The United Republic of Tanzania

FERTILITY AND NUPTIALITY 2015

2012 Population and Housing Census

Volume IV

NBS Vision
To be a preferable source of official statistics in Tanzania

NBS Mission
To facilitate informed decision-making process, through provision of relevant, timely and reliable user-driven statistical information, coordinating statistical activities and promoting the adherence to statistical methodologies and standards

For comments and suggestions, please contact:

Director General,
National Bureau of Statistics,
18 Kivukoni Road,
P.O. Box 796,
11992 Dar es Salaam – Tanzania.
Tel: +255 22 2122722/3
Fax: +255 22 2130852
Email: dg@nbs.go.tz
Website: www.nbs.go.tz

Chief Government Statistician,
Office of Chief Government Statistician,
P.O. Box 2321,
Zanzibar.
Tel: +255 24 2231869
Fax: +255 24 2231742
Email: zanstat@zanlink.go.tz
Website: www.ocgs.go.tz

The United Republic of Tanzania

Thematic Report on Fertility and Nuptiality

National Bureau of Statistics
Ministry of Finance
Dar es Salaam

And

Office of Chief Government Statistician
President's Office, Finance, Economy and
Development Planning
Zanzibar

May, 2015

UNITED REPUBLIC OF TANZANIA, ADMINISTRATIVE BOUNDARIES

Foreword

The 2012 Population and Housing Census (PHC) for the United Republic of Tanzania was carried out on the 26th August, 2012. This was the fifth Census after the Union of Tanganyika and Zanzibar in 1964. Other censuses were carried out in 1967, 1978, 1988 and 2002. The 2012 PHC, like previous censuses, will contribute to the improvement of quality of life of Tanzanians through the provision of current and reliable data for policy formulation, development planning and service delivery as well as for monitoring and evaluating national and international development frameworks.

The 2012 PHC is unique as the collected information will be used in monitoring and evaluating the Development Vision 2025 for Tanzania Mainland and Zanzibar Development Vision 2020, Five Year Development Plan 2011/12–2015/16, National Strategy for Growth and Reduction of Poverty (NSGRP) commonly known as MKUKUTA and Zanzibar Strategy for Growth and Reduction of Poverty (ZSGRP) commonly known as MKUZA. The Census will also provide information for the evaluation of the Millennium Development Goals (MDGs) in 2015. The Poverty Monitoring Master Plan, which is the monitoring tool for NSGRP and ZSGRP, mapped out core indicators for poverty monitoring against the sequence of surveys, with the 2012 PHC being one of them. Several of these core indicators for poverty monitoring are measured directly from the 2012 PHC. The Census provides a denominator for the determination of other indicators such as enrolment and literacy rates, infant and maternal mortality rates, unemployment rate and others.

The success of the census depended upon the cooperation and contributions from the Government, development partners, various institutions and the public at large. A special word of thanks should go to Government leaders at all levels, particularly Minister for Finance; Minister of State, President's Office, Finance, Economy and Development Planning, Zanzibar; Members of Parliament; Members of House of Representatives; Councilors; Regional and District Census Committees chaired by Regional and District Commissioners; Supervisors; Field Assistants; Enumerators; Local Leaders and Heads of households.

Our special gratitude should go to the following: UNFPA, DFID, Government of Japan, JICA, UNDP, , UNICEF, USAID, World Bank and other development partners for providing assistance in terms of equipment, long and short term consultancies, training and funding. We would like to thank religious and political party leaders, as well as Non-Governmental Organizations (NGOs),

mass media and the general public for their contribution towards the successful implementation of the Census.

Last but not least, we would wish to acknowledge the vital contributions to the project by the President of the United Republic of Tanzania, H.E. Dr. Jakaya Mrisho Kikwete, the President of Zanzibar, Hon. Dr. Ali Mohamed Shein, Hajjat Amina Mrisho Said, the 2012 Commissioner for PHC and Mr. Mwalim Haji Ameir, the Census Commissar for Zanzibar. Special thanks should also go to the Management and staff of the National Bureau of Statistics (NBS) and Office of Chief Government Statistician, Zanzibar (OCGS). Their commitment and dedication made significant contributions to the overall efficiency of the census operations. We would also like to convey our appreciation to all other Government Officials who worked tirelessly to ensure successful implementation of the 2012 PHC.

