currently attending school was 0.87, indicating that there were less females than males currently attending school.

Figure 5.22: Gender Parity Index by District and Rural/Urban, Northern Province, 2010.



Source: 2010 Census of Population and Housing

The GPI for rural areas was 0.85 while that of urban areas was 0.93. Kasama District had the highest GPI at 0.92 while Chilubi District had the lowest at 0.80.

Figure 5.23 shows gender parity index for the population that were currently attending primary school by rural/urban and district. The gender parity index for persons currently attending primary school was 0.94. The GPI for rural areas was 0.92 while that of urban areas was 1.03. Kasama District had the highest GPI of 0.99 while Chilubi District had the lowest at 0.88.

District

Figure 5.23: Gender Parity Index for Population Currently Attending Primary School by District and Rural/Urban, Northern Province 2010







Source: 2010 Census of Population and Housing

Figure 5.24 shows gender parity index for the population currently attending secondary school by district and rural/urban. The GPI for those currently attending secondary school was 0.69. In rural areas, the GPI was 0.62 while that of urban areas was 0.81. Kasama District had the highest GPI of 0.78 while Kaputa and Chilubi Districts had the lowest at 0.56 each.

Figure 5.24: Gender Parity Index for the Population Currently Attending Secondary School by District and Rural/Urban, Northern Province 2010





5.6 Highest Education Level Completed

Educational attainment is the highest level of education completed in the country where the education was received (United Nations, 1998). The United Nations recommends that educational attainment be included among the basic areas of census inquiry and that data on the subject be collected for all persons 5 years of age and older.

Indicators on highest education qualification level completed and highest professional/vocational qualification in this analysis uses the population aged 25 years and older. Note that the population under 25 years of age may still be attending school and that the measures for these persons would tend to understate their eventual educational attainment to some degree (Siegel and Swanson, 2004).

Figure 5.25 shows the percentage distribution of population (25 years and older) that ever attended school by highest education level completed and rural/urban. In 2010, 65.8 percent had completed primary school, 27.4 percent had completed secondary school and 6.3 percent had completed tertiary education.

Source: 2010 Census of Population and Housing

In rural areas, 73.2 percent of the population reported having completed primary education while 40.0 percent had completed the same level of education in urban areas. In urban areas, the population that reported having completed secondary education was the highest percentage at 44.3 percent. The percentage of the population that had completed tertiary education was higher in urban areas than rural areas at 15.5 and 3.6 percent, respectively.

Figure 5.26 shows the percent distribution of the population (25 years and older) that ever attended school by sex and highest education level completed. There were more females (75.7 percent) who had primary education than males (57.2 percent). The percentage of males who had secondary and tertiary as their highest level of education completed was higher than that of females.

Figure 5.26: Percentage Distribution of Population (25 Years and Older) that Ever Attended School by Highest Level of Education Completed and Sex, Northern Province 2010



Source: 2010 Census of Population and Housing

Figure 5.27 shows the percentage distribution of the population (25 years and older) that ever attended school by highest education level completed and district. Kasama District had the highest percentage of the population with tertiary as their highest level of education completed at 11.2 percent while Kaputa District had the lowest at 3.3 percent.







5.7 Highest Professional/Vocational Qualification Completed

Figure 5.28 shows the percentage distribution of the population (25 years and older) by highest professional/vocational qualification completed. Certificate holders constituted 3.3 percent followed by diploma holders at 1.2 percent. Less than one percent (0.0) of the people had doctorate degrees (PhD).

Figure 5.28: Percent Distribution of population (25 Years and Older) by Highest Professional/Vocational Qualification Completed, Northern Province, 2010



Source: 2010 Census of Population and Housing

Figure 5.29 shows the percentage distribution of the population (25 years and older) by highest professional/vocational qualification completed and sex. For all professional and vocational qualifications, males had higher percentages than females. The highest percentage difference was recorded for the Certificate qualification where males accounted for 4.8 percent compared to 2.0 percent for females.





Source: 2010 Census of Population and Housing

5.8 Field of Study

Table 5.1 shows the percent distribution of the population (25 years and older) by field of study and sex. Teacher training was reported by 2.0 percent of the population 25 years and older in Northern Province. Other notable fields of study included nursing (0.3 percent), accountancy (0.2 percent), agriculture (0.2 percent) and mechanical engineering (0.2 percent).

Table 5.1: Percentage Distribution of Population (25 years and older) by Field of Study and Sex, Northern Province 2010					
Field of Study	Population	Percent of Total	Percent Males	Percent Females	
Total	329,281		47.8	52.2	
Natural science (e.g. biological science programme chemistry	90	0.0	86.7	13.3	
Civil engineering	120	0.0	95.8	4.2	
	.389	0.0	92.3	7.7	
Mechanical engineering	556	0.1	98.6	1.4	
Chemical engineering	22	0.0	86.4	13.6	
Mining engineering	139	0.0	95.7	4.3	
	19	0.0	94.7	5.3	
Metalluraical engineering	17	0.0	100.0	0.0	
Architectural and town planning engineering	34	0.0	100.0	0.0	
Other engineering	107	0.0	98.1	1.9	
Medicine and surgery	125	0.0	92.0	8.0	
Pharmacy	123	0.0	80.5	19.5	
Dentistry	54	0.0	87.0	13.0	
Nursing	1,002	0.3	55.9	44.1	
Medical technology	129	0.0	87.6	12.4	
X-Ray technology	16	0.0	93.8	6.3	
Veterinary	55	0.0	92.7	7.3	
Statistics	22	0.0	90.9	9.1	
Mathematics	54	0.0	88.9	11.1	
Computer science/Economics		0.1	68.0	32.0	
Accountancy	736	0.2	83.0	17.0	
Teacher training	6,460	2.0	60.6	39.4	
Law and jurisprudence (includes magistrates and judges)	181	0.1	87.3	12.7	
Journalism	48	0.0	66.7	33.3	
Fine arts	66	0.0	84.8	15.2	
Physical education	36	0.0	72.2	27.8	
Library science	17	0.0	76.5	23.5	
Social welfare	178	0.1	62.4	37.6	
Criminology	275	0.1	87.6	12.4	
Business administration and related programmes	414	0.1	77.8	22.2	
Secretarial training	353	0.1	12.7	87.3	
shorthand typing	102	0.0	27.5	72.5	
Clerical Typing	99	0.0	53.5	46.5	
Operating of office machines	55	0.0	87.3	12.7	
Service trade (e.g. cooking tourist trade etc.)	157	0.0	49.0	51.0	
Radio and felevision broadcasting	1/	0.0	88.2	11.8	
Fire protection and fire tighting	45	0.0	88.9	.	
Agriculture forestry and fishery	611	0.2	82./	17.3	
Food and arinks processing trades programmes	59	0.0	42.4	57.6	
	507	0.2	97.4	2.6	
	185	0.1	26.5	/3.5	
	1/	0.0	41.2	58.8	
Viner programmes	2,289	0./	83.1	16.9	
Source: 2010 Census of Population and Housing	313,107	73.1	40.0	53.4	

CHAPTER 6 ECONOMIC CHARACTERISTICS

6.0 Summary

The population aged 12 years and older was 603,022 in 2010. Of these, 80.1 percent were in rural areas while 19.9 percent were in urban areas. Males comprised 47.7 percent of the total population aged 12 years and older while females comprised 52.3 percent.

Of the population aged 12 years and older, 362,923 were in the labour force, of which 84.3 percent were in rural areas and 15.7 percent were in urban areas.

The unemployment rate was 6.3 percent of the labour force. The urban unemployment rate was higher than the rural unemployment rate at 17.0 and 4.3 percent, respectively. The male unemployment rate was 7.4 percent while the female unemployment rate was 5.1 percent.

The youth unemployment rate was 7.9 percent. The urban youth unemployment rate was higher (21.8 percent) than the rural youth unemployment rate (5.2 percent). The youth unemployment rate for males (9.4 percent) was higher than that of females (6.3 percent).

Of the employed population, the highest percentage was self employed (46.4 percent) and the lowest was employers (0.5 percent).



6.1 Introduction

Individuals engage in economic activities in order to attain and sustain a certain acceptable level of consumption of goods and services. Engagement in these activities not only ensures a person's livelihood but also equips an individual with the means of acquiring and sustaining the basic needs of life such as food, clothing and shelter. In a developing country like Zambia, it becomes imperative to constantly measure and monitor changes in the levels of economic activities because fluctuations in labour force participation rates, employment levels and economic dependency levels have an impact on poverty.

6.2 Concepts and Definitions

Concepts and definitions used in this chapter are as follows:

Labour Force Participation Rate: This is ratio of the economically active population to the working age population expressed as a percent.

Unemployment rate: This is the proportion of the labour force who have no jobs, are available for work and are seeking work in a given reference period in the total labour force expressed as a percent.

Youth Unemployment Rate: This was defined as a proportion of the labour force aged 15-35 years who had no jobs, were available

for work and were seeking work in a given reference period in the total youthful labour force expressed as a percent.

In the 2000 and 2010 Population Censuses, data pertaining to economic characteristics of the population 12 years and older were collected and analyzed. The main topics covered are:

- i) Labour force participation
- ii) Economic dependency
- iii) Employment and unemployment
- iv) Employment status
- v) Occupation
- vi) Industry

6.3 Working Age Population

The working-age population was defined as all persons 12 years and older. This is the population from which measurement of the economic characteristics of the population is based.

Figure 6.1 shows the various components of the population 12 years and older. It shows the composition of the economically active and inactive population, including their sub components.

Figure 6.1: Organogram for the structure of Population aged 12 years and above



The question asked in the 2010 Census to determine the economic activity status was 'What did (NAME) do in the last 7 days and last 12 months?'. The reference period for the response categories was the last 7 days (current activity status) and last 12 months (usual activity status).

6.3.1 Population 12 Years and Older

In 2010, the population aged 12 years and older was 603,022, representing 57.7 percent of the total population in Northern Province. Of these, 80.1 percent were in rural areas while 19.9 percent were in urban areas. Males comprised 47.7 percent of the total population aged 12 years and older while females comprised 52.3 percent.

6.4 Economic Activity Status

The population 12 years and older is subdivided into two broad economic activity status categories, namely economically active and the economically inactive. The economic activity status thus, refers to whether a person aged 12 years and older is in or outside the labour force. Analysis for the economic activity status is based on the current (in the 7 days prior to the census night) economic activity of the population.

6.4.1 Economically Active

The economically active population (labour force) comprises persons who during the seven (7) days prior to the census night were either employed (i.e. employers, employees and unpaid family workers) or unemployed (i.e. without work but actively looking for work and those willing to work).

In 2010, the population of the labour force was 362,923 persons, of which 192,389 were male and 170,534 were female. The population of the labour force was more in the rural areas (84.3 percent) than urban areas (15.7 percent).

6.4.2 Economically Inactive

The economically inactive population comprises people who, during the reference period, were outside the labour force. These included fulltime students, fulltime homemakers (e.g. full time home makers not equivalent to full time housewives) and those not available for work for other reasons (not able to work due to sickness or old age), beggars, among others.

Figure 6.2 shows the percent share of the population 12 years and older by economic activity status. Of the population 12 years and older, 60.8 percent were economically active while 39.2 percent were economically inactive.





Source:2010 Censuses of Population and Housing

6.5 Labour Force Participation Rate

The labour force participation rate shows the proportion of the population that is economically active. Figure 6.3 shows the participation rate for the population 12 years and older by sex and rural/urban. In 2010, the labour force participation rate in Northern Province was 60.2 percent. The labour force participation rate in the male population was 66.9 percent compared to 54.1 percent in the female population.

The labour force participation rate was higher in rural areas (63.4 percent) compared to urban areas (47.3 percent). The results show that the labour force participation rate for males was higher than that of females in both rural and urban areas.





Source: 2010 Census of Population and Housing

The female participation rate was higher in rural areas (58.2 percent) compared to urban areas (37.3 percent).

Figure 6.4 shows the labour force participation rate for the population 12 years and older by age group and sex. Labour force participation among males was higher than that of females in all age groups except for the age groups 12-14 and 15-19 years.





Source:2010 Census of Population and Housing

Figure 6.5 shows the labour force participation rate for the population 12 years and older by district. Chilubi District had the highest labour force participation rate at 83.8 percent while Kasama District had the lowest at 55.0 percent.

Figure 6.5: Labour Force Participation Rate for the Population 12 years and older by District, Northern Province 2010



Source:2010 Census of Population and Housing

6.6 Employed Population

Employment in Zambia is measured as a percent of the labour force. In the 2010 Census, it made up those who reported to be working or on leave during the reference period (seven days prior to the census night). Out of 243,787 persons in the labour force, 228,202 persons were employed, representing 93.6 percent of the labour force. Out of the employed population, 51.6 percent were male while 48.4 percent were female

Figure 6.6 shows the percentage distribution of employed population by sex and rural/urban. The results show that there were more employed persons in rural areas (86.1 percent) than in urban areas (13.9 percent). In rural areas, female employment accounted for 88.0 percent while male employment was at 84.4 percent. In urban areas, there was higher male employment (15.6 percent) than the female employment (12.0 percent).





Source: 2010 Census of Population and Housing

6.7 Unemployment

The unemployed population consists of all persons 12 years and older who were actively seeking work or were available for work during the period, seven days prior to the census night. Unemployment is a state of total lack of work for persons within the employable age, available for work but without work, looking for work but did not do anything i.e. zero hours of work in the 7 days prior to the census night. Figure 6.7 shows the unemployment rate for the population 12 years and older by district. Of the 362,923 persons in the labour force, 22,984 (6.3 percent) were unemployed. Kasama District had the highest unemployment rate at 10.8 percent while Chilubi District had the lowest at 0.5 percent.





Source:2010 Census of Population and Housing

Figure 6.8 shows the unemployment rate for the population (12 years and older) by age group. The unemployment rate was highest in the 15-19 years age group at 10.3 percent followed by the age group 20-24 years at 9.9 percent. The lowest unemployment rate was 2.7 percent in the age group 70-74 years.





Source:2010 Census of Population and Housing

Figure 6.9 shows the unemployment rate for the population (12 years and older) by sex and rural/urban. The unemployment rate was 7.4 percent for males and 5.1 percent for females. Unemployment was higher in urban areas than in rural areas. In rural areas, males recorded a higher unemployment rate (5.4 percent) than females (3.3 percent). Similarly, males recorded a higher unemployment rate (17.2 percent) than females (16.7 percent) in urban areas.

Figure 6.9: Unemployment rate for the Population (12 Years and Older) by Sex and Rural/Urban, Northern Province 2010



Source:2010 Census of Population and Housing



The national youth policy defines a youth as any person aged 15-35 years. In this chapter, this age group has been used to analyse youth unemployment. The youth population in the labour force was 207,085, representing 57.1 percent of the labour force. Of these, 51.2 percent were male while 48.8 percent were female. Of the youth population in the labour force, 83.9 percent were in rural areas and 16.1 percent were in urban areas.

The youth unemployment rate by age group is shown in Figure 6.10. In Northern Province, 7.9 percent of the youths in the labour force were unemployed. The highest youth unemployment rate was in the age group 15-19 years at 10.3 percent while the lowest was in the age group 30-35 years at 5.4 percent.

Figure 6.10: Youth Unemployment Rate by Age Group,Northern Province 2010



Source:2010 Census of Population and Housing

Figure 6.11 shows the youth unemployment rate by age group and sex. Overall, the unemployment rate for male youths was higher than that of female youths in all age groups. The youth unemployment rate for males was 9.4 percent compared to 6.3 percent for females. The age group 20-24 years had the highest disparity between males and females at 12.2 percent for males and 7.8 percent for females.

Figure 6.11: Youth Unemployment Rate by Age Group and Sex, Northern Province 2010





Figure 6.12 shows the youth unemployment rate by rural/urban and district. The unemployment rate was higher in urban (21.8 percent) than in rural areas (5.2 percent). Kasama District had the highest youth unemployment rate of 14.3 percent while Chilubi District had the lowest at 0.7 percent.





Source:2010 Census of Population and Housing

6.8 Economically Inactive Population

The economically inactive population refers to persons who reported to be either full-time homemakers (e.g. full-time housewives), full-time students or not available for work for other reasons (e.g. beggars, too sick to work and so on).

Figure 6.13 shows the percentage distribution of the economically inactive population by reason of inactivity and sex. The majority of the economically inactive for male population were full time students at 76.7 percent while for the female population, it was the Full time home maker/housewife (42.5 percent). Female full time students accounted for 40.7 percent of the economically inactive population.





6.9 Economic Dependency Ratio Economic dependency measures the extent to which the economically inactive population is dependent on the economically active population. It is the ratio of the economically inactive persons to a 100 economically active persons.

Figure 6.14 shows the economic dependency ratio by sex and rural/urban. In 2010, the economic dependency ratio in Northern Province was 66. This means that, there were 66 economically inactive people for every 100 economically active people. The economic dependency ratio was higher among females (85) than males (50). The economic dependency ratio was higher in urban areas at 111 compared to 58 in rural areas.

Figure 6.14 Dependency Ratio by Sex and Rural/Urban, Northern Province 2010.



6.10 Employment Status, Occupation and Industrial Classification

The employment status, occupational and industrial structure of a country's workforce reflects the level of its economic development and the efficiency with which it uses and allocates its resources. The analysis that follows is based on the usually working population, (i.e. persons who were working in the 12 months prior to the census night) as this reflects the characteristics of the population for a longer period.

6.10.1 Employment Status

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

Figure 6.15 shows the percentage distribution of usually working population (12 years and older) by employment status. The results show that the majority of the usually working population was self-employed at 46.4 percent, followed by unpaid family workers at 45.8 percent. The lowest percentage was for employers at 0.5 percent.

Figure 6.15: Percentage Distribution of Usually Working Population (12 Years and Older) by Employment Status, Northern Province 2010



Source: 2010 Census of Population and Housing

The distribution of the usually working population (12 years and older) by employment status and sex is shown in Figure 6.16. The figure shows that 55.4 percent of the females were unpaid family workers followed by self employed at 40.7 percent. For males, 51.7 percent were self employed followed by unpaid family workers at 36.9 percent.

Figure 6.16: Percentage Distribution of Usually Working Population (12 Years and Older) by Employment Status and Sex, Northern Province 2010



6.10.2 Working Population by Occupation

Occupation is defined as the actual work or task that a person does in his/her main job at his/her place of work whether in paid employment, unpaid family work or self-employment.