Hon. Mizengo Peter Pinda (MP),
Prime Minister, United Republic of Tanzania

Hon. Ambassador Seif Ali Iddi (MP and MHR),
Second Vice President, Zanzibar

May, 2015

Executive Summary

The 2012 Population and Housing Census (PHC) for the United Republic of Tanzania was carried out on the 26th August, 2012. This was the fifth Census after the Union of Tanganyika and Zanzibar in 1964. Other censuses were carried out in 1967, 1978, 1988 and 2002. This monograph on Nuptiality and Fertility provides a detailed analysis on nuptiality and fertility status as collected from the Census. Important findings from the report are summarized below:-

Fertility

Fertility Levels and Trends: The Total Fertility Rate in Tanzania is 5.5 per woman. This means that, at current fertility levels an average woman residing in Tanzania would have given 5.5 births by the end of her reproductive life. Fertility shows a fairly standard pattern observed in many developing countries. Rates start from low levels at very young ages (15-19), rising to a peak somewhere in the twenties, then declining gradually from thirties to forties. Although TFR of 5.5 is still high, the level decreased from 6.9 recorded in the 1978 Census which is equivalent to a reduction of 1.4 children per woman from 1978 to 2012.

Adolescent Fertility : Adolescent Fertility Rate is 81 per thousand women aged 15 – 19. Adolescent fertility contributed 1.6 percent of the total TFR in the country. Slightly less than a quarter (23.3 percent) had at least one birth at the time of the Census in 2012. Adolescent fertility is low in Tanzania Zanzibar (11.6/1,000 women aged 15 - 19) as compared to Tanzania Mainland (23.3/1,000 women aged 15 - 19). Early marriage seems to be a strong factor underlying adolescent fertility in the country. The relative contribution of adolescent fertility was highest in Mtwara, Lindi and Morogoro regions, where early marriages are common.

Fertility Differentials: Fertility levels differ widely in Tanzania. TFR for Tanzania Mainland (5.7 per woman) was relatively higher than that of Tanzania Zanzibar (5.2 per woman). TFR ranges from 8.5 for Geita to 3.6 for Dar es Salaam. In general regions around Lake Victoria, Western part and Pemba have higher rate of fertility than other regions in the country. A total fertility rate for rural areas (6.5) is relatively higher than that for urban areas (4.1).

Married women (including those living together) have higher fertility (6.8 births per woman) than the national average of 5.5 births per woman. The lowest TFR was recorded among the never married and widowed both at 3.0 births per woman.

Fertility is negatively associated with the educational attainment of the mother. Total Fertility Rate decreases from 7.0 for women with no education or who have attended pre-primary education only to 3.2 for women with tertiary education (university or related).

Women engaged in agricultural activities (farmers, livestock keepers and fishers) have the highest TFR (5.9) when compared to other occupations. Fertility levels were low among women engaged in occupations that require professional training or other skills.

Nuptiality

Marital Status: Marriage is almost universal in Tanzania. At age 50, the percentage of the population still single is only 7.2 percent for males and 11.9 percent for females. Over fifty percent of the population aged 15 years and above of both male and female were either married or leaving together at the time of the Census in August, 2012. The proportion of people who have never been married was relatively higher among the male population (38 percent) than the female population (33 percent). People living in rural areas were more likely to be married as than those in urban areas. The difference was more pronounced among women (61.1 percent in rural against 52.1 percent in urban) than among men (58.7 percent versus 53.1 percent respectively).

Widowhood and Divorce: Widowhood increases with age irrespective of sex, but with higher proportions among women. For males in age groups 50-54 years, 55-59 years and 60 years and over, the proportion widowed was 3.9 percent, 4.3 percent and 11 percent, respectively. The proportion widowed for females in corresponding ages was 7.3 percent, 9.5 percent and 30.8 percent, respectively. The percentages of divorced people are almost the same according to the place of residence for both sexes. However, the proportion of the widowed population was slightly higher in rural areas (3.2 percent) than in urban areas (4.7 percent).

Age at First Marriage: Males marry at a relatively older age as compared to females. The mean age at first marriage for males was 25.8 compared to 22.3 years for females. On average, mean age at first marriage was 24 years and was slightly higher in urban areas (25 years) than rural areas (23.3 years). Average mean age at marriage increased slightly for males from 24.9 to 25.8 years between 1978 and 2012 but increased by 3.2 years for females over the same period. Dar es Salaam Region had the highest mean age at marriage for both males (27.5 years) and females (24.4 years) followed by Urban West (26.8 years for males and 23.9 years for females) and Kilimanjaro (26.8 years for males and 23.9 years for females). The region with the lowest mean age at marriage was Rukwa (23.3 years for males and 19.9 years for females).

Population of Childless Women: About four percent (4.4) of the female population aged 45 – 49 were childless. The percentage of childless women in that age category was higher in Tanzania Zanzibar (5.2 percent) as compared to Tanzania Mainland (4.3 percent).

Summary of Key Indicators for Tanzania, Tanzania Mainland and Tanzania Zanzibar; 2012 Census

Region	TFR	CBR (per 1000 women)	Mean Children Ever Born(women 45-49 years)	Childless Women (45 to 49 Years) (%)	Mean Age at First Birth (years)	Adolescents with at Least One Birth (%)	Adolescent Fertility (Births per 1000 Women)	Mean Age at First Marriage (years)		Married/Living Together (%)	Never Married (%)	Separated/ Divorced (%)	Widowed (%)
								Male	Female				
Tanzania	**5.5**	**41.7**	**5.9**	**4.4**	**20.2**	**23.3**	**81.2**	**25.8**	**22.3**	**57.5**	**35.5**	**3.9**	**3.1**
Tanzania Mainland	**5.5**	**41.7**	**5.9**	**4.3**	**20.1**	**23.7**	**82.7**	**25.7**	**22.3**	**57.5**	**35.5**	**3.8**	**3.1**
Dodoma	5.9	41.7	6.2	3.4	19.9	26.5	94.0	24.8	21.1	62.1	30.2	4.2	3.4
Arusha	4.3	35.2	5.2	3.0	22.0	14.6	45.5	26.4	22.4	57.4	37.0	2.9	2.7
Kilimanjaro	4.3	29.8	5.1	3.6	22.0	13.7	43.2	26.8	23.9	56.2	35.7	3.6	4.5
Tanga	5.7	41.3	6.0	4.3	20.6	21.7	77.2	26.0	22.3	59.0	33.2	4.0	3.8
Morogoro	4.9	37.6	5.6	4.5	19.7	27.4	98.2	25.5	21.8	58.4	33.9	4.5	3.2
Pwani	4.7	35.7	5.5	3.9	20.1	25.0	79.8	26.0	22.5	58.0	33.0	4.9	4.0
Dar es Salaam	3.6	36.7	4.5	5.8	23.1	12.0	37.7	27.5	24.4	49.1	44.5	4.2	2.3
Lindi	4.6	34.9	5.4	6.9	19.5	28.6	98.9	25.1	21.7	61.8	29.4	5.4	3.4
Mtwara	4.1	32.1	4.7	5.9	19.3	30.0	99.6	24.2	21.5	63.0	28.0	5.7	3.2
Ruvuma	4.9	36.8	5.4	4.3	19.4	29.3	93.7	24.5	21.3	62.6	31.4	3.2	2.8
Iringa	4.6	35.3	5.5	3.8	21.3	15.9	53.7	25.7	22.4	58.6	34.8	2.9	3.6
Mbeya	5.1	40.5	5.9	5.0	20.1	22.3	90.4	24.6	21.1	60.2	33.0	3.4	3.4
Singida	7.4	48.0	6.6	4.7	19.6	24.4	90.2	25.8	21.7	59.4	33.4	3.3	3.9
Tabora	7.0	49.6	6.6	3.7	19.0	36.5	127.1	25.7	22.1	56.6	36.8	3.7	2.9
Rukwa	7.3	52.0	7.1	3.2	18.9	30.7	127.0	23.3	19.9	66.2	28.7	3.0	2.1
Kigoma	7.3	48.4	7.1	3.0	20.2	22.0	82.2	25.2	22.6	55.8	36.3	4.1	3.8
Shinyanga	6.1	44.1	6.2	4.4	19.5	31.2	96.8	26.0	22.4	55.8	37.5	3.8	2.9
Kagera	6.4	44.2	6.8	3.1	20.3	20.5	78.3	24.4	21.0	61.3	31.4	4.2	3.1
Mwanza	6.7	48.2	6.6	4.5	20.1	26.2	87.6	26.1	22.8	54.4	38.7	4.0	2.9
Mara	7.0	49.0	6.4	4.7	19.0	30.5	119.4	25.6	21.4	58.4	35.4	2.8	3.4
Manyara	6.3	41.6	6.7	2.8	20.9	19.5	70.2	25.8	21.9	58.6	34.8	3.3	3.4
Njombe	4.2	33.4	5.3	4.3	21.5	15.2	50.9	25.2	22.1	59.9	33.6	2.7	3.8
Katavi	7.4	51.1	6.9	4.0	18.4	36.8	140.3	24.7	20.9	62.0	32.8	3.0	2.3
Simiyu	7.9	52.2	6.9	3.5	19.4	32.1	101.3	26.9	23.3	53.7	40.2	3.1	3.1

Region	TFR	CBR (per 1000 women)	Mean Children Ever Born(women 45-49 years)	Childless Women (45 to 49 Years) (%)	Mean Age at First Birth (years)	Adolescents with at Least One Birth (%)	Adolescent Fertility (Births per 1000 Women)	Mean Age at First Marriage (years)		Married/Living Together (%)	Never Married (%)	Separated/ Divorced (%)	Widowed (%)
								Male	Female				
Geita	8.5	56.9	6.9	4.4	18.9	31.6	125.0	25.1	21.5	58.7	35.5	3.6	2.3
Tanzania Zanzibar	**5.2**	**38.9**	**6.5**	**5.2**	**22.9**	**11.6**	**35.6**	**26.3**	**23.3**	**57.1**	**36.2**	**4.6**	**2.1**
Kaskazini Unguja	5.5	38.8	6.5	6.1	22.9	10.9	29.1	26.0	23.3	57.6	35.4	4.5	2.6
Kusini Unguja	4.8	38.4	6.4	4.0	21.9	17.5	47.9	25.7	22.0	60.4	31.8	5.7	2.1
Mjini Magharibi	4.3	36.0	5.9	5.9	23.7	9.3	26.1	26.8	23.9	54.8	38.4	4.9	1.9
Kaskazini Pemba	7.3	46.3	7.1	4.7	21.8	13.0	46.9	25.4	22.3	60.0	34.1	3.6	2.3
Kusini Pemba	7.4	48.4	7.7	2.7	22.7	14.8	58.6	25.5	22.5	59.4	34.6	3.9	2.2