Figure 6.17 shows the percentage distribution of the usually working population (12 years and older) by occupation. The main occupation among the usually working population was the skilled agricultural, forestry and fishing at 63.0 percent, followed by the elementary occupations at 19.3 percent. Managers accounted for 0.3 percent of the total working age population.





Source: 2010 Census of Population and Housing

Figure 6.18 shows the percentage distribution of the usually working population (12 years and older) by occupation and sex. For both males and females, the largest percent share of the working population was skilled agriculture, forestry and fishing at 60.9 and 65.3 percent, respectively.

Figure 6.18: Percentage Distribution of Usually Working Population (12 Years and Older) by Occupation and Sex, Northern Province 2010



Source: 2010 Census of Population and Housing

Figures 6.19 and 6.20 show the percentage distribution of the usually working population (12 years and older) by occupation for rural and urban areas, respectively. The largest percent share of the usually working population in rural areas was in the skilled agriculture, forestry and fishing occupation (68.9 percent), followed by elementary occupations (20.3 percent).

Figure 6.19: Percentage Distribution of Usually Working Population (12 Years and Older) by Occupation, Rural Northern Province 2010



Source: 2010 Census of Population and Housing

In urban areas, the largest percent share of the usually working population was in skilled agriculture forestry and fishery workers (25.4 percent), followed by the services and sales occupation (24.8 percent). The lowest percentage was for managers at 0.7 percent.





Source: 2010 Census of Population and Housing

6.10.3 Working Population by Industry

Industry is defined as the type of activity carried out by an enterprise where a person works. Industry categorisation used the International Standard Industrial Classification of All Economic Activity Revision IV (ISIC Rev. 4).

The percentage distribution of the usually working population (12 years and older) by industry is shown in Figure 6.21. The agriculture industry accounted for 81.2 percent of the usually working population. Other industries with a fair share of the usually working population were Wholesale and retail trade and community, social and personal services with 4.5 percent and 3.6 percent, respectively.

Figure 6.21: Percentage Distribution of Usually Working Population (12 Years and Older) by Industry, Northern Province 2010



Figures 6.22 and 6.23 show the percentage distribution of the usually working population (12 years and older) by industry in rural and urban areas, respectively. The agriculture industry accounted for 88.5 percent of the usually working population in rural areas. Community, social and personal services; wholesale and retail trade; manufacturing; and Construction collectively accounted for 4.8 percent.

Figure 6.22: Percentage Distribution of Usually Working Population (12 Years and Older) by Industry, Rural, Northern Province 2010

	Agriculture Hunting Forestry and Fishing		88.5
	Community Social and Personal Services	1.8	
	Wholesale & Retail Trade Restaurants and Hotel	1.5	
	Manufacturing	0.8	
	Construction and Allied Repairs	0.7	
	Information and Communication	0.4	
stry	Transport and Storage	0.2	
npu	Mining and Quarrying	0.2	
-	Accomodation and food services activities	0.1	
	Electricity Gas Steam and Air conditioning supply	0.0	
	Water Supply	0.0	
	Finance and Insurance	0.0	
	Real Estate Activies	0.0	
	Not Stated	5.9	
		Percent	
Sou	urce: 2010 Census of Population and I	lousing	

In urban areas, the agriculture industry accounted for 34.3 percent of the usually working population followed by wholesale and retail trade industry (24.3 percent); community, social and personal services (15.4 percent) and construction and allied repairs (5.6 percent).

Figure 6.23: Percentage Distribution of Usually Working Population (12 Years and Older) by Industry, Urban, Northern Province 2010



CHAPTER 7: FERTILITY CHARACTERISTICS

7.0 Summary

The Total Fertility Rate (TFR) for Northern Province was 7.1. The TFR in rural areas was 7.4 and 5.5 in urban areas. Chilubi District recorded the highest TFR at 7.7 while Kasama District had the lowest at 6.5.

The Crude Birth Rate (CBR) was 41 live births per 1000 population in 2010. Rural areas had a higher CBR of 43 compared to 31 live births per 1000 population in urban areas.

The Child Woman Ratio (CWR) in 2010 was 880 children (0-4 years) per 1000 women. The CWR for rural areas was 933 compared to 669 in urban areas.

The General Fertility Rate was 183. Rural areas had a higher GFR of 198 compared to 125 in urban areas.

The completed family size was 6.7 children; 6.7 and 6.5 for rural and urban areas, respectively.

The Gross Reproduction Rate (GRR) was 2.8. The GRR for rural and urban areas was 3.1 and 1.9, respectively.

The Net Reproduction Rate (NRR) was 2.1. The NRR for rural and urban areas was 2.3 and 1.4, respectively.

In 2010, the mean age at child bearing (MACB) was 29.4 years.

Chapter 7 Fertility Characteristics

7.1 Introduction

Fertility remains one of the most important aspects of census undertaking. The census provides a unique opportunity to collect reliable data on migration and fertility, which is very hard to do in a survey. It provides information to help understand and appreciate past, current and future trends of the population size, composition and growth. Fertility data leads planners, government, non-governmental organizations, among others, to evidence based socio-economic planning, monitoring and evaluation for various current and future aspects of population development. There were two fertility questions on the 2010 Census of Population and Housing. One asked all females 12 years and older if they ever had a live birth broken down by whether these children were still living or not. The second question asked females, 12 to 49 years old if they had any live births in the 12 months preceding the census, also broken down by whether these children were still alive or not.

7.2. Concepts and Definitions

The following concepts have been used in the analysis of fertility in this chapter.

Age Specific Fertility Rate (ASFR): Is the annual number of births to women in a particular age group per 1000 women in that age group.

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

Completed Family Size (Mean Parity): is the number of children ever born to women who have completed their reproduction i.e. those aged 50 and older.

Crude Birth Rate (CBR): Is the annual number of live births per thousand population present at mid-year.

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

General Fertility Rate (GFR): The number of live births occurring in a year per thousand women of childbearing age.

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

Mean Age at Child Bearing (MACB): Is the mean age of mothers at the birth of their children if women were subject throughout their lives to the age-specific fertility rates observed in a given year. It is computed as the sum of age-specific fertility rates weighted by the midpoint of each group.

Mean Parity: Refers to the completed family size (CFS)

Net Reproduction Rate (NRR): refers to the average number of female births born to women aged 15-49 years, that would



survive to the end of their reproductive period after experiencing the prevailing fertility and mortality levels.

Total Fertility Rate (TFR): Is the average number of live births a woman would have by age 50 if she were subject, throughout her life, to the age specific fertility rates observed in a given year. The calculation assumes there is no mortality and is expressed as number of children per woman.

7.3 Data Availability and Limitations

Fertility measurement in most developing countries, Zambia inclusive, is still a significant challenge. This is so because direct methods of measuring fertility, such as the vital registration system, are still underdeveloped. As a result, the 2010 Census applied indirect estimation methods to measure fertility. The 2010 Census followed international standards in asking questions on children ever born and births occurring in the 12 months prior to census night. The question on 'children ever born' provides a total record of women's child bearing experience from the beginning of their reproductive period to the current age (Manual X 1983 pp 31). The average number of children ever born, obtained by dividing the number of reported children by the number of women is a measure of the fertility experience of a cohort of women (Ibid 1983 pp33). The question on Children Ever Born (CEB) provides estimates for lifetime fertility and completed mean parity or family size.

Data from the question on 'births occurring 12 months prior to the census' was used to estimate Age Specific Fertility Rates (ASFRs), Total Fertility Rates (TFR), Gross Reproduction Rates (GRRs) and Net Reproduction Rates (NRRs) for national, provincial and district levels.

Omission of children by women responding to the census question on children ever born and births in the last twelve months may introduce errors in the estimation of fertility, especially those that died or are living elsewhere. In view of this weakness, the 2010 Census broke down this question to include other questions such as 'how many children are living with you?', 'how many are living elsewhere?' and 'how many are dead?'This form of investigation has the advantage of providing more accurate data for making appropriate estimates (Ibid 1983 pp27).

7.4 Evaluation and Justification for Adjustments

The 2010 Census data on fertility was evaluated for completeness of reporting of children ever born and births in the last 12 months using the Coale-Demeny and Brass Empirical formula technique. Using data for CEB, the Brass empirical formula yielded this result: (P2)(P4/P3)4 = (1.342) (3.859/2.623)4 = 7.897. Observed average parity for women 45-49 years for the 2010 Census was 6.018. Comparing the Brass empirical formula result with observed parity for women 45-49 years, it is clear that there was under reporting of children. This therefore called for the adjustment of reported fertility in order to come up with adjusted Age Specific Fertility Rates (ASFRs) and Total Fertility Rates (TFRs).

The 2010 Census therefore applied the P/F Ratio Technique, which uses children ever born data to adjust fertility data for underreporting in number of births that occurred in the last 12 months prior to the census (Arriaga et al 2005). The P/F Ratio Technique is based on cumulating fertility (represented by letter 'F') up to ages 20, 25, ...50 (49) which are later adjusted and compared with CEB, represented by letter 'P'. The general assumption of this technique is that the number of children ever born is more accurately reported than births in the last year. In the same way, the P/F Ratio Technique also assumes that the completeness of data is the same for all age groups of women; that the reporting of the average number of children ever born per woman is complete at least up to ages 30 or 35 years; that there is no age misreporting of women of childbearing age; and that the pattern and level of fertility have not changed in the 10-15 years prior to the census (Coale and Trussel, 1974).

7.5 Fertility Indicators

7.5.1 Adjusted Age Specific Fertility Rate

Figure 7.1 shows the Adjusted Age Specific Fertility Rate (ASFR) by age group in 2010. The 20-24 years age group had the highest ASFR. This was followed by the 25-29 years.

Figure 7.1: Adjusted Age Specific Fertility Rate by Age Group, Northern Province 2010



Source: 2010 Census of Population and Housing

Figure 7.2 shows the Adjusted Age Specific Fertility Rate by rural/urban. Results show that child bearing starts early in rural areas compared to urban areas. The peak for child bearing in rural areas was in the 20-24 age group while in urban areas it was in the age group 25- 29 years.

Figure 7.2: Adjusted Age Specific Fertility Rate by Age Group and Rural/Urban, Northern Province 2010



7.5.2 Total Fertility Rate

Figure 7.3 shows the Total Fertility Rate (TFR) by rural/urban. In 2010, the TFR for Northern Province was 7.1. Rural areas had a higher TFR of 7.4 compared to 5.5 in urban areas.

Figure 7.3: Total Fertility Rate by Rural/Urban, Northern Province, 2010



7.5.2.1 Total Fertility Rate by District

Figure 7.4 shows the total fertility rate by district. Chilubi District had the highest TFR at 7.7 while Kasama District had the lowest TFR at 6.5.

Figure 7.4: Total Fertility Rate by District Northern Province, 2010



Source: 2010 Census of Population and Housing

7.5.3 Mean Age at Child Bearing (MACB)

Figure 7.5 shows the Mean Age at Child Bearing (MACB) by rurla/urban. In 2010, the MACB for Northern Province was 29.4 years. The MACB for rural and urban areas was 29.4 and 28.9 years, respectively.

Figure 7.5 Mean Age at Child Bearing by Rural/Urban, Northern Province 2010



Source: 2010 Census of Population and Housing

Fertility Characteristics - 43

Figure 7.6 show the Gross Reproduction Rate (GRR) by rural/ urban in 2010. The GRR for Northern Province was 2.8. The GRR was higher in rural areas at 3.1 compared to 1.9 in urban areas.

Figure 7.6: Gross Reproduction Rate by Rural/Urban, Northern Province 2010



7.5.5 Net Reproduction Rate (NRR)

Figure 7.7 shows the Net Reproduction Rate by rural/urban. In 2010, the NRR for Northern Province was 2.1. The NRR was higher in rural areas at 2.3 compared to 1.4 in urban areas.

Figure 7.7: Net Reproduction Rate by Rural/Urban, Northern Province 2010



Source: 2010 Census of Population and Housing

7.5.6 Other Fertility Indicators

Several other indices of fertility can also be measured from data on births and population (Arriaga et al., 2005). These include the Crude Birth Rate (CBR), Child-Woman Ratio (CWR), Completed Family Size (CFS) and the General Fertility Rate (GFR). Table 7.1 shows a summary of fertility indicators by rural/urban and district. In 2010, the CBR was 41 births per 1000 mid-year population, while the CWR was 880 per 1000 women. Other indicators such as the GFR and CFS were 183 and 6.7, respectively.

Table 7.1: Fertility Indicators By Rural/Urban and District, Northern Province 2010							
Rural/Urban and District	Total Fertility Rate (TFR)	Completed Family Size (CFS)	Crude Birth Rate (CBR)	Child Woman Ratio (CWR)	General Fertility Rate (GFR)	Gross Reproduction Rate (GRR)	Net Reproduction Rate (NRR)
Total	7.1	6.7	41	880	183	2.8	2.1
Rural	7.4	6.7	43	933	198	3.1	2.3
Urban	5.5	6.5	31	669	125	1.9	1.4
District							
Chilubi	7.7	6.6	47	920	207	3.2	2.2
Kaputa	7.1	6.3	49	973	215	3.2	2.2
Kasama	6.5	7.0	37	771	160	2.4	1.9
Luwingu	6.6	5.7	35	859	157	2.5	1.7
Mbala	7.2	6.7	39	890	178	2.8	2.2
Mporokoso	7.1	6.9	39	879	183	2.9	2.1
Mpulungu	7.2	6.8	43	900	187	2.9	2.2
Mungwi	7.2	7.1	45	948	207	3.3	2.5
Source: 2010 Censu	s of Population and	d Housing					

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7.6 Fertility Differentials and Selected Background Characteristics of Women Aged 15-49 years

This section presents results on the fertility levels by various background characteristics of women. These characteristics include religious affiliation, education level and economic characteristics.

7.6.1 Total Fertility Rate by District and Religious Affiliation of Women Aged 15–49 Years

Table 7.2 shows fertility levels by religious affiliation of women aged 15-49 years and district. The Total Fertility Rate was highest among Protestant women at 7.2, followed by Muslim women and women with no religious affiliation at 7.1 each. Catholic women had the lowest total fertility rate of 6.9.

Table 7.2: Total Fertility Rates by Religious Affiliation of Women Aged 15-49 years and District, Northern Province 2010								
District	All Momon	Religious Affiliation						
DISILICI	All Women	Catholics	Protestants	Muslims	Hindus	Other	None	
Total	7.1	6.9	7.2	7.1		7.3	7.1	
Chilubi	7.7	7.4	8.1	1.2	-	18.8	8.6	
Kaputa	7.1	7.1	7.2	7.2	-	6.7	7.0	
Kasama	6.5	6.4	6.5	11.1	-	7.8	16.3	
Luwingu	6.6	6.6	6.7	2.2	-	3.8	10.1	
Mbala	7.2	6.7	7.3	1.6	-	7.1	5.9	
Mporokoso	7.1	7.3	7.1	19.6	-	8.0	3.4	
Mpulungu	7.2	6.6	7.2	8.1	-	6.7	8.9	
Mungwi	7.7	7.4	8.0	3.6	-	8.8	-	
Source: 2010 Census	Source: 2010 Census of Population and Housing							

7.6.2 Total Fertility Rate by District and Education attainment of Women Aged 15–49 years

Table 7.3 shows the total fertility rate of women (15-49 years) by their education attainment and district. Women with primary

education had the highest TFR of 7.8, followed by women with no education at 7.1. Women with tertiary education had the lowest total fertility rate of 2.8.

Table7.3: Total Fertility Rate by Education Attainment of Women Aged 15-49 years and District, Northern Province 2010					
District	Allwomon				
District	All women	No education	Primary	Secondary	Tertiary
Chilubi	7.7	7.1	8.5	6.1	5.2
Kaputa	7.1	6.9	7.5	5.8	4.6
Kasama	6.5	6.9	7.7	4.9	2.8
Luwingu	6.6	6.7	7.2	5.0	8.2
Mbala	7.2	7.2	7.9	4.9	2.3
Mporokoso	7.1	6.8	8.0	5.4	3.5
Mpulungu	7.2	7.2	7.8	5.0	3.6
Mungwi	7.2	7.4	8.3	6.2	2.7
Total	7.1	7.1	7.8	5.2	2.8
Source: 2010 Census of F	Population and Housing				

7.6.3 Total Fertility Rate by Employment Status of Women

Figure 7.8 shows the total fertility rate by employment status of women aged 15-49 years and district. The total fertility rate was higher among the unemployed women aged 15-49 years (7.1) compared to that of the employed women aged 15-49 years (6.7). A similar pattern is observed across most districts except for Kaputa and Chilubi Districts were the TFR is higher among the employed women aged 15-49 years when compared to the unemployed women aged 15-49 years.

Figure 7.8: Total Fertility Rates by Employment Status of Women (15-49 Years) and District, Northern Province 2010



Source: 2010 Census of Population and Housing

CHAPTER 8 CHILDHOOD MORTALITY CHARACTERISTICS

8.0 Summary

The Infant Mortality Rate (IMR) was 81.9 deaths per 1,000 live births in 2010.

The Child Mortality Rate (CMR) was 63.1 deaths per 1000 live birth in 2010.

The Under-5 Mortality Rate (U5MR) was 145.0 deaths per 1000 live births in 2010.

Chapter 8 Childhood Mortality



Child mortality is a key indicator not only of child health and nutrition but also of the implementation of child survival interventions and, more broadly, of social and economic development (UNICEF, 2011). Reducing the current levels of child mortality is one of eight millennium development goals (MDG4). Though it is a global goal, it is also a national goal set in Zambia's national health strategic plans over time. In the past decade, the government through the Ministry of Health (MOH) has scaled up child health interventions such as the child health week programme aimed at expanding access to immunization and other child health interventions like vitamin A supplementation to the hard to reach children in communities.

Among the major causes of child mortality are infectious diseases like pneumonia, diarrhoea, malaria and measles. These diseases are common and affect most children in some provinces of Zambia. HIV/AIDS and its related complications, coupled with high levels of malnutrition also contribute to the high disease burden among children under the age of five in some provinces of Zambia.