Table of contents

Foreword ..... **ii**

Executive Summary ..... **iv**

Summary of Key Indicators for Tanzania, Tanzania Mainland and Tanzania Zanzibar; 2012 Census ..... **vii**

Table of contents ..... **ix**

List of Tables ..... **xii**

List of Figures ..... **xiv**

List of Maps ..... **xiv**

Chapter One 1

Introduction 1

1.1 Background on 2012 Population and Housing Census 1

1.2 Objectives of the 2012 PHC 2

1.3 Objectives of Fertility and Nuptiality Monograph 2

1.4 Sources of Fertility and Nuptiality Data ..... **Error! Bookmark not defined.**

1.4.1 Other Sources of Fertility Data ..... **Error! Bookmark not defined.**

1.4.2 Population and Housing Census ..... **Error! Bookmark not defined.**

1.4.3 Household Sample Surveys ..... **Error! Bookmark not defined.**

1.5 Census Questions on Fertility and Nuptiality 3

1.6 Limitation of Fertility Data from the Census 4

1.7 Quality of Nuptiality and Fertility Data ..... **Error! Bookmark not defined.**

1.8 Concepts and Definitions 5

1.9 Linkage between Nuptiality and Fertility 9

Chapter Two 11

Nuptiality 11

2.1 Introduction 11

2.2 Measures of Nuptiality ..... **Error! Bookmark not defined.**

2.2.1 Marital Status by Age and Sex 11

2.2.2 Marital Status by Place of Residence 14

2.2.3 Age Sex-Specific Marriage Rates 19

2.2.4 Singulate Mean Age at First Marriage 20

2.2.5 Mean Age at First Birth 23

Chapter Three **26**
Fertility Levels, Trends and Patterns **26**
3.1 Introduction 26
3.2 Fertility Estimation ..... **Error! Bookmark not defined.**
3.3. Determination of a Most Likely Estimate of Fertility for 2012 26
3.4 Fertility Measures, Levels and Trends 29
3.4.1 Measures of Fertility 29
3.4.2 Fertility Levels 29
3.4.2.1 Total Fertility Rate 29
3.4.2.2 Crude Birth Rate 32
3.4.2.3 General Fertility Rate 34
3.4.2.4 Gross Reproduction Rate 34
3.5 Fertility Trends 35
3.5.1 Total Fertility Rate 35
3.5.2 Adjusted Crude Birth Rate 37
3.6 Fertility Patterns 38
3.6.1 Age-Specific Fertility Rates 38

Chapter Four **40**
Fertility Differentials **40**
4.1 Introduction 40
4.2 Fertility by Age 40
4.3 Fertility by Marital Status 41
4.4 Fertility by Education Level 42
4.5 Fertility by Occupation 43
4.6 Fertility by Region and Residence 44
4.6.1 Total Fertility Rates by Region and Residence 44
4.6.2 Average Parity by Region and Residence 46

Chapter Five **47**
Adolescent Fertility **47**
5.1 Introduction 47
5.2 Levels of Adolescent Fertility 47
5.2.1 Contribution of Adolescent Fertility to Total Fertility Rate 49

5.3 Adolescent Fertility Differentials 51
5.3.1 Education Status 51
5.3.2 Residence 53

Chapter Six 55
Lifetime Fertility 55
6.1 Introduction 55
6.2 Mean Number of Children Ever Born 55
6.3 Parity Distribution and Progression Ratios 57
6.3.1 Parity Distribution 57
6.3.2 Parity Progression Ratios 58
6.4 Population of Women who are Childless 59

Chapter Seven 61
Summary, Conclusion and Brief Policy Implications 61
7.1 Introduction 61
7.2 Nuptiality 61
7.3 Fertility Patterns, Levels, Trends and Differentials 62
7.3.1 Patterns and Levels 62
7.3.2 Fertility Trends 63
7.3.3 Fertility Differentials 63
7.3.4 Adolescent Fertility 64
7.3.5 Lifetime Fertility 64

References 65

Appendices 67
Estimation and Adjustment of the 2012 PHC Fertility Data 67
Direct Estimates of Age-specific and Total Fertility Rates 67
The P/F Ratio Technique 68
The Relational Gompertz Technique 69
Arriaga's Technique 69
The Synthetic Intercensal P/F Ratio Technique 69
The Own-Children Technique 69