8.2 Concepts and definitions

The following concepts and definitions have been used in this analysis:

Mortality refers to the occurrence of deaths in a population.

Age Specific Death Rates (ASDR) refer to mortality rates from deaths occurring to a specified population age group or sex per 1,000 population in that age group or sex during a given time period.

Infant mortality rate (IMR) is usually denoted by the life table notation (1q0) and refers to the number of infant (children below the age of one) deaths per 1,000 live births occurring during a specified reference period, in this case taken to be one year prior to the census.

Child Mortality Rate (CMR) usually denoted by the life table notation (4q1) refers to the number of child (children aged between exact age one and four) deaths per 1,000 live births occurring during a specified reference period, in this case taken to be one year prior to the census.

Under-five mortality rate (UMR) usually denoted by the life table notation (5q0) refers to the number of deaths among children aged below the age of five per 1,000 live births occurring during a specified reference period, in this case taken to be one year prior to the census. UMR therefore, constitutes both the infant and child mortality.

8.3 Collection of Childhood Mortality data in the 2010 Census

Information collected in population and housing censuses on the total number of children ever born and children surviving are used in the estimation of childhood mortality (UN, 1983).



Two questions are usually included in a census on children ever born (CEB) and births in the last 12 months prior to the census. This information is also used in the estimation of fertility.

All women aged 12 years and older in all households were asked whether they had a live birth, including those who died after birth. Follow up questions were asked to find out how many of the children born alive were living in the household by sex, how many were living elsewhere by sex and how many were dead by sex. This information was also collected from all women aged 12-49 years for the 12 months period prior to the census.

8.4 Childhood Mortality data evaluation and estimation procedure

It is well known that the proportions of children ever born who have died are indicators of child mortality and can yeild robust estimates of childhood mortality (UN, 1983). However, it is equally well known that children ever born data sometimes suffers from under reporting of dead children, especially those that die early in infancy. Infants that die within 24 hours after birth are sometimes classified not as deaths but as "stillbirths" (Shryock, 1980).

8.4.1 Crude Death Rate

Child mortality data collected using the question on household deaths in the last twelve months was evaluated using demographic methods. Crude mortality rates were computed using observed unadjusted data. Evaluation was made of the observed crude measures. The observed crude death rates for the population aged 0-4 years are shown in Figures 8.1 and 8.2 and Table 8.1.

The observed CDR presented in Figure 8.1 shows that childhood mortality was higher among infants with 86.9 deaths per 1000 population aged below one year. The observed CDR declined with increasing age of the child, reaching the level of 7.0 deaths per 1000 population at age four.





Source: 2010 Census of Population and Housing

Figure 8.2 shows observed crude death rate by rural/urban. The observed crude death rate was higher in rural areas at 32.0 deaths per 1,000 population aged 0-4 years compared to 25.7 deaths per 1,000 population in urban areas.





Table 8.1 shows crude death rate by rural/urban, sex and single age for the population aged 0-4 years. The analysis of the crude death rate presented in Table 8.1 provide proxy indications of the expected levels of infant, child and under five mortality rates. The information in the table indicates an infant mortality rate of 87, a child mortality rate of 68 and an under five mortality rate of 155 for Northern Province.

Similarly, the information in the table approximates the infant mortality rate of 89 for rural areas and 75 for urban areas, a child mortality rate of 70 for rural areas and 57 for urban areas and an under five mortality rate of 132 for urban and 159 for rural. These proxy estimates of child mortality based on the observed crude death rates would be plausible for Northern Province at the time of the 2010 Census.

Source: 2010 Census of Population and Housing

 Table 8.1: Observed Crude Death Rates (CDR) by Sex and Single Age for Population Aged 0-4 Years and Rural/Urban, Northern Province 2010

Total			Rural			Urban			
Age	Both Sexes	Males	Females	Both Sexes	Males	Females	Both Sexes	Males	Females
0	0.087	0.097	0.077	0.089	0.100	0.078	0.075	0.080	0.069
1	0.028	0.028	0.027	0.028	0.029	0.027	0.025	0.024	0.027
2	0.021	0.024	0.019	0.022	0.024	0.020	0.018	0.024	0.013
3	0.012	0.013	0.012	0.013	0.014	0.012	0.009	0.010	0.009
4	0.007	0.008	0.006	0.007	0.008	0.007	0.005	0.006	0.004
Source: 2010 C	Source: 2010 Census of Population and Housing								

Direct estimation procedures were used to generate childhood mortality indicators. These indicators were extracted from the empirical life tables generated using information on household deaths in the period 12 months prior to the census. The US Census Bureau spreadsheet LTPOPDTH was used to generate the life tables.

8.5 Infant Mortality Rate

Table 8.2 shows Infant Mortality Rate (IMR) by sex and rural/ urban for the period 12 months prior to the census. In 2010, the IMR for Northern Province was 81.9 deaths per 1000 live births. The IMR was 83.7 deaths per 1000 live births in rural areas and 71.2 deaths per 1000 live births in urban areas. Estimated IMR was higher for male children than female children in both rural and urban areas.

Table 8.2: Infant Mortality Rate (IMR) by Sex and Rural/Urban, Northern Province 2010						
Rural/Urban Both Sexes Males Females						
Total	81.9	90.9	72.7			
Rural	83.7	93.4	73.8			
Urban	71.2	76.1	66.3			
Source: 2010 Census of Population and Housing						

Figure 8.3 shows Infant Mortality Rate by rural/urban in 2010. The IMR for Northern Province was 81.9 deaths per 1,000 live births. In rural and urban areas, the Infant Mortality Rate was 83.7 and 71.2 deaths per 1,000 live births, respectively.





Infant Mortality Rate (IMR) by district is presented in Figure 8.4. In 2010, Kaputa, Luwingu, Mporokoso and Chilubi Districts had infant mortality rates above the provincial average of 81.9 infant deaths per 1,000 live births. Kaputa District had the highest infant mortality rate of 109.3 infant deaths per 1000 live births while Kasama District had the lowest at 56.6 infant deaths per 1,000 live births.





Source: 2010 Census of Population and Housing

8.6 Child Mortality Rate

Table 8.3 shows Child Mortality Rate (CMR) by sex and rural/ urban. In 2010, the CMR for Northern Province was 63.1 deaths per 1,000 live births. The CMR was 64.9 deaths per 1,000 live births in rural areas and 53.8 deaths per 1000 live births in urban areas. The CMR was higher for male than female children in both rural and urban areas.

Table 8.3: Child Mortality Rate by Sex and Rural/Urban, Northern Province 2010							
Rural/Urban Both Sexes Males Females							
Total	63.1	67.4	58.9				
Rural	64.9	68.9	60.8				
Urban 53.8 59.1 48.5							
Source: 2010 Census of Population and Housing							

Figure 8.5 shows the Child Mortality Rate by rural/urban in 2010. The CMR was 63.1 deaths per 1,000 live births. Rural and urban areas had child mortality rates of 64.9 and 53.8 deaths per 1,000 live births, respectively.

Figure 8.5: Child Mortality Rate (CMR) by Rural/Urban, Northern Province 2010



source: 2010 Censuses of Population and Housing

The Child Mortality Rate (CMR) by district is presented in Figure 8.6. In 2010, the child mortality rate for Mbala, Mungwi and Kasama Districts were below the provincial average of 63.1 deaths per 1000 live births. Kaputa District had the highest child mortality rate of 94.5 deaths per 1000 live births while Kasama District had the lowest child mortality rate of 40.1 deaths per 1000 live births.

Figure 8.6: Child Mortality Rate (CMR) by District, Northern Province 2010



Source: 2010 Census of Population and Housing

8.7 Under-Five Mortality Rate (U5MR)

Table 8.4 shows Under-Five Mortality Rate (U5MR) by sex and rural/urban. At provincial level, the U5MR was 145.0 deaths per 1,000 live births. The U5MR in rural areas was 148.5 deaths compared to 125.0 deaths per 1,000 live births in urban areas.

As observed in Infant and Child Mortality, Under-Five Mortality Rate was higher for male than female children in both rural and urban areas.

Table 8.4: Under-Five Mortality Rate (U5MR) by Sex and Rural/Urban, Northern Province 2010						
Rural/Urban Both Sexes Males Females						
Total	145.0	158.3	131.6			
Rural	148.5	162.3	134.6			
Urban 125.0 135.2 114.8						
Source: 2010 Census of Population and Housing						

Figure 8.7 shows the Under-Five Mortality Rate by rural/urban in 2010. The U5MR was 145.0 deaths per 1,000 live births. Rural and urban areas had Under-Five Mortality Rates of 148.6 and 125.0 deaths per 1,000 live births, respectively.





Figure 8.8 shows Under-Five Mortality Rate by district. Mbala, Mungwi and Kasama Districts had Under-Five Mortality Rates below the provincial average of 145.0 deaths per 1,000 live births while the remaining five districts had U5MRs above the provincial average. Kasama District had the lowest Under-Five Mortality Rate of 96.7 deaths per 1,000 live births while Kaputa District had the highest at 203.8 deaths per 1,000 live births.

Figure 8.8: Under Five Mortality Rate (U5MR) by District, Northern Province 2010



CHAPTER 9 GENERAL AND MATERNAL MORTALITY CHARACTERISTICS

9.0 Summary

The Crude Death Rate (CDR) in 2010 was 12.5 deaths per 1,000 population; 13.9 deaths per 1,000 population for males and 11.1 deaths per 1,000 population for females. Rural areas had a higher CDR at 12.7 deaths compared to 11.6 deaths per 1,000 population for urban areas.

The 25-29 years age group had the highest percentage of reported adult deaths for both males and females. The percentages of the reported adult deaths were higher among females than males for ages below 30 years.

The life expectancy at birth was 52.9 years, 53.3 years in rural areas and 51.3 years in urban areas. Females had a higher life expectancy at birth of 55.5 years compared to 50.3 years for males.

The most common cause of death was illness/disease accounting for 72.7 percent of all reported causes.



9.1 Introduction

Mortality data are useful in assessing the performance of national health programmes, including interventions aimed at disease control and prevention. Mortality statistics provide a foundation on which a health policy is formulated.

Mortality measure, though a challenge in the absence of complete vital registration is still critical to national planning. Censuses and surveys still form a major source of mortality information for Zambia. However, the cost and periodicity of censuses and surveys affect the timeliness and accuracy.

A national population census provides a unique opportunity to collect mortality data for district and sub-district level estimates. This is the core advantage of collecting mortality data in a census over other sources. The district level estimates of mortality form critical input into population projections and components of district planning.

9.2 Concepts and definitions

The following concepts and definitions have been used in analyzing General Mortality in this chapter:

Death (Mortality): The complete disappearance of any signs of life at any time after a live birth has occurred.

Crude Death Rate (CDR): The ratio of the number of deaths occurring in a year to the mid-year population expressed per 1,000 population.

Age Specific Death Rates (ASDR): Mortality rates from deaths occurring to a specified population age group or sex per 1,000 population in that age group or sex during a given time period

Life Expectancy at Birth (e0): Average number of years expected to be lived by a birth cohort, based on prevailing age specific mortality rates

9.3 Collection of Mortality Data in the 2010 Census

Information on children ever born, children surviving, children dead and direct questions on deaths in the 12 months prior to the census were asked to all households in the census. All households in the census were asked whether there was any member who had died since October 2009, the age and sex of the deceased and the cause of death.

9.4 General Mortality

9.4.1 Crude Death Rate (CDR)

Crude Death Rate (CDR) gives a general indication of the levels of mortality in a population. Crude death rate is calculated for 12 month periods such as calendar years or fiscal years so as to eliminate the effect of seasonal or monthly variations on the comparability of the rates (Shryock et al., 1980).

Figure 9.1 shows the observed Crude Death Rate (CDR) for Northern Province by sex and rural/urban. The Crude Death

Rate was 12.5 deaths per 1,000 population. The CDR for males was 13.9 deaths per 1,000 population and 11.1 deaths per 1,000 population for females. Overall, males had higher mortality than females in both rural and urban areas. The CDR was higher in rural areas at 12.7 deaths compared to 11.6 deaths per 1,000 population in urban areas.

Figure 9.1: Observed Crude Death Rate (CDR) per 1,000 Population by Sex and Rural/Urban, Northern Province 2010





Figure 9.2 shows the Crude Death Rate by district. The figure shows that Mbala, Kasama and Mungwi Districts had crude deaths rates below the provincial average of 12.5 deaths per 1,000 population.



Figure 9.2: Crude Death Rate (CDR) by District, Northern Province 2010

Source: 2010 Census of Population and Housing

The highest Crude Death Rate was in Kaputa District at 17.2 deaths per 1,000 population and the lowest was in Mbala District at 9.8 deaths per 1000 population.

Table 9.1 shows the observed Crude Death Rate by sex and district. In all the districts, the observed CDR was higher for males than for females.
District	Male	Female
Chilubi	18.2	14.2
Kaputa	19.0	15.6
Kasama	11.8	9.3
Luwingu	16.6	13.4
Mbala	11.2	8.5
Mporokoso	14.0	12.0
Mpulungu	13.8	11.4
Mungwi	12.8	9.9
Source: 2010 Census of	Population and Housing	

9.4.2 Age-Sex Specific Death Rate

Age and sex form two important demographic variables in the analysis and understanding of mortality levels and patterns. Certain diseases or mortality risks tend to be age or sex selective. Age-sex specific death rate refers to the deaths occurring to a specified population age group or sex per 1,000 population in that age group or sex during a given time period.

Figure 9.3 shows the observed age-sex specific death rate for Northern Province in 2010. The figure shows a u-shaped characteristic with high mortality at the very young and oldest ages. The high death rate in the age groups less than 1 year and 1-4 years explains the high child mortality in Northern Province. Further, the results show increasing mortality in both males and females after age 15, levelling off in the mid-thirties for both males and females.

Figure 9.3: Observed Age-Sex Specific Death Rate by Age Group and Sex, Northern Province 2010



Northern Province follows the typical u-shaped age specific death rates pattern, starting off high in early childhood, declining to the lowest in the age group 10-14 years and increasing with age. There is a "bump" set off by rising mortality after age 15. The figure also shows higher mortality among males than females, especially in early childhood and after age 30.

Figure 9.4 and 9.5 show the age-sex specific death rate for rural and urban areas, respectively. In both cases, the mortality pattern is characterized by high mortality in young ages that decline with increasing age until the age of 15. After age 15, mortality steadily increases before levelling off in the thirties for females and in the late forties for males and then it increases with age.

Generally, in both rural and urban areas, mortality was higher among males than females especially over the age of 30 years.

Figure 9.4: Observed Age-Sex Specific Death Rate by Age Group and Sex, Northern Province Rural 2010



Source: 2010 Census of Population and Housing

Figure 9.5: Observed Age-Sex Specific Death Rate by Age Group and Sex, Northern Province Urban 2010



Figure 9.6 shows observed age-specific death rate by rural/ urban for Northern Province. The figure shows that after the age of 20 years, mortality is higher in urban than in rural areas.

Figure 9.6: Observed Age Specific Death Rate by Age Group and Rural/Urban, Northern Province 2010



Source: 2010 Census of Population and Housing

In all societies, mortality levels are influenced more by the age structure. However, some causes of death tend to be sex selective. Therefore, mortality tends to vary by age and sex.

Figure 9.7 shows the percentage of reported adult deaths by age group and sex for Northern Province. The 25-29 years age group had the highest percentage of reported adult deaths for both

males and females. The percentages of reported adult deaths were higher for females than males in the ages 15-34 years. From 35 years, percentages of male reported adult deaths were higher than that of females.

Figure 9.7: Percent Reported Adult Deaths by Age Group and Sex, Northern Province, 2010



Source: 2010 Census of Population and Housing

9.5 Life Expectancy

Life expectancy refers to the average number of years expected to be lived from a particular age of reference e.g. from age 0 (life expectancy at birth), age 5, age 15, age 45 or age 65. It is computed using prevailing age specific mortality rates and implied life table probabilities. Hence, life expectancy is a useful summary measure because it takes into account the mortality situation at each age yet expresses the result in a single figure (US Census Bureau, 1994).

The most commonly used measure of life expectancy is the life expectancy at birth (e0), which refers to the average number of years expected to be lived by a birth cohort, based on prevailing age specific mortality rates.

Unadjusted data on household deaths was used to generate abridged life tables for Northern Province by sex and rural/urban. The 2000 life expectancy estimates were indirectly estimated based on the North Model, while the 2010 estimates are based on empirical data on household deaths collected during the 2010 Census. The US Bureau spreadsheet LTPOPDTH was used to generate life tables from which the estimates of life expectancy at birth had been extracted. Table 9.2 shows life expectancy at birth by sex and rural/urban for Northern Province in 2010.

Table 9.2: Life Expectancy at Birth by Sex and Rural/Urban, Northern Province 2010							
Rural/Urban	Both Sexes	Males	Females				
Total	52.9	50.3	55.5				
Rural	53.3	52.0	56.9				
Urban	51.3	50.1	55.4				
Source: 2010 Census of Population and Housing							

In 2010, the life expectancy at birth was 52.9 years. The life expectancy at birth for rural areas was higher (53.3 years) than in urban areas (51.3 years). These results are in line with the high adult mortality observed in urban areas as explained earlier with the age specific death rate. In both rural and urban areas, females had higher life expectancy at birth than males.

For all districts, the life expectancy at birth was generated from abridged life tables based on reported household deaths 12 months prior to the census. Figure 9.8 shows the life expectancy at birth by district. In 2010, Kaputa, Luwingu and Chilubi Districts had life expectancy at birth below the provincial average of 52.9 years. Mbala District had the highest life expectancy at birth of 59.3 years while Kaputa District had the lowest life expectancy at birth of 48.1 years.

Figure 9.8: Life Expectancy at Birth by District, Northern Province 2010



Source: 2010 Census of Population and Housing

Figure 9.9 shows life table function nqx (probability of dying between exact age n and n+x). This is presented by age and sex due to the variability of mortality by age and sex.

Figure 9.9: Life Table Probability of Dying (nqx) by Age and Sex, Northern Province 2010



Source: 2010 Census of Population and Housing

The probability of dying is higher for males than females in all age groups except the 10-14 and 15-19 years age groups. At age 10, there is an improved survival prospect for both males and females. As mortality increases beyond age 35, the gap in the probability of dying between males and females increases. This contributes to the lower life expectancy among males than females.