Determination of a Most Likely Estimate of Fertility for 2012 70

Summary of Results of Methods Used to Determine a Most Likely Total Fertility Rate from the 2012 Census..... 70

Total Fertility Rate Estimates from Censuses and Surveys Data, 1982 71

Appendix I: Mean Number of Children Ever Born 2002 and 2012 ..... **72**

Appendix II: Adjusted Age Specific Fertility Rates, 2012 ..... **72**

Appendix III: Mean Number of Children Ever Born by Region, 2012 ..... **73**

Appendix IV: Major Indicators of Fertility and Nuptiality in Tanzania, 2012 ..... **74**

Appendix V: Recorded and Adjusted Crude Birth Rate by Region, 1967-2012 Censuses..... **75**

Appendix VI: Child Woman Ratio by Region **76**

Appendix VII: Mean at First Marriage and Age First Birth by Region and District **77**

Annex: Questionnaires..... 82

Annex 1: Short Questionnaire 82

Annex 2: Long Questionnaire 89

List of Tables

Table 2.1: Percentage Distribution of Population Aged 15 Years and Above by Marital Status and Sex; Tanzania, 2012 Census 12

Table 2.2: Percentage of Distribution of Population Aged 15 Years and Above by Census Year, Sex and Marital Status; Tanzania, 2012 Census 12

Table 2.3: Percentage Distribution of Population Aged 15 Years and Above, by Age, Sex and Marital Status; Tanzania, 2012 Census 13

Table 2.4: Percentage Distribution of Population Aged 15 Years and Above by Sex, Marital Status and Rural-Urban Residence; Tanzania, 2012 Census 14

Table 2. 5: Percentage Distribution of Never Married Population Age 15 Years and Above by Five Years Age Groups, Rural – Urban Residence and Sex; Tanzania, 2012 Census 15

Table 2.6: Percentage Distribution of Married or Living Together Population Age 15 Years and Above by Five Years Age Groups, Rural – Urban Residence and Sex; Tanzania, 2012 Census 15

Table 2.7: Percentage Distribution of Divorced or Separated Population Age 15 Years and Above by Five Years Age Groups, Rural – Urban Residence and Sex; Tanzania,2012 Census 16

Table 2.8: Percentage Distribution of Widowed Population Age 15 Years and Above by Five Years Age Groups, Rural – Urban Residences and Sex; Tanzania, 2012 Census 16

Table 2.9: Percentage Distribution of Never Married Population Age 15 Years and Above by Five Years Age Groups; Tanzania, 1978-2012 Censuses 17

Table 2.10: Percentage Distribution of Married Population Age 15 Years and Above by Five Years Age Groups and Sex; Tanzania, 1978-2012 Censuses 18

Table 2.11: Percentage Distribution of Divorce Population Aged 30 Years and Above by Five Years Age Groups and Sex; Tanzania, 1978-2012 Censuses 18

Table 2.12: Percentage Distribution of Widowed Population Aged 30 Years and Above by Five Years Age Groups and Sex; Tanzania, 1978-2012 Censuses 19

Table 2.13: Age-Sex Specific Marriage Rate for Population Age 15 Years and Above by Five Years Age Group, Place of Residence and Sex; Tanzania, 2012 Census 20

Table 2.14: Average Age at First Marriage by Sex and Average Age at First Birth by Place of Residence; Tanzania, 2012 Census 25

Table 3.1: Summary of Results of Methods Used to Determine a Most Likely Total Fertility Rate from the 2012 Census; Tanzania, 2012 Census 27

Table 3.2: Reported and Estimated Total Fertility Rates; 2012 Census; Tanzania, 2012 Census .. 30

Table 3.3: Estimated Crude Birth Rates, General Fertility Rates, Gross Reproduction Rates and Net Reproduction Rates; Tanzania, 2012 Census 33

Table 3.4: Estimated Total Fertility Rate by Region, Tanzania; 1967-2012 Censuses.....36

Table 3.5: Crude Birth Rate Trend, Tanzania, Tanzania Mainland and Tanzania Zanzibar; 1988-2012 Censuses 37

Table 3.6: Recorded and Adjusted Age Specific Rate; Tanzania, 2012 Census 38

Table 4.1: Urban Age Specific Fertility as a Proportion of Total ASFR; Tanzania, 2012 Census . 41

Table 4.2: Recorded Total Fertility Rates by Occupation of Woman; Tanzania, 2012 Census..44

Table 4. 3: Estimated Total Fertility Rate by Region; Tanzania, 2002 and 2012 Censuses 45

Table 4.4: Reported Average CEB by Region and Residence; Tanzania, 2012 Census.....46

Table 5.1: Adolescent Fertility Rate; Tanzania, 2012 Census 48

Table 5.2: Percentage of Adolescents with at Least One Birth by their Education Attainment; Tanzania, 2012 Census.....51