9.6 Cause of Death

Information on the cause of death is important in focusing interventions to prevent and reduce mortality. For all deaths reported during the 2010 Census, cause of death information was collected. However, the broad categories were pre-specified due to limited space on the questionnaire.

Figure 9.10 shows the percentage of reported cause of death for deceased household members as reported by households. The major cause of mortality was illness/disease accounting for 72.7 percent of all reported household deaths. Accidents were cited as a cause of death in 3.2 percent of deaths reported while other causes were cited in 12.9 percent of reported deaths. Witchcraft accounted for 9.7 percent of the reported household deaths.

Figure 9.10: Percent Reported Cause of Death for Deceased Household Members that Died 12 months Prior to the Census, Northern Province 2010



Source: 2010 Census of Population and Housing

Some causes of death are selective due to different exposures to risk. Hence, it is important to look at cause of death by sex so as to assess any variation in cause of death by sex. Figure 9.11 presents information on cause of death by sex of deceased persons reported in the census.

Illness/disease was the major cause of mortality among males and females in Northern Province. The percentage for females was higher (74.0 percent) than that for males (71.6 percent). However, the percentages of male deaths attributed to witchcraft, accident, other violence, suicide and injury causes were higher than those of females. Figure 9.11: Percent Reported Cause of Death for Deceased Household Members that Died 12 Months Prior to the Census by Sex of Deceased, Northern Province 2010





Figure 9.12 shows the percentage of reported adult deaths due to illness/disease by age and sex of the deceased person. The percentage of reported female deaths due to illness/disease was higher than that of males for the ages 15-34 years while from age 35, the percentage of male deaths due to illness/disease was higher than females.





Source: 2010 Census of Population and Housing

CHAPTER 10 LANGUAGE AND ETHNICITY

10.0 Summary

Bemba was the widely used language of communication, spoken by 69.2 percent of the population in Northern Province.

Bemba was spoken by a higher proportion of the population in five districts of Northern Province, namely, Kaputa (73.4 percent), Kasama (98.4 percent), Luwingu (95.5 percent), Mporokoso (99.6 percent) and Mungwi (99.2 percent) Districts. Bisa was widely spoken in Chilubi District at 83.1 percent while Mambwe was widely spoken in Mbala District at 70.4 percent. Lungu was the widely used language of communication in Mpulungu District at 60.7 percent.

Languages from the Bemba group were predominantly spoken by 78.4 percent of the population. There were more people who spoke languages from the Bemba group in urban (82.4 percent) than rural areas (77.5 percent).

Bemba was the largest ethnic group at 55.3 percent of the population in Northern Province.

Chapter 10 Language and Ethnicity



The Zambian society is endowed with many languages; there are officially 73 ethnic groups, from which, seven language clusters have been identified. There are seven languages or language clusters that are used in Zambia, besides English, for official purposes such as broadcasting (both on radio and television), literacy campaigns and the official dissemination of information. These are (in alphabetical order), Bemba, Kaonde, Lozi, Lunda, Luvale, Nyanja and Tonga.

This chapter presents data on predominant language of communication and ethnicity. Predominant language of communication looks at the language use. Therefore the number of language users does not necessarily reflect the number of people that belong to an ethnic grouping.

The data is presented by broad language/ethnic groups and single language/ethnic groups. Broad language/ethnic groups are formed using different criteria:

i) By combining most spoken languages in a geographical location such North-Western language groups

ii) By combining languages which are mutually intelligible. For example, Mambwe, Lungu, Namwanga, Wina and Tambo form one language group called the Mambwe language group because they are mutually intelligible languages.

iii) By combining languages which are trans-tribe such as Nyanja



To collect ethnicity data, Zambians were asked to indicate their ethnic group. Zambians of different origin and Non-Zambians were asked to indicate a major racial group they belonged to (such as African, Asian, European or American).

It is important to note that during data collection, children under the age of three years whose speech was still developing and persons with speech impairment did not report any language of communication. Therefore, the total population reported to have been speaking a predominant language is less than the defacto population. On the other hand, the analysis on ethnicity included all persons in the defacto population.

10.2 Concepts and Definitions

Ethnicity

This is the tribal group that one identifies himself/herself with. Ethnic group is a self-perceived conception of social group membership.

Widely Used Language of Communication

This is the language which is mostly spoken by an individual during their day to day communication, at work, with neighbours or in market places. This is simply the language currently spoken or most often spoken by the individual in his/her present home.

10.3 Widely Used Language of Communication

Table 10.1 shows the percent distribution of the population by widely spoken language of communication and rural/urban. In 2010, the widely spoken language of communication in Northern Province was Bemba (69.2 percent). In both rural and urban areas, Bemba was the most spoken language at 66.7 and 79.9 percent, respectively.

Table 10.1: Percent Distribution of the Population by Widely Spoken Language of Communication and Rural/urban, Northern Province 2010

Widely Spoken Language of Communication	Total	Rural	Urban
Bemba	69.2	66.7	79.9
Bisa	6.2	7.3	1.5
Tabwa	2.8	3.3	0.8
Mukulu	0.1	0.1	0.0
Nyanja	0.1	0.1	0.5
Lungu	6.9	6.6	8.1
Mambwe	14.0	15.4	7.8
Namwanga	0.3	0.3	0.3
English	0.1	0.0	0.4
Other Languages	0.3	0.2	0.6
Total Percent	100.0	100.0	100.0
Total Population	918,385	745,760	172,625
Sources 2010 Consult of Reputation on	dllouming		

Source: 2010 Census of Population and Housing

Note: Languages that had less than 0.1 percent of the total population in the province were lumped in the "Other Languages" category. "Not applicable", "Not stated" and "Major Racial Group" categories were excluded from the analysis of predominant language of communication.

10.3.1: Language Groups

Seven language groups had been identified according to the criteria described in the introduction (10.1). These are (in alphabetical order), Barotse, Bemba, Mambwe, North Western, Nyanja, Tonga and Tumbuka. Table 10.2 shows the percentage

distribution of the population by major language group and rural/urban. Languages in the Bemba group were spoken by 78.4 percent of the population followed by Mambwe at 21.1 percent. In both rural and urban areas, 77.5 and 82.4 percent of the population spoke a language from the Bemba group.

Table 10.2: Percentage Distribution of the Population by Major Language Group and Rural/Urban, Northern Province 2010

Language Group	Total	Rural	Urban				
Bemba	78.4	77.5	82.4				
Tonga	0.0	0.0	0.1				
North Western	0.0	0.0	0.1				
Barotse	0.0	0.0	0.1				
Mambwe	21.1	22.3	16.2				
Nyanja	0.2	0.1	0.6				
Tumbuka	0.0	0.0	0.1				
English	0.1	0.0	0.4				
Others	0.0	0.0	0.0				
Total Percent	100.0	100.0	100.0				
Total Population	918,385	745,760	172,625				
Source: 2010 Census of Population and Housing							

Source: 2010 Census of Population and Housing

10.3.2: Widely Used Languages of Communication by Sex

Table 10.3 shows the percentage distribution of the widely used languages of communication by sex and rural/urban. Bemba was the widely used language of communication by both males and females at 69.4 and 68.9 percent, respectively. A similar pattern was observed in both rural and urban areas where most males and females reported Bemba as their widely used language of communication.

Table 10.3: Percentage Distribution of Widely Used Language of Communication by Sex and Rural/Urban, Northern Province 2010										
Widely Spoken		Northern Provin	ce		Rural			Urban		
Language of Communication	Total	Male	Female	Total	Male	Female	Total	Male	Female	
Bemba	69.2	69.4	68.9	66.7	67.0	66.4	79.9	80.1	79.8	
Bisa	6.2	6.0	6.5	7.3	7.0	7.6	1.5	1.4	1.6	
Tabwa	2.8	2.8	2.8	3.3	3.2	3.3	0.8	0.8	0.8	
Mukulu	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	
Nyanja	0.1	0.2	0.1	0.1	0.1	0.1	0.5	0.5	0.5	
Lungu	6.9	6.8	6.9	6.6	6.6	6.6	8.1	8.0	8.2	
Mambwe	14.0	14.0	13.9	15.4	15.5	15.4	7.8	7.7	7.8	
Namwanga	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	
English	0.1	0.1	0.1	0.0	0.0	0.0	0.4	0.5	0.4	
Other Languages	0.3	0.3	0.3	0.2	0.2	0.2	0.6	0.6	0.6	
Total Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Total Population	918,385	444,896	473,489	745,760	361,855	383,905	172,625	83,041	89,584	
Source: 2010 Census	Source: 2010 Census of Population and Housina									

10.3.3 Widely Used Language of Communication by District

Table 10.4 shows the percentage distribution of the widely used languages of communication by district. Bemba was widely spoken in Kaputa (73.4 percent), Kasama (98.4 percent), Luwingu (95.5 percent), Mporokoso (99.6 percent) and Mungwi (99.2 percent) Districts. Bisa was widely used in Chilubi District at 83.1 percent while Mambwe was widely spoken in Mbala District at 70.4 percent. Lungu was the widely used language of communication in Mpulungu District at 60.7 percent.

Table 10.4: Percentage Distribution of Widely Used Language of Communication by District, Northern Province 2010									
Widely Spoken Language of Communication	Total	Chilubi	Kaputa	Kasama	Luwingu	Mbala	Mporokoso	Mpulungu	Mungwi
Bemba	69.2	16.5	73.4	98.4	95.5	19.7	99.6	27.1	99.2
Bisa	6.2	83.1	0.0	0.0	2.8	0.0	0.0	0.0	0.0
Tabwa	2.8	0.0	25.8	0.0	0.0	0.0	0.0	0.9	0.0
Mukulu	0.1	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Nyanja	0.1	0.0	0.1	0.3	0.1	0.2	0.0	0.2	0.0
Lungu	6.9	0.0	0.3	0.0	0.0	8.5	0.1	60.7	0.1
Mambwe	14.0	0.0	0.1	0.4	0.0	70.4	0.0	10.0	0.2
Namwanga	0.3	0.0	0.0	0.2	0.0	0.8	0.0	0.6	0.3
English	0.1	0.0	0.0	0.3	0.0	0.1	0.0	0.1	0.0
Other Languages	0.3	0.3	0.3	0.4	0.5	0.3	0.1	0.3	0.2
Total Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total Population	918,385.0	65,208	96,248	198,518	100,760	169,380	84,893	79530.0	123,848
Source: 2010 Census	Source: 2010 Census of Population and Housing								

10.4 Ethnicity

This section shows ethnic groups that had a population of at least 0.1 percent of the total population in Northern Province as captured in the 2010 Census. The rest of the ethnic groups were lumped under the "other" category.

10.4.1. Ethnicity by Rural/Urban

Table 10.5 shows the percentage distribution of the population by ethnic group and rural/urban. The Bemba ethnic group had the largest percentage of the provincial population at 55.3 percent followed by the Mambwe ethnic group at 16.3 percent. In both rural and urban areas, the largest percentage of the population was Bemba, 54.9 and 56.9 percent, respectively.

Table 10.5: Percentage Distribution of the Population by Ethnicity and Rural/Urban, Northern Province 2010							
Ethnicity	Total	Rural	Urban				
Bemba	55.3	54.9	56.9				
Lunda Luapula	0.1	0.1	0.3				
Lala	0.2	0.1	0.4				
Bisa	6.7	7.7	2.4				
Ushi	0.2	0.2	0.6				
Chishinga	0.1	0.1	0.1				
Lamba	0.1	0.0	0.2				
Tabwa	7.1	7.9	3.3				
Mukulu	0.3	0.3	0.0				
Unga	0.1	0.1	0.0				
Bwile	0.1	0.2	0.1				
Tonga	0.3	0.2	1.0				
Lenje	0.1	0.1	0.2				
Lunda N/Western	0.1	0.0	0.2				
Kaonde	0.1	0.0	0.3				
Lozi	0.2	0.1	0.7				
Chewa	0.2	0.1	0.5				
Nsenga	0.1	0.1	0.5				
Ngoni	0.3	0.1	0.9				
Nyanja	0.1	0.1	0.3				
Tumbuka	0.6	0.3	2.0				
Senga	0.1	0.0	0.2				
Lungu	8.3	8.2	8.5				
Mambwe	16.3	16.7	14.3				
Namwanga	2.4	1.8	5.2				
English	0.0	0.0	0.0				
Ethnicity Not Stated	0.2	0.2	0.2				
Major racial groups	0.1	0.1	0.1				
Other Ethnic Groups	0.4	0.3	0.9				
Total Percent	100.0	100.0	100.0				
Source: 2010 Census of Population an	d Housina	· ·	· · · · · · · · · · · · · · · · · · ·				

10.4.2. Ethnicity by Rural/Urban and Sex

Ethnicity was analysed by sex and rural/urban as shown in Table 10.6. The Bemba ethnic group had the largest population of both males and females at 55.2 and 55.3 percent, respectively.

The table shows that there were no major differences by sex in the proportion of the population for all the ethnic groups in both rural and urban areas.

Table 10.6: Percent	Table 10.6: Percent Distribution of the Population by Ethnicity, Sex and Rural/Urban, Northern Province 2010								
Film: all a	N	orthern Provinc	e		Rural			Urban	
Emnicity	Total	Male	Female	Total	Male	Female	Total	Male	Female
Bemba	55.3	55.2	55.3	54.9	54.9	54.9	56.9	56.6	57.1
Lunda Luapula	0.1	0.2	0.1	0.1	0.1	0.1	0.3	0.3	0.3
Lala	0.2	0.2	0.2	0.1	0.1	0.1	0.4	0.4	0.4
Bisa	6.7	6.5	6.9	7.7	7.4	7.9	2.4	2.3	2.5
Ushi	0.2	0.3	0.2	0.2	0.2	0.2	0.6	0.6	0.6
Chishinga	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Lamba	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.2	0.2
Tabwa	7.1	7.0	7.1	7.9	7.8	8.0	3.3	3.3	3.2
Mukulu	0.3	0.2	0.3	0.3	0.3	0.3	0.0	0.0	0.0
Unga	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Bwile	0.1	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.0
Tonga	0.3	0.3	0.3	0.2	0.2	0.2	1.0	1.0	1.0
Lenje	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
Lunda N/Western	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.2	0.2
Kaonde	0.1	0.1	0.1	0.0	0.0	0.0	0.3	0.3	0.3
Lozi	0.2	0.2	0.2	0.1	0.1	0.1	0.7	0.7	0.6
Chewa	0.2	0.2	0.2	0.1	0.1	0.1	0.5	0.5	0.5
Nsenga	0.1	0.2	0.1	0.1	0.1	0.1	0.5	0.5	0.5
Ngoni	0.3	0.3	0.3	0.1	0.2	0.1	0.9	0.9	0.8
Nyanja	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.3
Tumbuka	0.6	0.7	0.6	0.3	0.4	0.3	2.0	2.0	1.9
Senga	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.2	0.2
Lungu	8.3	8.3	8.3	8.2	8.3	8.2	8.5	8.5	8.6
Mambwe	16.3	16.3	16.2	16.7	16.8	16.6	14.3	14.3	14.2
Namwanga	2.4	2.5	2.4	1.8	1.8	1.7	5.2	5.3	5.2
English	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ethnicity Not Stated	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Major racial groups	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other Ethnic Groups	0.4	0.4	0.4	0.3	0.3	0.3	0.9	0.9	0.9
Total Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total Population	1,044,955	508,226	536,729	852,963	415,508	437,455	191,992	92,718	99,274
Source: 2010 Census o	f Population ar	nd Housing							

2010 Census of Population and Housing - Northern Province Analytical Report

CHAPTER 11 DISABILITY

11.0 Summary

The proportion of the population with disability in Northern Province was 2.4 percent. The proportion in rural areas was higher than urban areas at 2.5 and 1.6 percent, respectively. Chilubi District had the highest proportion of the population with disability at 3.3 percent while Kasama District had the lowest at 1.9 percent.

The median age for the population with disability was 35 years. Physical disability was the most common type of disability at 30.6 percent. The major cause of disability was disease at 34.9 percent.

The literacy rate for the population with disability in Northern Province was 53.8 percent. Kasama District had the highest proportion of the population with disabilities that was literate at 63.8 percent. Chilubi District had the lowest proportion of the population with disabilities that were literate at 45.5 percent.

The proportion of the population with disability that had never attended school was higher (37.5 percent) than that of the population without disability (24.7 percent). The highest level of education attained by the majority of the population with disabilities for both males and females was primary education.

The proportion of the population with disabilities that was employed was 95.2 percent. Of these, 60.0 percent were self employed while 32.4 percent were unpaid family workers.

The majority of the population with disabilities had agricultural related occupations at 90.8 percent.

11.1 Introduction

Disability is an experience with different parts and aspects. The concept of disability has been evolving. There has been a shift in the perception of disability from an individual and medical condition to a social perspective. The International Classification of Functioning, Disability and Health (ICF) classify disability in three areas that are inter-related:

• Impairments: problems in body function or changes in body structure such as blindness;

• Activity limitations: difficulties in doing certain activities such as walking or eating;

• Participation limitations: societal restrictions with regards involvement in any area of life such as being discriminated against in employment or transportation.

Disability refers to problems faced in any or all three areas of functioning (WHO, 2011).

Zambia has been collecting data on the prevalence of disability through censuses and surveys. This information was collected in all of its five censuses (1969, 1980, 1990, 2000 and 2010). The set of impairments on which data is collected through censuses in Zambia has been increasing, from four to twelve disability categories between 1969 and 2010, as shown in the Table 11.1.

able 11.1: Disability Categories used in Censuses, Zambia 1969-2010									
1969	1980	1990	2000	2010					
1. Blind	1. Blind	1. Blind	1. Blind	1. Blind					
2. Deaf and/or mute	2. Deaf and/or mute	2. Deaf-Dumb	2. Partially sighted	2. Partially sighted					
3. Loss of limb	3. Crippled, or loss of limb	3. Crippled	3. Deaf/Dumb	3. Deaf and Dumb					
4. Sick	4. Mentally Retarded	4. Mentally Retarded	4. Hard of Hearing	4. Deaf					
	5. Sick	5. Multiple Disabilities	5. Mentally ill	5. Hard of Hearing					
	6. Combination of two or more categories		6. Ex- Mental	6. Dumb					
			7. Mentally Retarded	7. Mentally ill					
			8. Physically Handicapped	8. Intellectual					
				9. Speech impairment					
				10. Physically disabled					
				11. Mentally Retarded					
				12. Other					
ource: 1969, 1980, 1990, 2000 and 2010 Censuses									

The widening of responses on impairments overtime was meant to capture more people living with disabilities and hence improve the measurement of disability. However, this has made comparability between censuses difficult as some categories have not only changed but also increased.