Table 5.3: Percentage of Adolescents with at Least One Birth by Education Attainment of the Household Head; Tanzania, 2012 Census.....52

Table 5.4: Percentage Distribution of Adolescents with at Least One Birth by Residence; Tanzania, 2012 Census.....53

Table 5.5: Percentage of Adolescent with at Least One Birth by Region and Rural – Urban Residence; Tanzania, 2012 Census 54

Table 6.1: Mean Number of Children Ever Born by Region; Tanzania, 2012 Census 56

Table 6.2: Percentage Distribution of Women Five year's Age group 15 - 49 by Total Children Ever Born_1+; Tanzania, 2012 Census. 57

Table 6.3: Percentage Distribution of Women Five year's Age group 15 - 49 by Total Children Ever Born_1+; Tanzania Rural, 2012 Census. 58

Table 6.4: Percentage Distribution of Women Five year's Age group 15 - 64 by Total Children Ever Born_1+; Tanzania Urban, 2012 Census. 58

Table 6.5: Parity Progression Ratios by Age, Residence; Tanzania, 2012 Census 59

Table 6.6: Percentage Distribution of Women Who are Childless Age 45 to 49 by Place of Residence; Tanzania, 2012 Census 60

List of Figures

Figure 2.1: Mean Age at First Marriage in Years by Place of Residence and Sex; Tanzania, 2012 Census 21

Figure 2.2: Mean Age at First Marriage by Sex; Tanzania, 1978 – 2012 Censuses 23

Figure 3.1:Total Fertility Rate Estimates from Censuses and Surveys Data; Tanzania, 2012 Census 27

Figure 3.2: Total Number of Births in the Last 12 Months Preceding the Census by Age Group; Tanzania, 2012 Census 32

Figure 3.3: Total Fertility Rates for Tanzania, Tanzania Mainland and Tanzania Zanzibar; 1967 – 2012 Censuses 35

Figure 3.4: Age-Specific Fertility Rates for Tanzania; 1988-2012 Census 39

Figure 4.1: ASFR by Residence; Tanzania, 2012 Census 40

Figure 4.2: Fertility Differentials by Marital Status; Tanzania, 2012 Census 42

Figure 4.3: Fertility Differentials by Education Level; Tanzania, 2012 Census 43

Figure 6.1: Pattern of Mean Number of Children Ever Born by Women; Tanzania, 2012 Census 57

List of Maps

Map 2.1: Mean Age at First Marriage in Years by Place of Residence and Sex; Tanzania, 2012 Census 22

Map 3. 1: Estimated Total Fertility Rates by Region; Tanzania, 2012 Census 31

Map 5.1: Percentage Contribution of Adolescent Fertility to TFR by Region; Tanzania, 2012 Census 50

List of Abbreviations

AFR	-	Adolescent Fertility Rate
ASMRs	-	Age-sex Specific Rates are General Marriage Rates
ASFR	-	Age-Specific Fertility Rate
CBR	-	Crude Birth Rate
CEB	-	Children Ever Born
CMR	-	Crude Marriage Rate
DHS	-	Demographic and Health Survey
EA	-	Enumeration Area
EAC	-	East African Community
FLE	-	Family Life Education
GFR	-	General Fertility Rate
GMR	-	General Marriage Rate
GRR	-	Gross Reproduction Rate
MDGs	-	Millennium Development Goals
MKUZA	-	Mpango wa Kupumguza Umasikini Zanzibar
NBS	-	National Bureau of Statistics
NHIF	-	National Health Insurance Fund
NSGRP	-	National Strategy for Growth and Reduction of Poverty
NRR	-	Net Reproduction Rate
OCGS	-	Office of Chief Government Statistician
OMR	-	Optical Mark Reader
PHC	-	Population and Housing Census
PPR	-	Parity Progression Ratio
SMAM	-	Singulate Mean Age at Marriage
TFR	-	Total Fertility Rate
THMIS	-	Tanzania HIV/AIDS and Malaria Indicator Surveys
UN	-	United Nations
UNDP	-	United Nations Development Programme
UNFPA	-	United Nation Population Fund

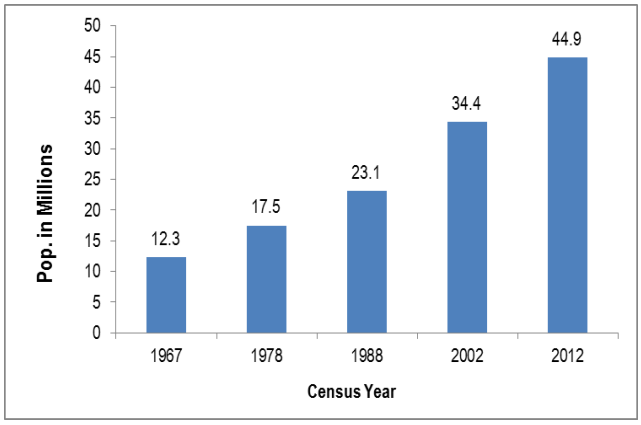
UNICEF	-	United Nations Population Fund
URT	-	United Republic of Tanzania
USAID	-	United States Agency for International Development
WHO	-	World Health Organization
ZSGRP	-	Zanzibar Strategy for Growth and Reduction of Poverty