11.2 Concepts and Definitions

Disability, in the 2010 Census, was defined as a limitation in the kind or amount of activities that an individual can do because of the on-going difficulties due to a long term physical condition, mental condition or health problem. Short term disabilities due to temporary conditions such as broken legs and illness were excluded.

The following concepts and definitions have been used to analyse data on disability.

11.2.1 Type of Disability: Blind: Complete loss of sight in both eyes.

Partially Sighted: Loss of one eye or poor sight but does not mean complete blindness.

Deaf and Dumb: Complete loss of sense of hearing and speech. The lack or loss of the ability to hear and speak.

Deaf: Complete loss of sense of hearing. The lack or loss of the ability to hear.

Hard of Hearing: Partial loss of sense of hearing but not complete loss of sense of hearing e.g. the person who uses hearing aids.

Dumb: Complete lack of ability to speak.

Mental Illness: A condition of mental illness with a substantial, adverse and long-term effect on one's ability to carry out normal day-to-day activities.

Intellectual: Intellectual disability is a disability characterized by significant limitations both in intellectual functioning and in adaptive behavior, which covers many everyday social and practical skills. This disability originates before the age of 18.

Speech Impairment: This is a condition of people who fail to produce meaningful sound words.

Physically Disabled: Any person with a physical abnormality relating to the loss of bodily limbs or any deformity in the bodily stature, e.g., the epileptics and leper.

Mentally Retarded: Any individual that is either very slow to learn or has deficiency of mental intellect (slow in grasping things, difficulties in remembering things, very slow at responding).

Other: Any other disability not mentioned above.

11.3 Causes of Disability

The following responses to causes of disability were used in the questionnaire.

- Congenital/Prenatal these are disabilities which one is born with.
- Disease/Illness e.g. polio, leprosy, cataract.
- Injury/Accidents e.g. road accidents, injuries from accidental falls, fire etc.
- Spousal Violence e.g. husband/wife battering.
- Other Violence- e.g. violence perpetrated by any other person such as boyfriend or girlfriend.
- Unknown where the respondent did not know the cause of the disability.
- Other, e.g., unsuccessful medical operation, wrongful application of traditional and conventional medicine.

11.4 Limitations of Disability Data

The method used in the collection of disability data determines the comprehensiveness and quality of the data. Countries using censuses to capture disability data report low disability prevalence rates than those using surveys. This is so because a census is a huge data collection undertaking covering entire populations after long intervals and, as such, can only include few questions on disability. Specialised surveys can provide extensive information about disability because not only do they provide information on problems in body function and structure but also cover information on origins and impact of the impairments on functioning, service accessibility and unmet needs of the disabled (Altman BM and Barnartt SN, 2006).

The 2010 census did not include detailed questions on disability to be able to bring out the variations in the intensity of the disabilities. In addition, this data did not include the population living with disabilities in institutions.

11.5 General Characteristics

This section discusses the distribution and age structure of the population with disabilities. Types and causes of disability are also discussed in this section.

11.5.1 Distribution of the Disabled and Non-Disabled Population

Figure 11.1 shows the percentage distribution of the population by disability status. The percentage of the population living with disabilities was 2.4 percent, of which 2.3 percent had one disability while 0.1 percent had more than one disability.

Figure 11.1: Percentage Distribution of the Population by Disabled and Non-Disabled, Northern Province 2010



Source: 2010 Census of Population and Housing

11.5.2 Distribution of the Disabled

Figure 11.2 shows the percentage distribution of persons with disabilities by rural/urban and district. The percentage of the population living with disabilities was 2.4 percent. Rural areas had more persons living with disabilities than urban areas at 2.5 and 1.6 percent, respectively.





Source: 2010 Census of Population and Housing

Chilubi District had the highest percentage (3.3 percent) of persons with disabilities while Kasama District had the lowest (1.9 percent).

11.5.3 Disability by Sex

Figure 11.3 shows the percentage distribution of persons living with disabilities by sex and district. In Northern Province, there were more males than females who were living with disabilities. Chilubi District had the highest percentage of persons who were disabled at 3.2 and 3.4 percent for males and females, respectively. Kasama District had the lowest percentage of persons living with disabilities at 2.1 and 1.8 percent for males and females, and females, respectively.



Source: 2010 Census of Population and Housing

11.5.4 Disability by Age

Figure 11.4 shows the percentage distribution of the population with disability by age group. The figure shows that disability increases with age. The highest percentage was in the age group 90-94 years at 27.1 percent. The age group with the lowest percentage was 0-4 years at 0.7 percent.

Figure 11.4: Percentage Distribution of Persons with Disabilities by Age Group, Northern Province 2010



Source: 2010 Census of Population and Housing

Figure 11.5 shows the median age for the disabled and nondisabled population in Northern Province. The median age for the population with disability was 35.3 years. Non-disabled population had a median age of 15.1 years.

Figure 11.5: Median Age of the Disabled and Non-Disabled



Source: 2010 Census of Population and Housing

Figure 11.6 shows the percentage of the population with disabilities who were heading households by sex and rural/urban. In Northern Province, there was a higher proportion of female household heads living with disabilities (7.3 percent) than that of males (3.6 percent). The proportion of female household heads with disabilities was also higher than that of males in both rural and urban areas.

Figure 11.6: Percentage Distribution of Household Heads with Disabilities by Sex and Rural/Urban, Northern Province 2010.



Source: 2010 Census of Population and Housing

11.5.5 Disability by Household Headship

Figure 11.7 shows the percentage distribution of household heads with disabilities by district. Chilubi District had the highest proportion of household heads living with disabilities at 5.7 percent while Mbala District had the least proportion at 3.5 percent.

Figure 11.7: Percentage Distribution of Household Heads with Disabilities, by District, Northern Province 2010



Source: 2010 Census of Population and Housing

11.5.6 Type of Disability

Figure 11.8 shows the percentage distribution of persons with disabilities by type of disability. Physical disability was the most prevalent type of disability (30.6 percent) followed by partially sighted (27.1 percent). The least common type of disability was intellectual at 1.2 percent.





Source: 2010 Census of Population and Housing

11.5.7 Cause of Disability

This section discusses the most common causes of disability. However, the data did not allow for exploring the association between causes and specific types of disability. The various causes of disability were categorized as congenital, disease, injury, spousal violence, other and unknown. Respondents were asked to state if they had more than one cause of disability.

Figure 11.9 shows the percentage distribution of cause of disability. The figure shows that 34.9 percent of the persons with disabilities reported disease as the cause of disability. This was followed by congenital with 14.6 percent. The least common cause of disability was spousal violence with 0.8 percent.

Figure 11.9: Percentage Distribution of Persons with Disabilities by Cause of Disability, Northern Province 2010



Source: 2010 Census of Population and Housing

11.6 Characteristics of the Population with Disability

This section presents the characteristics of the population with disability using education, economic activity and marital status indicators.

11.6.1 Literacy Levels among the Disabled and Non-Disabled

Figure 11.10 shows the percentage distribution of literate population aged 5 years and older by disability status and rural/ urban. Literacy among persons with disability was 53.8 percent compared to 61.0 percent for persons without disability. The literacy levels for the persons with disability were higher in urban areas at 67.8 percent compared to 51.8 percent in rural areas.

Figure 11.10: Percentage Distribution of Literate Population (5 Years and Older) by Disability Status and Rural/Urban, Northern Province, 2010.



Source: 2010 Census of Population and Housing

Figure 11.11 shows the percentage distribution of the literate population with disability aged 5 years and older by district. Kasama District had the highest proportion of the literate population with disability at 63.8 percent while Chilubi District had the least proportion at 45.5 percent.





Source: 2010 Census of Population and Housing

11.6.2 School Attendance

The percentage distribution of population aged 5 years and older by disability status, school attendance and rural/urban is shown in Figure 11.12.

The figure shows that there was a higher percentage of persons with disability who had never attended school (37.5 percent) compared to 24.7 percent for persons without disability. For those who were currently attending school, the percentage of the non-disabled was higher than that of the disabled, 30.7 and 14.5 percent, respectively.

In rural areas, the proportion of persons with disabilities who were no longer attending school was 46.9 percent and the nondisabled was 43.4 percent while in urban areas the disabled no longer attending school was 55.6 percent and the non disabled was 49.7 percent. Similarly, there were more persons with disability who had never attended school than the non-disabled in both rural and urban areas.

Figure 11.12: Percentage Distribution of Disabled and Non-Disabled Population (5 years and Older) by School Attendance and Rural/Urban, Northern Province 2010



Source: 2010 Census of Population and Housing

11.6.3 Education Level among the Disabled

Figure 11.13 shows the percentage distribution of persons with disability, 25 years and older, by highest level of education completed and sex. In Northern Province, 74.2 percent of the population with disabilities had attained primary education and 6.3 percent had attained tertiary education. A higher percentage of Males had completed tertiary education at 8.8 percent compared to 2.8 percent for females.

Figure 11.13: Percentage Distribution of Persons with Disability (25 years and older) by Highest Level of Education Completed and Sex, Northern Province 2010



11.7 Economic Activity

Persons living with disabilities are disadvantaged with regards to engagement in economic activities. Literature suggests that, in developed as well as developing countries, persons living with disabilities face much lower employment rates and higher unemployment rates than persons without disabilities (WHO, 2011).

Figure 11.14 shows the percentage distribution of employed persons aged 12 years and older by disability status and rural/ urban. The figure shows that 95.2 percent of persons with disabilities were employed compared to 93.6 percent of persons without disabilities. The percentage of the disabled who were employed was higher than the corresponding percentage for the non disabled in both rural and urban areas.

Figure 11.14: Percentage Distribution of Employed Population (12 years and older) by Disability Status and Rural/Urban, Northern Province 2010



11.7.1 Employment Status

Figure 11.15 shows employment status of persons with disability by rural/urban. Self-employed was the most common employment status at 60.0 percent while employer was the least with 0.7 percent. There were more persons with disabilities working on a family business, without pay or profit, in rural areas (34.4 percent) than urban areas (14.3 percent). The figure also shows that the proportion of persons with disabilities who were employees was higher in urban areas than in rural areas, 27.8 and 4.5 percent, respectively.

Figure 11.15: Percent Distribution of Persons with Disability (12 Years and Older) by Employment Status and Rural/Urban, Northern Province 2010



Source: 2010 Census of Population and Housing

11.7.2 Employment Status of Disabled Household Heads

Figure 11.16 shows the percentage distribution of household heads with disability (12 years and older) by employment status. The largest proportion of household heads with disabilities was self-employed (60.1 percent) while the least were employers (0.7 percent).

Figure 11.16: Percentage Distribution of Household Heads with Disabilities (12 years and older) by Employment Status, Northern Province 2010



Source: 2010 Census of Population and Housing

11.7.3 Occupation Status

Occupation is described as the kind of work a person performs in his/her job or business. Figure 11.17 shows percentage distribution of the population by occupation and disability status. Among persons with disabilities, agricultural occupations were the most common while administrative and managerial occupations were the least common at 90.8 and 0.5 percent, respectively. Persons without disabilities made up 86.8 and 0.4 percent, persons in agriculture and administrative and managerial occupations, respectively. Figure 11.17: Percent Distribution of the Population by Occupation and Disability Status, Northern Province 2010.



Figure 11.18: Percent Distribution of Persons with Disabilities (15 years and older) by Marital Status and Sex, Northern Province 2010



Source: 2010 Census of Population and Housing

Source: 2010 Census of Population and Housing

11.8 Marital Status of the Disabled by Sex

Figure 11.18 shows percent distribution of persons with disabilities (15 years and older) by sex and marital status. There were more males than females living with disabilities that were married at 60.4 percent and 40.8 percent, respectively. Persons living with disabilities that were never married made up 28.3 percent of males and 15.6 percent of females. The proportion of widowed females with disabilities was higher than that of males at 28.0 percent and 4.0 percent, respectively.

CHAPTER 12 EVALUATION OF COVERAGE AND CONTENT ERRORS

12.0 Summary

In 2010, the pattern of age composition, child woman ratio and dependency ratio in Northern Province was in line with the observed fertility and mortality declines.

The Myers Index reduced from 8.2 in 2000 to 7.8 in 2010.

The most preferred digits for age data reporting were 0, 5 and 8.

The age-sex accuracy index for Northern Province declined from 37.4 in 2000 to 33.6 in 2010.



12.1. Introduction

Data evaluation is the assessment of the quality of the data. It provides reliable standards for adjusting data if needed. The adjustment is done based on responses to the questions which were asked during the census on:

• Sex

- Age (in completed years)
- Rural/Urban status of household
- Number of children still living, and
- Number of children dead

12.2. Concepts and Definitions

The following concepts and definitions have been used in this chapter.

The Age-Sex Accuracy Index: Mean difference in sex ratios plus the mean deviations of male and female age ratios multiplied by three gives an indication of the quality of age data.

Age Ratio: The ratio of the population in a given age group to one-third of the sum of the populations in the age group itself, the preceding and the following age groups, times 100 (Shryock et al, 1976).

Census Night: The night prior to the actual census count. In Zambia a rolling (varying) census night is used because enumeration is usually done over a period of about two-three weeks.

Census of Population: Total process of collecting, compiling, evaluating, analysing and publishing or otherwise dissemination of demographic, economic and social data pertaining, at a specified time, to all persons in a country or in a well-delimited part of a country, (UN, 2008).

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

Cohort Survival Ratio: The survival ratio of the population in a given age group to the next age.

Content Error: Error made in the recorded information in the census questionnaire either because the respondent provided incorrect information or the interviewer recorded incorrect information

Coverage Error: Under or over-enumeration in a population census due to either omission or duplication of an individual, household, or housing unit.

Data Smoothing: This is the use of an approximating function to capture important patterns in the data and removing the noise or outliers. For example, smoothing is done to help reduce the negative consequences of digit preference.

Dependency Ratio: Ratio of children aged 0-14 and persons aged 65 years and older, per 100 persons in the age-group 15-64 years old.

Digit Preference: Reporting of age by respondents often ending in certain preferred digits such as zero or five. This results in heaping of population in ages ending with certain digits.

Population Pyramid: A graphical illustration that shows the distribution of various age groups in a population

Sex Ratio: Number of males per 100 females in a population (Masculinity ratio).

Overall Survival Ratio: The ratio of the population of age, say, 10 years and older that will survive to 15 years and older.

12.3. Type of Population used in Evaluating the Coverage and Content Errors

In the analysis of the coverage and content errors, the de facto population was used.

12.4. Methods of Evaluation

There are numerous checks and controls directed at minimising errors in the census, during enumeration. Despite instituting data control measures, some errors can occur in the census data. For instance, some people may be omitted, others may be enumerated more than once, or some characteristics of an individual such as age, sex, fertility and economic activity may be incorrectly reported or recorded. In general, two approaches are used to evaluate the quality of data: direct and indirect methods.

The direct method involves the carrying out of the Post Enumeration Survey (PES). In a PES, a sample of households is revisited after the census and data are again collected but on a smaller scale (both in terms of scope and questionnaire content). These are later compared with the data 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.

Indirect methods usually employ the comparison of data using both internal and external consistency checks. Internal consistency checks compare relationships of data within the same census data, for example, using the Myers index to check for accuracy of age reporting. 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 collected by the Ministry of Education.

12.5. Coverage Error

This type of error occurs when there is omission or duplication of individuals, households, or housing units resulting in under or over enumeration. Some factors which contribute to coverage errors are lack of accessibility or cooperation with respondents, difficulties in communication and lack of proper boundary descriptions on maps. Coverage errors can be measured by examining certain statistics such as growth rate, age composition, child woman ratio and dependency ratio.

12.6. Age Composition

Examining age composition over time can help assess the coverage error in census data. The percentage for each group should not vary much from one census to another except where there had been major changes to the population. Fertility and

mortality effects would normally result into marginal changes to the percentage of the broad age groups.

Table 12.1 shows population composition of Northern Province by broad age groups for 2000 and 2010. The percentage of children aged 0-14 years increased from 48.1 percent in 2000 to 49.7 percent in 2010. The proportions of adults (15-64 years) and the old (65 years and older) reduced between 2000 and 2010.

Table 12.1: Population Distribution by Broad Age Groups, Northern Province 2000 and 2010							
	Population						
Age Group	2000	Percent	2010	Percent			
0-4	143,666	19.0	205,958	19.7			
5-9	120,736	15.9	169,675	16.2			
10-14	99,901	13.2	144,083	13.8			
0-14*	364,303	48.1	519,716	49.7			
15-64	370,912	48.9	494,620	47.3			
65+	22,629	3.0	30,619	2.9			
Total	757,844	100	1,044,955	100			
Sources: 2000 and 2010 Censu	Sources: 2000 and 2010 Censuses of Population and Housing						

*Note: Not part of the total.

12.7. Child-Woman Ratio

Figure 12.1 shows child woman ratio for census years 2000 and 2010. The child-woman ratio increased from 824 in 2000 to 880 children aged 0-4 years per 1000 women aged 15-49 years in 2010. The change in child-woman ratio was in line with the change in the percentage of the population in the age group 0-4 years.

Figure 12.1: Child Woman Ratio, Northern Province 2000 and 2010



Sources: 2000 and 2010 Censuses of Population and Housing

12.8. Dependency Ratio

The consistency in the coverage for the two censuses can be further explored through dependency ratios. Figure 12.2 shows dependency ratio for census years 2000 and 2010.

Figure 12.2: Dependency Ratio, Northern Province 2000 and 2010



Sources: 2000 and 2010 Censuses of Population and Housing

The overall dependency ratio for the population of Northern Province for 2000 and 2010 were 104.3 and 111.3 persons, respectively. This means that, in 2010, for every 100 persons in the age group 15-64 years, there were 111.3 dependants in the age groups 0-14 years and 65 years and older. Child dependency ratio increased from 98.2 persons in 2000 to 105.1 persons in 2010. Aged dependency ratio also increased slightly from 6.1 persons to 6.2 persons between 2000 and 2010.