Chapter One
Introduction

1.1 Background on 2012 Population and Housing Census

The 2012 Population and Housing Census (PHC) for the United Republic of Tanzania was executed under the provision of the Statistics Act No. 1, of 2002. This was the fifth Census after the Union of Tanganyika and Zanzibar in 1964 and was conducted in accordance with the United Nations Principles and Recommendations for population counts. Other censuses were carried out in 1967, 1978, 1988 and 2002. The census was undertaken on a *de-facto* basis and the reference was the night of 25th/26th August, 2012. Like the previous censuses, the 2012 PHC enumerated people by the place of residence on the census night. All persons found within the country were enumerated, regardless of their nationalities or citizenship and diplomats were enumerated for the first time in the history of census undertaking in Tanzania. The enumeration continued for two weeks, from 26th August to 8th September 2012. The last week was mainly dedicated to enumerating populations that were difficult to reach and sorting of completed questionnaires in preparation for their dispatch to the Data Processing Center.

Data collected by the censuses show that Tanzania's population increased from 12.3 million in 1967 to 44.9 million persons in 2012. The average annual growth rate, however has decreased from 3.3 percent annually between 1967 and 1978 to 2.7 percent in the 2002 - 2012 period.



1.2 Objectives of the 2012 PHC

The 2012 PHC provides the government with information on the size, distribution, composition and other social economic characteristics of the population as well as information on housing conditions. This information is important in providing updated benchmark data for the formulation, implementation, monitoring and evaluation of population programmes and policies, including Tanzania Development Vision 2025 and Vision 2020 for Tanzania Zanzibar, Five Year Development Plan 2011/12–2015/16, National Strategy for Growth and Reduction of Poverty (NSGRP) commonly known as MKUKUTA and Zanzibar Strategy for Growth and Reduction of Poverty (ZSGRP) commonly known as MKUZA. The Census was also supposed to provide information for the evaluation of progress towards achieving Millennium Development Goals number two and five of (MDGs) in 2015. The Poverty Monitoring Master Plan, which is the monitoring tool for NSGRP and ZSGRP, mapped out core indicators for poverty monitoring against the sequence of surveys, with the 2012 PHC being one of them. Several of these core indicators for poverty monitoring are measured directly from the 2012 PHC. The Census provides a denominator for the determination of other indicators such as fertility levels and trends, enrolment and literacy rates, infant and maternal mortality rates, unemployment rate and others.

1.3 Purpose of Fertility and Nuptiality Monograph

Generally the purpose of this monograph are to determine the levels, patterns and trends of fertility and nuptiality and in particular it seeks to:

1) Analyze marriage and nuptiality levels and trends;
2) Examine nuptiality differentials by residence and social characteristics;
3) Analyze the level and trends of fertility;
4) Determine fertility differentials by residence and social characteristics; and
5) Suggest policy recommendations.

In this monograph, various measures or indices of fertility levels and trends analyzed are: average parities; Total Fertility Rate (TFR); Age-Specific Fertility Rate (ASFR); Crude Birth Rate (CBR) and Age Specific Parity. Moreover, fertility differentials were estimated with respect to place of residence, marital status, education attainment, and occupation of the respondents. Nuptiality estimates are obtained from data on marital status. An analysis of nuptiality levels and trends has been based on proportions of different marital statuses as portrayed in the census data. In order to reduce substantial errors inherent in such direct estimates of fertility levels and trends, indirect techniques were used to adjust some of the measures and indices.

1.4 Census Questions on Fertility and Nuptiality

Overall, the 2012 PHC asked more questions about nuptiality and fertility than the 2002 Census. In measuring nuptiality and fertility in the 2012 Census, questions on nuptiality for the two censuses were exactly the same with seven categories of marital status. On fertility, the questions on children ever born were also the same for the two censuses but for current fertility there were two questions in 2012 Census against one question in 2002 PHC. The question asked in the 2002 Census was how many male/female were born alive in the last 12 months while for the 2012 Census the questions asked were how many male/female children were born alive in the last 12 months and how many male/female children were born alive in the last 12 months and are still alive. The essence of the second question asked in 2012 Census was to cross-check the information to ensure that no inclusion of still birth or late fetal births were included in the data collected for fertility.

1.5 Quality of Fertility and Nuptiality Data

Census data in Tanzania like many other developing nations is faced with coverage and content errors, which vary both in nature and magnitude from one region to another. Coverage errors result from omission of certain pockets of the population, while content errors pertain to misreporting or misclassification of events. Although efforts were made to generate complete and accurate data on fertility and nuptiality, some common problems of censuses in developing countries remain and have to be managed in this analysis. Such problems include over-reporting of live births by younger women, under-reporting of live births by older women, age and event misreporting.