12.9. Content Error

Content errors refer to instances where characteristics such as age, sex, marital status, economic activity, etc. of a person enumerated in a census or survey are incorrectly reported or tabulated. Content errors are caused by either a respondent giving a wrong response or by an enumerator recording an incorrect response. For instance, a question about age in a census can be solicited by asking either "date of birth" or "completed number of years". These two questions may yield different ages. During the 2010 Census, age was recorded in completed years. Some content errors can be estimated by the use of the Myers' Index, Sex Ratios, Age Ratios, and Survival Ratios.

12.9.1. Digit Preference

Digit preference is mostly pronounced among population subgroups having a low educational status. The causes and patterns of digit preference vary from one culture to another. Age misreporting, net under enumeration and non-reporting or misclassifications of age contribute to heaping (Shryock, et.al. 1976).

In this analysis, the Myers' Index was used to investigate age heaping. Figure 12.3 shows the Myers' Index by rural/urban for 2000 and 2010. The maximum value of Myers' Index is 90 and the minimum value is 0. A high Myers' Index implies poor age reporting whereas a low Myers' Index indicates good age reporting.

Figure 12.3: Myers' Index by Rural/Urban, Northern Province 2000 and 2010



Sources: 2000 and 2010 Censuses of Population and Housing

In Northern Province, the Myers' index reduced from 8.2 in 2000 to 7.8 in 2010. In both rural and urban areas, the Myers' index reduced between 2000 and 2010. In rural areas, the Myers' index reduced from 8.4 in 2000 to 8.0 in 2010. In urban areas, it reduced slightly from 7.6 to 7.5 between 2000 and 2010. The Myers' index results shows that the quality of age data reporting improved in 2010 compared to 2000.

Digit preference can also be explored by looking at age heaping. Table 12.2 shows the most preferred digits by sex and rural/ urban for 2000 and 2010. The most preferred digits are presented in decreasing order of preference. Both sexes preferred digits 0, 8 and 5 in 2000 and 0, 5 and 8 in 2010.

Table 12.2: Most Preferred Digits by Sex and Rural/Urban, Northern Province 2000 and 2010							
Durrent / Urrheren	Most Prefer	red Digits and C	ensus Year				
kurai/urban	Sex	Sex 2000 oth Sexes 0, 8, 5 Icale 0, 5, 8	2010				
	Both Sexes	0, 8, 5	0, 5, 8				
Northern Province	Male	0, 5, 8	0, 5, 8				
	Female	0, 8, 5	0, 8, 5				
	Both Sexes	0, 8, 5	0, 5, 8				
Rural	Male	0, 5, 8	0, 5, 8				
	Mode Algorithm Algorithm Both Sexes 0, 8, 5 Both Sexes Male 0, 5, 8 Female Female 0, 8, 5 Male Male 0, 8, 5 Female Male 0, 8, 5 Female Male 0, 8, 5 Male 0, 8, 5 Male 0, 8, 5	0, 8, 5					
	Both Sexes	0, 8, 5	0, 5, 8, 2				
Urban	Male	0, 8, 5	0, 5, 8				
	Female	0, 8, 5	0, 8, 5				

Sources: 2000 and 2010 Censuses of Population and Housing

Preference for digits in rural areas followed a similar pattern at provincial level. In urban areas, both sexes preferred digits 0, 8 and 5 in 2000 and 0, 5, 8 and 2 in 2010.

Errors in age data reporting are also presented in Figures 12.4 and 12.5. The figures show population distribution in single years for 2000 and 2010. The peaks on the curves indicate the most preferred ages in reporting while the troughs indicate the under reported ages.

Figure 12.4: Population Distribution in Single Years, Northern Province 2000



Source: 2000 Census of Population and Housing



Figure 12.5: Population Distribution in Single Years, Northern Province 2010

Source: 2010 Census of Population and Housing

A comparison of Figures 12.4 and 12.5 shows that the peaks and troughs were more pronounced for ages reported below 55 years in both censuses. The differences in the peaks and troughs for ages reported after 55 years were not that pronounced. This may suggest that both males and females tend to misreport their ages before age 55.

When single year age data is grouped into five year age groups, irregularities in age data arising from age misreporting tend to disappear. Figure 12.6 and 12.7 show population distribution in 5 year age groups and sex for 2000 and 2010. The figures show smoothed curves after the single age data was grouped for both censuses.





Source: 2000 Census of Population and Housing

Figure 12.7: Population Distribution by 5 Year Age Group and Sex, Northern Province 2010



Source: 2010 Census of Population and Housing

12.9.2. Sex Ratios

The presence of omission errors, age misreporting and out migration may be detected by looking at the pattern of sex ratios. A sex ratio of more than 100 shows an excess of males over females while a sex ratio of less than 100 shows an excess of females over males. A sex ratio of 100 indicates an equal number of males and females. In the absence of big fluctuations in births, deaths and migration, the sex ratios are expected to be high at infant ages. After early childhood, the ratios are expected to decline continuously to reach very low levels at the highest ages when female mortality is much lower than male mortality. Figure 12.8 shows sex ratios by rural/urban for 2000 and 2010.

Figure 12.8: Sex Ratios by Rural/Urban, Northern Province 2000 and 2010



Sources: 2000 and 2010 Censuses of Population and Housing

Sex ratio for Northern Province slightly reduced from 95.5 in 2000 to 94.7 males per 100 females in 2010. In rural areas, sex ratio reduced slightly from 95.5 in 2000 to 95.0 males per 100 females in 2010. In urban areas, it declined from 95.4 to 93.4 males per 100 females between 2000 and 2010. Sex ratio results for Northern Province show that there were more females than males in the province.

Figure 12.9 shows sex ratio by five year age groups for 2000 and 2010. In 2000, there were more females than males in the age groups 0-4 years and 15-64 years. In 2010, there were more females than males in the age groups 0-9 years, 15-39 years and 45-74 years.

Figure 12.9: Sex Ratio by 5 Year Age Group, Northern Province 2000 and 2010



Sources: 2000 and 2010 Censuses of Population and Housing

Table 12.3 shows sex ratio by age and rural/urban for 2000 and 2010. Sex ratios over 100 were observed in the age groups 10-14 and above 65 years in 2000. In 2010, sex ratios over 100 were observed in age groups 10-14, 40-44 and above 75 years.

The pattern of sex ratio for both censuses suggest under enumeration of children as sex ratio is expected to be high at age groups 0-4 and 5-9 years.

able 12.3: Sex katio by Age and kural/urban, Northern Province 2000 and 2010							
Ago Croup		2000		2010			
Age Gloup	Total	Rural	Urban	Total	Rural	Urban	
00-04	99.8	100.3	96.3	99.8	100.0	98.7	
05-09	100.0	100.4	97.3	99.0	100.2	93.5	
10-14	102.8	104.1	95.3	101.9	103.8	94.2	
15-19	89.1	88.6	91.9	93.7	93.3	95.1	
20-24	78.6	78.0	82.1	77.5	76.2	82.5	
25-29	88.7	87.8	94.1	81.0	81.9	77.5	
30-34	98.4	97.7	102.8	94.2	93.6	96.5	
35-39	92.3	91.3	98.8	97.7	95.2	107.8	
40-44	98.7	98.3	101.3	101.8	98.9	115.8	
45-49	91.6	89.6	105.5	94.7	93.8	99.1	
50-54	82.1	78.7	115.2	93.9	94.6	90.4	
55-59	90.9	88.8	112.5	91.8	90.3	99.4	
60-64	93.1	92.0	106.3	76.7	75.9	80.8	
65-69	116.1	117.2	104.7	80.7	81.6	75.9	
70-74	130.4	133.4	99.6	95.9	98.1	84.1	
75-79	150.1	153.9	111.1	123.3	129.0	92.0	
80-84	140.2	145.3	93.7	124.2	129.0	97.5	
85+	137.6	151.9	55.4	100.5	105.6	73.2	
0 0000 100	10 0	Provident and the second second					

12.9.3. Age Ratios

The quality of age data can be evaluated by examining age ratios. When there are no major changes in fertility, mortality or migration, the age ratios do not deviate much from 100, hence, any substantial deviation is explained in terms of age misreporting. Calculations and comparison of age ratios have been done and the results, disaggregated by sex, are given in Figure 12.10.

The irregular patterns of the age ratios show that data could be affected by errors from age misreporting, digit preference, omission, migration or fluctuations in births and deaths.





Source: 2010 Census of Population and Housing

The Age-Sex Accuracy Index describes the quality of age data. The United Nations defines age data as "accurate, inaccurate and highly inaccurate" if the Age-Sex Accuracy Index lies below 20, between 20-40, and 40 and above, respectively. Figure 12.11 shows the Age-Sex Accuracy Index for 2000 and 2010.





Source: 2000 and 2010 Census of Population and Housing

In Northern Province, It was observed that the quality of age data reporting improved as depicted by the decline in Age-Sex Accuracy Index between 2000 and 2010. The Age-Sex Accuracy Index declined from 37.4 in 2000 to 33.6 in 2010. Using the UN interpretation of the Age-Sex Accuracy Index, despite the decline in the Age-Sex Accuracy Index between 2000 and 2010, it would still be defined as "inaccurate".

12.9.4. Survival Ratios

Survival ratio is the probability that individuals of the same birth cohort or group of cohorts will still be living 10 years later. Survival ratios have been used to evaluate the quality of age and sex data from the two censuses. This assumes that the population is closed to migration and the influence of abnormal mortality due to wars, disasters and diseases over a 10 year period. Figure 12.12 shows cohort survival ratio by age and sex between 2000 and 2010.

Figure 12.12: Cohort Survival Ratio by Age and Sex, Northern Province 2000-2010



Sources: 2000 and 2010 Censuses of Population and Housing

The figure shows fluctuations in the cohort survival ratios rather than the expected systematic continuous decline with the increase in age. These distortions in data could either be due to age misreporting, under enumeration or over enumeration of some age groups.

Female ratios are generally expected to be higher than the male ratios because females normally have lower mortality compared to males. However, figure 12.12 shows higher survival ratios for males than females in age groups 0-4 years, 20-39 years, 45-49 years and 60-69 years.

Figure 12.13 shows overall survival ratios by age and sex between 2000 and 2010. The overall survival ratios show a continued decline with increase in age. Females had higher survival ratios across all age groups except for the age groups 25+, 30+, and 35+ were males had higher survival ratios.

Figure 12.13: Overall Survival Ratio by Age and Sex, Northern Province 2000-2010



Sources: 2000 and 2010 Censuses of Population and Housing

12.9.5. Population Pyramids

Irregularities in the reported age data was analysed using population pyramids. Inaccuracies in census age data are easily spotted when data is distributed in single year than in five year age groups. The population pyramids for the 2010 Census data given in figures 12.14, 12.15 and 12.16, show age misreporting with preference for ages ending with 0 and 5. Figure 12.14 shows the population distribution by single age for 2010.

Figure 12.14: Population Distribution in Single Years, Northern Province 2010 95+ 90 Age (Single Years)



Source: 2010 Census of Population and Housing

Figures 12.15 and 12.16, shows the population distribution by age for rural and urban areas in 2010.











Source: 2010 Census of Population and Housing

Figures 12.17 and 12.18, shows the reported and smoothed population by age for males and females in 2010.

Smoothing the age data using selected techniques for light smoothing of the population shows that the irregularities in the structure were not severe to consider smoothing.





Source: 2010 Census of Population and Housing

Figure 12.18: Reported and Smoothed Population for Females by Age and Smoothing Technique, Northern Province 2010



Source: 2010 Census of Population and Housing

Given that the irregularities were not severe, the age and sex data used for analysis in the 2010 Census was not smoothened.

ANNEX TABLES AND REFERENCES

Annex A: Population Composition and Demographic Characteristics

A1. Percent Dis	A1: Percent Distribution of the Population (De jure) by Age Group, Sex and Rural/Urban, Northern Province 2010										
ATTRICEM DIS		Total	De joiej by A	ge croop, se	Rural	noun, nonne		Urban			
Age Group	Total	Male	Female	Total	Male	Female	Total	Male	Female		
0 - 4	19.0	19.2	18.8	19.7	19.8	19.5	16.1	16.4	15.8		
5 - 9	15.9	16.0	15.8	16.3	16.4	16.1	14.4	14.2	14.6		
10 - 14	13.7	14.0	13.4	13.7	14.1	13.3	14.0	13.9	14.1		
15 - 19	10.9	10.8	11.0	10.5	10.3	10.6	12.9	12.9	12.8		
20 - 24	8.3	7.6	9.0	8.0	7.2	8.7	9.6	9.1	10.1		
25 - 29	7.4	7.0	7.9	7.3	6.9	7.6	8.2	7.5	8.8		
30 - 34	5.6	5.7	5.4	5.4	5.5	5.3	6.4	6.6	6.2		
35 - 39	4.9	5.0	4.7	4.8	4.9	4.6	5.3	5.7	4.9		
40 - 44	3.5	3.7	3.2	3.5	3.6	3.3	3.5	3.9	3.1		
45 - 49	2.9	3.0	2.9	3.0	3.0	2.9	2.9	3.0	2.7		
50 - 54	2.2	2.2	2.1	2.2	2.3	2.2	2.0	2.1	2.0		
55 - 59	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.5	1.4		
60 - 64	1.3	1.2	1.4	1.4	1.3	1.5	1.2	1.1	1.2		
65 - 69	1.1	1.0	1.1	1.1	1.0	1.2	0.8	0.8	0.9		
70 - 74	0.8	0.8	0.8	0.8	0.8	0.8	0.6	0.6	0.6		
75 - 79	0.5	0.6	0.5	0.6	0.7	0.5	0.4	0.4	0.4		
80 - 84	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2		
85+	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.1	0.2		
Total Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		
Total Population	1,105,824	546,851	558,973	903,208	447,755	455,453	202,616	99,096	103,520		
Source: 2010 Cen	sus of Populatio	on and Housing									

A2: Percent Age Distribution of the Population by Selected Age Groups and Rural/Urban, Northern Province 2010

/ E. Fereenin / Ge Bisinbenen er me f			
Are Crown		2010 Census	
Age Group	Total	Rural	Urban
10-19 (Adolescents ,WHO)	24.6	24.1	26.8
10-24 (Young People, UN)	32.9	32.1	36.5
<15 (Children)	48.7	49.6	44.5
<18 (Children)	55.3	56.0	52.1
15-19 (Middle and later Adolescence)	10.9	10.5	12.9
15-24 (Youths, UN)	19.2	18.4	22.5
15-49 (Reproductive Age Group)	43.4	42.3	48.7
15-35 (Youths, Zambia)	33.6	32.4	38.6
15-64 (Labour force Age group)	48.5	47.4	53.3
60+ (Elderly)	4.2	4.4	3.3
65+ (Elderly)	2.9	3.0	2.2
Total Population	1,105,824	903,208	202,616
Source: 2010 Consus of Population and H	ousing		

Annex B: Social Characteristics

B1: Percent Distribution	n of Household Heads	by Age Group and Sex	, Northern Province 20	10	
Age group of	Total Number of	Number of Male	Percent of Male	Number of Female	Percent of Female
Housenola Head	Housenoid nedas	Headed Households	neaded Households	Headea Householas	Headed Households
Total	220,561	175,037	100	45,524	100
12-14	80	42	*	38	0.1
15 - 19	1,971	1,372	0.8	599	1.3
20 - 24	17,924	15,362	8.8	2,562	5.6
25 - 29	34,247	29,796	17	4,451	9.8
30 - 34	32,385	27,818	15.9	4,567	10
35 - 39	30,125	25,454	14.5	4,671	10.3
40 - 44	23,291	18,921	10.8	4,370	9.6
45 - 49	20,101	15,626	8.9	4,475	9.8
50 - 54	15,942	11,589	6.6	4,353	9.6
55 - 59	11,336	7,842	4.5	3,494	7.7
60 - 64	10,219	6,362	3.6	3,857	8.5
65+	22,940	14,853	8.5	8,087	17.8
Source: 2010 Census of P	opulation and Housing				

B 2: Relationship to Hou	usehold Head by R	ural/Urban, Northe	rn Province 2010			
Relationship to Head	Total	Percent	Rural	Percent	Urban	Percent
Total Population	1,105,824	100	903,208	100	202,616	100
Head	220,561	19.9	180,442	20	40,119	19.8
Spouse	167,707	15.2	139,605	15.5	28,102	13.9
Own Son/ Daughter	585,839	53	487,260	53.9	98,579	48.7
Step Son/Daughter	14,220	1.3	12,056	1.3	2,164	1.1
Parent	3,228	0.3	2,489	0.3	739	0.4
Brother/Sister	15,919	1.4	9,707	1.1	6,212	3.1
Nephew/Niece	18,383	1.7	10,908	1.2	7,475	3.7
Son/Daughter-in-law	4,910	0.4	3,861	0.4	1,049	0.5
Grandchild	50,930	4.6	39,983	4.4	10,947	5.4
Parent-in-law	1,217	0.1	925	0.1	292	0.1
Cousin	2,548	0.2	1,532	0.2	1,016	0.5
Other relative	17,117	1.5	12,369	1.4	4,748	2.3
Not Related	3,245	0.3	2,071	0.2	1,174	0.6
Source: 2010 Census of Po	pulation and Housing	1				

2010 Census of Population and Housing - Northern Province Analytical Report

Annex C: Education

C 1: Populati 2010	spulation 5 fears and Older by Age (single and 5 fear Groups), sex and Literacy status, and kural/urban, Northern Province										
Age (Single		Total			Rural	·		Urban			
and 5 Year Groups)	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female		
Total	61.0	66.6	55.8	57.2	63.5	51.3	77.0	79.8	74.4		
5	2.7	2.8	2.6	2.1	2.2	1.9	6.1	6.0	6.2		
6	4.4	4.4	4.4	3.3	3.3	3.3	10.3	10.4	10.2		
7	8.9	8.5	9.2	6.7	6.7	6.7	19.3	17.7	20.8		
8	16.5	16.2	16.8	13.4	13.3	13.5	32.5	32.0	33.0		
9	30.3	30.4	30.2	25.9	26.1	25.6	50.3	50.4	50.2		
5 - 9	11.4	11.2	11.5	9.2	9.2	9.2	22.4	21.8	22.9		
10	43.4	43.6	43.2	38.9	39.4	38.4	65.2	64.8	65.6		
11	61.7	62.2	61.2	57.4	58.4	56.3	81.1	80.1	82.0		
12	72.3	72.6	72.0	68.8	69.5	68.0	88.0	87.3	88.7		
13	80.8	80.9	80.7	78.3	78.3	78.2	91.0	92.2	90.0		
14	85.6	86.8	84.3	83.2	84.8	81.6	94.4	94.9	93.9		
10 - 14	65.6	66.1	65.1	61.7	62.5	60.9	82.4	82.2	82.6		
15	85.7	88.0	83.5	83.4	86.0	80.7	94.5	95.6	93.5		
16	87.5	90.7	84.4	85.4	89.2	81.6	95.4	96.7	94.2		
17	86.4	91.2	81.8	83.8	89.5	78.5	95.4	97.3	93.7		
18	84.7	90.4	79.4	81.6	88.6	75.4	95.1	96.4	93.9		
19	82.9	90.2	76.8	79.4	88.0	72.6	94.4	96.9	92.1		
15 - 19	85.5	90.0	81.3	82.8	88.2	77.9	95.0	96.5	93.5		
20 - 24	77.9	87.2	70.7	74.0	84.9	65.7	92.2	95.3	89.6		
25 - 29	73.8	83.8	65.6	69.6	81.2	60.1	90.0	94.6	86.4		
30 - 34	75.7	84.3	67.5	71.5	81.4	62.2	91.1	94.8	87.5		
35 - 39	76.1	85.0	67.4	72.3	82.6	62.6	91.2	94.1	88.1		
40 - 44	76.1	85.5	66.4	72.6	83.2	62.1	91.3	95.0	87.0		
45 - 49	75.6	86.1	65.7	72.5	84.1	61.6	89.8	94.9	84.8		
50 - 54	73.3	86.0	61.3	70.2	84.2	56.9	88.1	94.9	81.9		
55 - 59	69.1	84.7	54.7	65.5	82.4	50.3	85.9	95.1	76.7		
60 - 64	59.3	81.3	42.4	55.9	78.8	38.5	77.0	93.9	63.3		
65 +	51.8	74.7	29.6	50.1	73.0	27.1	62.6	86.2	43.1		
Source: 2010 (Census of Populo	ation and Housir	na								

C2: Populatio	C2: Population 5 Years and Older by Age, Sex, and School Attendance and Rural/Urban, Northern Province 2010											
Age (Single		Total			Rural			Urban				
and 5 Year Groups)	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female			
Total	43.0	44.9	41.0	29.3	32.7	26.0	38.1	41.0	35.4			
5	87.2	86.7	87.7	5.7	5.3	6.1	14.6	14.6	14.6			
6	91.7	91.0	92.3	14.0	14.0	14.1	26.8	26.1	27.4			
7	94.4	94.4	94.5	35.1	34.6	35.6	54.9	54.1	55.7			
8	95.1	95.2	94.9	52.7	52.3	53.2	73.5	72.4	74.5			
9	95.5	95.2	95.7	67.5	67.5	67.5	83.6	83.9	83.2			
5 - 9	94.3	94.2	94.4	32.4	32.0	32.8	48.9	48.2	49.5			
10	94.7	94.7	94.8	72.8	73.2	72.5	84.8	85.1	84.6			
11	94.1	94.4	93.9	78.4	79.2	77.5	88.7	88.3	89.1			
12	93.1	93.3	93.0	79.7	80.5	78.9	89.1	89.7	88.5			
13	92.4	93.5	91.3	81.7	83.4	79.9	89.3	90.4	88.3			
14	90.0	91.7	88.3	80.1	83.2	76.8	88.1	89.7	86.6			
10 - 14	93.1	93.6	92.5	77.8	79.0	76.5	87.7	88.3	87.2			
15	84.3	88.2	80.1	73.0	78.7	67.0	84.0	87.1	80.9			
16	78.1	84.8	71.3	67.4	76.7	58.3	80.1	85.5	75.3			
17	66.8	77.9	55.6	55.5	69.4	42.7	72.9	81.4	64.9			
18	54.6	69.2	39.9	43.2	60.2	28.1	62.4	73.9	51.0			
19	41.0	58.1	24.9	30.7	48.9	16.1	49.8	65.8	34.6			
15 - 19	66.2	76.7	55.6	55.1	68.0	43.0	70.2	78.9	61.9			
20 - 24	18.5	27.2	10.6	12.5	20.7	6.2	24.4	35.9	14.9			
25 - 29	4.8	5.6	4.1	3.3	4.2	2.5	5.8	7.3	4.6			
30 - 34	3.2	3.3	3.0	2.3	2.6	2.0	3.4	3.6	3.2			
35 - 39	2.7	2.8	2.5	1.9	2.3	1.7	2.8	3.0	2.7			
40 - 44	2.2	2.5	2.0	1.6	1.9	1.3	2.5	3.0	1.9			
45 - 49	1.9	2.0	1.8	1.4	1.7	1.1	2.3	2.3	2.2			
50 - 54	2.1	2.2	1.9	1.5	1.8	1.1	2.0	2.3	1.8			
55 - 59	2.2	2.3	2.2	1.6	1.9	1.3	1.8	2.4	1.3			
60 - 64	1.9	2.0	1.7	1.1	1.7	0.7	1.6	1.4	1.8			
65 +	2.6	2.4	2.8	1.4	1.8	1.0	1.9	2.4	1.5			
Source: 2010 (Consult of Donul	ation and llousi	20									

Source: 2010 Census of Population and Housing

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Annex D: Economic Characteristics

D1: The Usually Working Population (12 years a	and Older) By Distr	ict, Northern Prov	vince 2010						
	Total	Chilubi	Kaputa	Kasama	Luwingu	Mbala	Mporokoso	Mpulungu	Mungwi
Total	350,998	35,318	36,373	66,802	35,432	63,508	32,517	28,400	52,648
Rural	303,771	33,688	34,314	42,602	33,087	59,445	28,520	21,688	50,427
Urban	47,227	1,630	2,059	24,200	2,345	4,063	3,997	6,712	2,221
Male	181,367	15,362	19,413	36,771	18,858	32,795	16,593	15,708	25,867
Female	169,631	19,956	16,960	30,031	16,574	30,713	15,924	12,692	26,781
The Usually Working Population (12 years and Older)	By Employment Stat	N							
Employer	1,770	49	203	338	96	392	140	408	144
Employee	25,549	813	2,583	10,388	1,564	3,673	1,336	3,378	1,814
Self employed	1 62,867	18,840	14,839	30,885	16,840	33,557	13,659	12,576	21,671
Unpaid family worker	160,812	15,616	18,748	25,191	16,932	25,886	17,382	12,038	29,019
The Usually Working Population (12 years and Older)	By Occupation	-						-	
Managers	966	46	74	246	129	98	74	266	63
Professionals	7,687	321	441	2,725	705	1,483	648	656	708
Technicians and Associate Professionals	3,369	102	544	1,052	595	504	138	261	173
Clerical Support Workers	840	32	54	429	36	115	44	71	59
Service and Sales Workers	16,083	298	1,370	8,694	638	1,697	562	2,092	732
Skilled Agricultural Forestry and Fishery Workers	221,251	27,713	18,851	32,250	24,675	40,200	22,917	15,290	39,355
Craft and Related Trades Workers	11,507	606	815	4,091	655	1,335	350	2,612	740
Plant and Machine Operators and Assemblers	3,192	137	161	1 ,545	145	429	257	29.6	222
Elementary Occupations	67,610	5,097	12,047	12,176	4,229	14,231	6,202	5,168	8,460
Not Stated	18,463	663	2,016	3,594	3,625	3,416	1,325	1,688	2,136
The Usually Working Population (12 years and Older)	By Industry								
Agriculture Hunting Forestry and Fishing	284,978	32,730	30,553	42,131	29,236	52,574	28,676	21,595	47,483
Mining and Quarrying	559	29	104	169	52	85	53	24	43
Manufacturing	4,589	59.6	344	1,726	357	607	140	422	397
Electricity Gas Steam and Air conditioning supply	191	3	14	113	3	25	11	13	6
Water Supply	200	1	9	133	8	15	15	6	13
Construction and Allied Repairs	4,767	249	236	2,362	366	475	196	469	414
Wholesale & Retail Trade Restaurants and Hotel	15,954	404	1,592	8,413	575	1,871	457	1,998	644
Transport and Storage	2,125	18	100	1,237	75	328	49	197	121
Accommodation and food services activities	891	26	34	445	38	149	34	115	50
Information and Communication	1,592	17	113	264	116	308	166	422	186
Finance and Insurance	207	2	10	133	8	24	8	19	ю
Real Estate Activities	11		2	9	-		2	1	
Community Social and Personal Services	12,613	536	862	5,347	961	1,976	877	1,028	1,026
Not Stated	22,321	707	2,400	4,323	3,637	5,071	1,833	2,091	2,259
Source: 2010 Census of Population and Housing									

82 - Annex Tables and References

Annex E: Fertility Levels, Patterns and Trends

E1: Adjusted	ASFRs and TF	Rs by District, I	Northern Prov	ince 2010					
Age Group	Total	Chilubi	Kaputa	Kasama	Luwingu	Mbala	Mporokoso	Mpulungu	Mungwi
15-19	0.1436	0.1363	0.1376	0.1080	0.1080	0.1319	0.1196	0.1452	0.1375
20-24	0.3338	0.3893	0.3946	0.3038	0.2889	0.3380	0.3612	0.3323	0.3804
25-29	0.3185	0.3773	0.3853	0.2957	0.2899	0.3272	0.3415	0.3397	0.3950
30-34	0.2658	0.3449	0.3180	0.2547	0.2577	0.2670	0.2818	0.2761	0.3263
35-39	0.2118	0.2735	0.2633	0.2027	0.1953	0.2216	0.2270	0.2320	0.2642
40-44	0.1078	0.1430	0.1405	0.0990	0.1111	0.1199	0.1222	0.1197	0.1552
45-49	0.0344	0.0651	0.0653	0.0342	0.0366	0.0437	0.0460	0.0397	0.0468
TFR	7.1	7.7	7.1	6.5	6.6	7.2	7.1	7.2	7.2
Source: 2010 (Consus of Popula	ation and Housi	20						

Source: 2010 Census of Population and Housing

E2: Observed and Adjusted ASFR, TFR and Mean Age at Childbearing (MACB), Northern Province 1990 – 2010

A	19	790*	20	00*	20	010
Group	Observed ASFR	Adjusted ASFR	Observed ASFR	Adjusted ASFR	Observed ASFR	Adjusted ASFR
15-19	0.0879	0.0940	0.0928	0.1407	0.0981	0.1436
20-24	0.2501	0.2674	0.2118	0.2768	0.2671	0.3338
25-29	0.2746	0.2936	0.2116	0.2692	0.2642	0.3185
30-34	0.2543	0.2719	0.1846	0.2317	0.2225	0.2658
35-39	0.2112	0.2258	0.0420	0.1748	0.1799	0.2118
40-44	0.1203	0.1286	0.0710	0.0833	0.0968	0.1078
45-49	0.0549	0.0587	0.0290	0.0301	0.0352	0.0344
Obs. TFR	6.3		4.7		5.8	
Adj. TFR		6.7		6.0		7.1
MACB					34.2	
Source: 1000, 2000 a	nd 2010 Cansusas of E	Population and Housing	r			

E3: GRR and	NRR by Rural/	Urban, Northe	ern Province 1	990 - 2010					
		Total			Rural			Urban	
Age Group	ASFR(f)	Survival Ratios	ASFR at Current Mortality Rates	ASFR(f)	Survival Ratios	ASFR at Current Mortality Rates	ASFR(f)	Survival Ratios	ASFR at Current Mortality Rates
15 - 19	0.0483	4.1182	0.1977	0.0519	4.0953	0.2104	0.0351	4.2351	0.1479
20 - 24	0.1335	4.0094	0.5318	0.1449	3.9867	0.5711	0.0900	4.1247	0.3705
25 - 29	0.1290	3.8568	0.4952	0.1391	3.8440	0.5289	0.0904	3.9325	0.3566
30 - 34	0.1102	3.6832	0.4033	0.1200	3.6805	0.4363	0.0730	3.7196	0.2712
35 - 39	0.0861	3.5133	0.2987	0.0942	3.5193	0.3260	0.0515	3.5123	0.1786
40 - 44	0.0456	3.3703	0.1493	0.0498	3.3956	0.1635	0.0254	3.2794	0.0817
45 - 49	0.0161	3.2299	0.0497	0.0168	3.2570	0.0522	0.0127	3.1292	0.0379
GRR 2010	2.8			3.1			1.9		
NRR 2010			1.4			2.3			2.1
Source: 1990, 2	2000 and 2010 (Censuses of Pop	ulation and Hou	Jsing					

Annex F: Mortality

F1: Propor	tion Distribu	ition of Rep	orted Deatl	ns by Age (Group, Distri	ct and Rura	I/Urban, No	rthern Prov	ince 2010		
Age Group	Total	Rural	Urban	Chilubi	Kaputa	Kasama	Luwingu	Mbala	Mporokoso	Mpulungu	Mungwi
0 - 4	0.489	0.514	0.369	0.533	0.578	0.340	0.509	0.540	0.486	0.524	0.462
5-9	0.060	0.063	0.047	0.076	0.054	0.051	0.071	0.049	0.076	0.061	0.060
10-14	0.035	0.035	0.034	0.041	0.037	0.035	0.039	0.033	0.026	0.033	0.031
15 - 19	0.037	0.037	0.038	0.037	0.036	0.040	0.034	0.032	0.036	0.038	0.044
20 - 24	0.041	0.038	0.052	0.046	0.045	0.045	0.034	0.037	0.034	0.048	0.036
25 - 29	0.051	0.046	0.076	0.043	0.056	0.066	0.048	0.048	0.050	0.046	0.041
30 - 34	0.045	0.040	0.071	0.039	0.041	0.070	0.043	0.031	0.042	0.043	0.043
35 - 39	0.041	0.037	0.064	0.032	0.032	0.054	0.034	0.035	0.050	0.045	0.045
40 - 44	0.032	0.029	0.047	0.023	0.024	0.047	0.028	0.035	0.036	0.023	0.034
45 - 49	0.026	0.024	0.035	0.024	0.018	0.044	0.020	0.021	0.023	0.024	0.024
50 - 54	0.022	0.021	0.030	0.016	0.020	0.028	0.021	0.023	0.016	0.024	0.026
55 - 59	0.018	0.017	0.024	0.011	0.011	0.030	0.021	0.015	0.016	0.018	0.017
60 - 64	0.018	0.016	0.030	0.017	0.012	0.030	0.014	0.017	0.016	0.017	0.016
65 - 69	0.018	0.018	0.019	0.014	0.011	0.026	0.017	0.016	0.020	0.010	0.026
70 - 74	0.021	0.022	0.021	0.020	0.014	0.027	0.024	0.022	0.017	0.016	0.028
75+	0.044	0.044	0.045	0.030	0.015	0.068	0.040	0.047	0.055	0.027	0.066
Source: 201	0 Census of I	Population a	nd Housing								

Annex H: Disability

H1: Disabled Popu	H1: Disabled Population by Sex, Rural/Urban and District, Northern Province 2010										
Sox and District		Disabled Population		Percent Disabled							
Sex and Disinci	Total	Rural	Urban	Total	Rural	Urban					
Total	24,688	21,549	3,139	2	3	2					
Male	12,572	10,966	1,606	2	3	2					
Female	12,116	10,583	1,533	2	2	2					
District											
Chilubi	2,485	2,323	162	3	3	4					
Kaputa	3,251	3,097	154	3	3	2					
Kasama	4,268	2,779	1,489	2	2	2					
Luwingu	2,490	2,372	118	2	2	1					
Mbala	3,988	3,622	366	2	2	2					
Mporokoso	2,346	2,025	321	2	2	2					
Mpulungu	1,834	1,474	360	2	2	1					
Mungwi	4,026	3,857	169	3	3	2					
Source: 2010 Census	of Population and Ho	Jsing									

H2: Disabled Popu	H2: Disabled Population by Age and Sex, Northern Province 2010											
A		Disabled Population			Percent Disabled							
Age	Total	Male	Female	Total	Male	Female						
Total	24,688	12,572	12,116	2.4	2.5	2.3						
0 - 4	1,348	766	582	0.7	0.7	0.6						
5-9	2,029	1,117	912	1.2	1.3	1.1						
10-14	2,492	1,393	1,099	1.7	1.9	1.5						
15 - 19	2,008	1,105	903	1.8	2.1	1.6						
20 - 24	1,487	767	720	1.8	2.1	1.5						
25 - 29	1,524	775	749	2.0	2.3	1.8						
30 - 34	1,347	727	620	2.4	2.6	2.1						
35 - 39	1,370	691	679	2.8	2.8	2.7						
40 - 44	1,407	667	740	4.0	3.8	4.3						
45 - 49	1,472	683	789	4.9	4.7	5.2						
50 - 54	1,422	658	764	6.4	6.1	6.7						
55 - 59	1,123	506	617	7.3	6.9	7.7						
60 - 64	1,256	512	744	9.0	8.5	9.4						
65 - 69	1,268	546	722	11.4	11.0	11.7						
70 - 74	1,130	545	585	13.6	13.4	13.8						
75 - 79	884	505	379	15.6	16.1	14.9						
80 - 84	554	317	237	18.9	19.6	18.2						
85 - 89	324	186	138	20.6	21.6	19.3						
90 - 94	124	64	60	27.1	26.1	28.2						
95+	119	42	77	21.0	21.3	20.9						
Source: 2010 Census	of Population and Ho	usina										

Annex I: Evaluation of Coverage and Content Errors

11: Population	by Age Group,	Sex, Age Ratio	and Sex Ratio,	Northern Provi	nce 2000			
Ago Croup	Рори	lation	Age	Ratio	Deviation	from 100	Sax Patio	Difference
Age Group	Male	Female	Male	Female	Male	Female	Sex Kallo	Difference
0-4	71,758	71,908	-	-	-	-	99.8	-
5-9	60,362	60,374	98.6	99.6	-1.4	-0.4	100.0	0.2
10-14	50,631	49,270	99.7	92.4	-0.3	-7.6	102.8	2.8
15-19	41,251	46,290	103.3	107.1	3.3	7.1	89.1	-13.6
20-24	29,210	37,142	87.3	98.7	-12.7	-1.3	78.6	-10.5
25-29	25,680	28,941	101.7	98.5	1.7	-1.5	88.7	10.1
30-34	21,272	21,615	101.0	92.5	1.0	-7.5	98.4	9.7
35-39	16,434	17,804	98.4	105.0	-1.6	5.0	92.3	-6.1
40-44	12,138	12,300	94.0	87.7	-6.0	-12.3	98.7	6.4
45-49	9,393	10,251	95.0	94.9	-5.0	-5.1	91.6	-7.1
50-54	7,629	9,293	99.1	110.3	-0.9	10.3	82.1	-9.5
55-59	6,000	6,601	90.5	86.1	-9.5	-13.9	90.9	8.8
60-64	5,625	6,043	102.4	110.9	2.4	10.9	93.1	2.2
65-69	4,990	4,297	110.2	99.1	10.2	-0.9	116.1	23.0
70-74	3,430	2,631	-	-	0.0	0.0	130.4	14.2
75+	4,300	2,981	-	-	-	-	144.2	-
Total	370,103	387,741	-	-				
Mean	-	-	-	-	4.3	6.4	-	8.9

Source: 2000 Census of Population and Housing Age-Sex Accuracy Index = 3 times mean difference in sex ratio plus mean deviations of males and females age ratios. 3 x 8.9 + 4.3 + 6.4 = 37.4

12: Population	by Age Group, Sex, Age Ratio	and Sex Ratio, Northern Provir	nce 2010
	Description	A we Daille	Desident and frame

Ago Croup	Po	pulation	Ag	Age Katio		on from 100	Sox Patio	Difference		
Age Gloup	Male	Female	Male	Female	Male	Female	JEX KUIIO	Difference		
0-4	102,856	103,102					99.8			
5-9	84,431	85,244	96.2	97.7	-3.8	-2.3	99.0	-0.7		
10-14	72,726	71,357	105.2	100.0	5.2	0.0	101.9	2.9		
15-19	53,811	57,448	98.1	96.5	-1.9	-3.5	93.7	-8.2		
20-24	36,981	47,718	84.0	95.7	-16.0	-4.3	77.5	-16.2		
25-29	34,262	42,294	106.3	110.0	6.3	10.0	81.0	3.5		
30-34	27,506	29,201	93.9	86.9	-6.1	-13.1	94.2	13.2		
35-39	24,313	24,898	107.7	107.0	7.7	7.0	97.7	3.5		
40-44	17,642	17,327	91.0	86.2	-9.0	-13.8	101.8	4.2		
45-49	14,481	15,289	102.1	106.4	2.1	6.4	94.7	-7.1		
50-54	10,721	11,422	98.2	98.1	-1.8	-1.9	93.9	-0.9		
55-59	7,352	8,006	87.6	82.9	-12.4	-17.1	91.8	-2.0		
60-64	6,055	7,893	98.4	111.6	-1.6	11.6	76.7	-15.1		
65-69	4,961	6,145	98.0	101.3	-2.0	1.3	80.7	4.0		
70-74	4,067	4,239	-	-	0.0	0.0	95.9	15.2		
75+	6,061	5,146	-	-	-	-	117.8	-		
Total	508,226	536,729	-	-			-			
Mean	-	-	-	-	5.8	7.1	-	6.9		
Source: 2010 Ce	ensus of Populatio	on and Housing								
Age-Sex Accuracy Index = 3 times mean difference in sex ratio plus mean deviations of males and females age ratios. 3 x 6.9 + 5.8 + 7.1 = 33 6										

Life Tables

able 1: Ab	oridged Life 1	able for Both	Sexes, North	hern Provinc	e 2010					
Age,	Width,	nMx	nax	nqx	lx	ndx	nLx	5Px	Tx	ex
0	1	0.0869	0.3	0.0819	100,000	8,188	94,269	0.8813	5,287,149	52.9
1	4	0.0167	0.4	0.0631	91,812	5,796	346,383	0.9560	5,192,881	56.6
5	5	0.0047	0.5	0.0228	86,016	1,959	421,265	0.9837	4,846,498	56.3
10	5	0.0032	0.5	0.0155	84,057	1,306	414,410	0.9793	4,425,233	52.6
15	5	0.0044	0.5	0.0213	82,751	1,765	405,812	0.9705	4,010,823	48.5
20	5	0.0063	0.5	0.0304	80,986	2,464	393,840	0.9592	3,605,011	44.5
25	5	0.0087	0.5	0.0420	78,522	3,301	377,753	0.9510	3,211,171	40.9
30	5	0.0104	0.5	0.0499	75,220	3,750	359,226	0.9481	2,833,418	37.7
35	5	0.0109	0.5	0.0521	71,470	3,724	340,595	0.9432	2,474,192	34.6
40	5	0.0121	0.5	0.0574	67,747	3,886	321,247	0.9459	2,133,597	31.5
45	5	0.0113	0.5	0.0537	63,861	3,430	303,870	0.9387	1,812,350	28.4
50	5	0.0132	0.5	0.0622	60,431	3,761	285,230	0.9286	1,508,479	25.0
55	5	0.0155	0.5	0.0724	56,670	4,105	264,878	0.9212	1,223,250	21.6
60	5	0.0171	0.5	0.0795	52,565	4,181	244,010	0.9052	958,372	18.2
65	5	0.0212	0.5	0.0966	48,384	4,674	220,887	0.8595	714,362	14.8
70	5	0.0336	0.5	0.1459	43,710	6,377	189,853	0.8487	493,475	11.3
75	5	0.0352	0.5	0.1520	37,333	5,673	161,136	0.4693	303,623	8.1
80	+	0.0684	0.5	1.0000	31,660	31,660	142,486		142,486	4.5
Source: 2010	Census of Por	oulation and H	ousina							

Table 2: Ab	able 2: Abridged Life Table for Males, Northern Province 2010										
Age,	Width,	nMx	nax	nqx	lx	ndx	nLx	5Px	Tx	ex	
0	1	0.0971	0.3	0.0909	100,000	9,092	93,635	0.8704	5,032,443	50.3	
1	4	0.0179	0.4	0.0674	90,908	6,125	341,581	0.9522	4,938,807	54.3	
5	5	0.0051	0.5	0.0249	84,783	2,111	414,416	0.9845	4,597,226	54.2	
10	5	0.0029	0.5	0.0145	82,672	1,195	407,984	0.9802	4,182,810	50.6	
15	5	0.0042	0.5	0.0204	81,477	1,665	399,895	0.9665	3,774,827	46.3	
20	5	0.0072	0.5	0.0350	79,813	2,791	386,505	0.9557	3,374,931	42.3	
25	5	0.0095	0.5	0.0454	77,022	3,493	369,391	0.9466	2,988,426	38.8	
30	5	0.0114	0.5	0.0543	73,529	3,992	349,681	0.9423	2,619,035	35.6	
35	5	0.0123	0.5	0.0581	69,537	4,039	329,511	0.9278	2,269,354	32.6	
40	5	0.0158	0.5	0.0738	65,498	4,835	305,734	0.9332	1,939,843	29.6	
45	5	0.0140	0.5	0.0659	60,663	4,000	285,318	0.9243	1,634,109	26.9	
50	5	0.0165	0.5	0.0768	56,664	4,354	263,725	0.9124	1,348,792	23.8	
55	5	0.0193	0.5	0.0888	52,310	4,648	240,633	0.9037	1,085,067	20.7	
60	5	0.0213	0.5	0.0972	47,662	4,633	217,461	0.8959	844,434	17.7	
65	5	0.0232	0.5	0.1050	43,029	4,516	194,822	0.8583	626,973	14.6	
70	5	0.0337	0.5	0.1463	38,513	5,633	167,216	0.8460	432,151	11.2	
75	5	0.0360	0.5	0.1550	32,880	5,096	141,468	0.4660	264,935	8.1	
80	+	0.0711	0.5	1.0000	27,784	27,784	123,467		123,467	4.4	
Source: 2010	Census of Por	ulation and H	ousina								

Source: 2010 Census of Population and Housing

Table 3: At	oridged Life 1	able for Fem	ales, Luapul	a Province 2	010					
Age,	Width,	nMx	nax	nqx	lx	ndx	nLx	5Px	Tx	ex
0	1	0.0766	0.3	0.0727	100,000	7,268	94,912	0.8924	5,549,758	55.5
1	4	0.0155	0.4	0.0589	92,732	5,459	351,274	0.9598	5,454,846	58.8
5	5	0.0042	0.5	0.0207	87,273	1,804	428,247	0.9830	5,103,572	58.5
10	5	0.0034	0.5	0.0166	85,469	1,422	420,948	0.9783	4,675,324	54.7
15	5	0.0045	0.5	0.0223	84,047	1,871	411,818	0.9736	4,254,377	50.6
20	5	0.0055	0.5	0.0269	82,176	2,210	400,938	0.9619	3,842,559	46.8
25	5	0.0082	0.5	0.0393	79,967	3,146	385,676	0.9550	3,441,621	43.0
30	5	0.0095	0.5	0.0456	76,821	3,507	368,324	0.9539	3,055,945	39.8
35	5	0.0096	0.5	0.0462	73,314	3,387	351,331	0.9593	2,687,621	36.7
40	5	0.0083	0.5	0.0401	69,927	2,801	337,033	0.9583	2,336,291	33.4
45	5	0.0087	0.5	0.0419	67,126	2,810	322,989	0.9525	1,999,258	29.8
50	5	0.0101	0.5	0.0482	64,317	3,097	307,645	0.9440	1,676,269	26.1
55	5	0.0120	0.5	0.0569	61,219	3,482	290,425	0.9358	1,368,624	22.4
60	5	0.0138	0.5	0.0650	57,737	3,753	271,794	0.9129	1,078,198	18.7
65	5	0.0195	0.5	0.0898	53,983	4,845	248,114	0.8605	806,404	14.9
70	5	0.0335	0.5	0.1456	49,138	7,152	213,507	0.8521	558,290	11.4
75	5	0.0342	0.5	0.1482	41,986	6,222	181,933	0.4723	344,784	8.2
80	+	0.0653	0.5	1.0000	35,764	35,764	162,851		162,851	4.6

Source: 2010 Census of Population and Housing

Table 4: At	oridged Life	able Northe	rn Province F	Rural - Both S	exes, 2010					
Age,	Width,	nMx	nax	nqx	lx	ndx	nLx	5Px	Tx	ex
0	1	0.0889	0.3	0.0837	100,000	8,369	94,142	0.8785	5,331,875	53.3
1	4	0.0172	0.4	0.0649	91,631	5,943	345,130	0.9546	5,237,733	57.2
5	5	0.0048	0.5	0.0237	85,688	2,027	419,321	0.9833	4,892,604	57.1
10	5	0.0032	0.5	0.0159	83,661	1,333	412,307	0.9781	4,473,283	53.5
15	5	0.0046	0.5	0.0226	82,328	1,859	403,276	0.9705	4,060,976	49.3
20	5	0.0062	0.5	0.0303	80,469	2,437	391,381	0.9614	3,657,700	45.5
25	5	0.0082	0.5	0.0396	78,033	3,088	376,269	0.9541	3,266,319	41.9
30	5	0.0097	0.5	0.0466	74,945	3,494	359,000	0.9520	2,890,050	38.6
35	5	0.0101	0.5	0.0482	71,451	3,442	341,763	0.9474	2,531,050	35.4
40	5	0.0112	0.5	0.0531	68,008	3,611	323,794	0.9495	2,189,287	32.2
45	5	0.0105	0.5	0.0502	64,398	3,231	307,451	0.9426	1,865,493	29.0
50	5	0.0123	0.5	0.0582	61,167	3,560	289,817	0.9326	1,558,042	25.5
55	5	0.0146	0.5	0.0685	57,607	3,945	270,283	0.9317	1,268,225	22.0
60	5	0.0145	0.5	0.0683	53,662	3,664	251,823	0.9092	997,942	18.6
65	5	0.0204	0.5	0.0935	49,998	4,674	228,957	0.8628	746,119	14.9
70	5	0.0327	0.5	0.1426	45,324	6,463	197,539	0.8563	517,162	11.4
75	5	0.0330	0.5	0.1438	38,861	5,588	169,160	0.4708	319,624	8.2
80	+	0.0657	0.5	1.0000	33,273	33,273	150,464		150,464	4.5
Source: 2010	Consus of Por	oulation and L	louring							

Source: 2010 Census of Population and Housing

Table 5: At	oridged Life	able Northe	rn Province l	Jrban - Both	Sexes, 2010					
Age,	Width,	nMx	nax	nqx	lx	ndx	nLx	5Px	Tx	ex
0	1	0.0749	0.3	0.0712	100,000	7,115	95,019	0.8971	5,131,675	51.3
1	4	0.0141	0.4	0.0538	92,885	4,999	353,545	0.9635	5,036,655	54.2
5	5	0.0037	0.5	0.0183	87,886	1,612	432,178	0.9858	4,683,111	53.3
10	5	0.0028	0.5	0.0138	86,274	1,188	426,024	0.9833	4,250,933	49.3
15	5	0.0035	0.5	0.0170	85,086	1,450	418,903	0.9704	3,824,910	45.0
20	5	0.0064	0.5	0.0310	83,636	2,591	406,521	0.9505	3,406,006	40.7
25	5	0.0108	0.5	0.0516	81,045	4,180	386,415	0.9395	2,999,486	37.0
30	5	0.0130	0.5	0.0616	76,865	4,733	363,027	0.9332	2,613,071	34.0
35	5	0.0144	0.5	0.0674	72,132	4,862	338,781	0.9251	2,250,043	31.2
40	5	0.0163	0.5	0.0758	67,270	5,101	313,395	0.9296	1,911,263	28.4
45	5	0.0149	0.5	0.0697	62,169	4,333	291,347	0.9200	1,597,868	25.7
50	5	0.0175	0.5	0.0812	57,836	4,695	268,051	0.9103	1,306,521	22.6
55	5	0.0197	0.5	0.0907	53,141	4,819	244,020	0.8722	1,038,470	19.5
60	5	0.0300	0.5	0.1323	48,322	6,393	212,843	0.8839	794,450	16.4
65	5	0.0254	0.5	0.1141	41,929	4,783	188,124	0.8404	581,606	13.9
70	5	0.0389	0.5	0.1653	37,147	6,142	158,093	0.8018	393,482	10.6
75	5	0.0495	0.5	0.2025	31,004	6,279	126,767	0.4615	235,389	7.6
80	+	0.0860	0.5	1.0000	24,725	24,725	108,623		108,623	4.4
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Source: 2010 Census of Population and Housing

136-139.

1980, 1990 and 2000 Census of Population and Housing Reports -Central Statistical Office, Zambia 2002 Uganda Population And Housing Census - Uganda Bureau of Statistics Central Statistical Office (2011), Living conditions Monitoring Survey Report 2006 and 2010 Central Statistical Office: 2000 Census of Population and Housing, Volume 10; Hill, K., Stanton, C., Gupta, N., Measuring maternal mortality from a census: Guidelines for potential users, in Measure Evaluation Manual Series 2001, University of North Carolina, Carolina Population Center: Chapel Hill, North Carolina, USA. Lucas D. and Meyer P. (1994): Beginning Population Studies, second edition; Australian Center for Development Studies. Ministry of Finance and National Planning, Annual Economic Report, 2010 Nsemukila, B.G., Phiri, D.S., Diallo, H.M., Banda, S.K., Benaya, W.K., Kitahara, N., A study of factors associated with maternal mortality in Zambia, 1998: Lusaka, Zambia. Preston H.S. et al. (2001), Demography measuring and modeling population processes. Blackwell publishing. United Kingdom Shryock H.S., Siegal J.S and Associates 1976,2004): The Methods and Materials of Demography condensed Edition; Academic Press Inc, New York, Shryock, H.S., Siegel, J.S., The Methods and Materials of Demography. Vol. Fourth. 1980, Washington D.C: US Bureau of the Census. Srinivasan K. (1997): Basic demographic Techniques and Applications; sage Publications, New Delhi UNICEF, Levels and Trends in Child Mortality, Report 2011, 2011, UNICEF: New York. United Nations (1973): The Determinants and Consequences of Population Trends, Volume I United Nations (2008), Principles and Recommendation for Population and Housing Censuses. Revision 2. New York United Nations, Manual X: Indirect Techniques for Demographic Estimation, 1983, United Nations: New York. United Nations, Principles and Recommendations for Population and Housing Censuses,, 2008: New York. US Census Bureau, Population Analysis with Microcomputers, 1994: Washington DC. Weeks J.R. (2005): Population: An introduction to Concepts and Issues; Wadsworth, Cengage Learning, Canada WHO, UNICEF, UNFPA & The World Bank, Trends in Maternal Mortality: 1990 to 2010, 2012: Geneva. World Health Organization (2010), Trends in Maternal Mortality: 1990 to 2008. WHO Library Cataloguing-in-Publication Data Jacob S. Siegel and David A Swanson (2004), The Methods and Materials of Demography 2nd Edition, Elsevier Academic Press, London, United Kingdom Altman BM and Barnartt SN, eds, 2006. International views on disability measures: moving toward comparative measurement. Oxford: Elesevier, 42-54. Central Statistical Office, 2005. 2000 Census of Population and Housing, Volume 10 Uganda Bureau of Statistics, 2006. The 2002 Population and Housing Census, Analytical Report, Abridged Version. Kampala, 136-139. WHO, 2011. World report on disability. Geneva: WHO Press, 21-47. (http://www.who.int/entity/disabilities/world_ report/2011/report/en/ pdf, accessed 3 February 2011) Altman BM and Barnartt SN, eds, 2006. International views on disability measures: moving toward comparative measurement. Oxford: Elesevier, 42-54. Central Statistical Office, 2005. 2000 Census of Population and Housing, Volume 10 Uganda Bureau of Statistics, 2006. The 2002 Population and Housing Census, Analytical Report, Abridged Version. Kampala,

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2010 CENSUS OF POPULATION AND HOUSING QUESTIONNAIRE





92 - 2010 Census of Population and Housing Questionnaire



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94 - 2010 Census of Population and Housing Questionnaire

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