Fertility estimates in this monograph are based on current and lifetime fertility data, while nuptiality estimates are obtained from data on marital status. Errors that affect current fertility data include age misreporting, omission of births, incorrect dating of recent births or reference period error and use of short time period which raise uncertainties in the reported fertility levels due to sample variability of observed numbers of births.

Errors that affect the lifetime fertility data include the possible misstatement of the age of women especially in their earlier lifetime fertility, under-reporting of births of women above 35 years and unmarried adolescents who would not like to be reported as mothers. Other errors in the reported births are the omission of births by older women mainly due to memory lapse, especially of those births that ended in the early death of the child. Older women also tend to forget grown-up children, those born to another husband or man, children who left the household soon after birth and children not present at home for various reasons. Also, errors in such data can and do occur due to wrongful inclusion of still births and late fetal deaths. There are also factors that may tend to inflate the number of births, for example the inclusion of step or adopted children or grandchildren, the inclusion of dead children, and non-inclusion of parity of a sizeable proportion of women who did not state their parities, or a dash or a space left blank (UN, 1983).

Age and sex structure of the population is also important in explaining levels, trends and patterns of fertility and nuptiality. Hence, the quality of age data is assessed mainly by examining the extent of age misreporting and age heaping by women of reproductive age. Furthermore, examining average parities, parity distributions and proportion childless will give further insights into the quality of reporting of fertility data for various cohorts. The quality of nuptiality data, on the other hand, is influenced by individual perceptions. The validation of such data is embedded in the cultural norms and practices that determine respondent's perceptions and engagement into various marital

statuses and conditions. Given the possibilities of these distortions, caution needs to be taken in interpreting the reported data. In this situation, indirect techniques cannot be avoided.

1.8 Concepts and Definitions

General

Age is the number of years one had lived as at last birthday in reference to the census night.

Census Night is a reference night of the census. Reference night for Tanzania 2012 Population and Housing Census was the night of 25^{th} /26^{th} August 2012.

Urban Area - Countries differ in their definitions of urban, although it is fairly common for the urban population to consist of those living in towns and cities of a few thousand persons or more especially if the population of such areas is largely non-agricultural. For the purpose of the 2012 PHC, urban population consists of people living in areas legally recognized (gazetted) as urban and all areas recognized by Local Government Authorities as urban.

Population Growth Rate is the fractional rate at which the number of individuals in a population increases. It specifically refers to the change in population over a unit time period, often expressed as a percentage of the number of individuals in the population at the beginning of that period.

Household refers to a person or group of persons who reside in the same homestead or compound but not necessarily in the same dwelling unit, have the same cooking arrangements, and are answerable to the same household head, except for a collective household.

Head of Household is a person who is acknowledged as such by other household members.

Nuptiality

Crude Marriage Rate (CMR) measures the incidence of marriage and is defined as the marriages per one thousand of the total population. The CMR is calculated by the following formula:

$$\text{CMR}=\frac{M}{P}*1000$$

Where M is number of marriages persons and P is the total population

Divorced Persons are those persons who were once married but their marriages were permanently terminated and have not remarried. Note that in polygamous marriages the divorce of one or more wives does not categorize the husband as divorced if he still lives with the other wife (wives).

The General Marriage Rate (GMR) is the measure of the marriages per one thousand of the marriageable age population.

$$GMR=\frac{M}{P_{15+}}*1000$$

Where M is number of married persons and P_{15+} is total population at age 15 and above

Living Together - Persons in consensual unions or socially recognized stable unions.

The Mean Age at First Birth is defined as the average length of single life expressed in years among those who experienced child-bearing before age 50.

Step 1: Calculation of the person years lived in a childless state, denoted by A where

$$A= 15 + \sum_{x=15-19}^{45-49} S_x * 5$$

Where S_x = Proportional childless in the age group x

Step 2: Estimation of the proportion of the remaining childless at age 50, denoted by B where

$$B=\frac{(S_{45-49}+S_{50-54})}{2}$$

If the proportion women childless in age group 50-54 is not available, then $B= S_{45-49}$

Step 3: Estimation of the proportional childless by age 50, denoted by C, i.e. C=1-B

Step 4: Calculation of the number of person-years lived by proportion childless, denoted by D, i.e. D=50*B

Step 5: Calculation of Mean age at first birth= $\frac{(A-D)}{C}$

Married - Persons who are formally married irrespective of the type of marriage, which may be customary, civil or religious marriage.

Singulate Mean Age at Marriage (SMAM) is defined as the average length of single life expressed in years among those who marry before age 50.The Singulate Mean Age at Marriage is calculated from data on the proportion never married by age and sex by using the following formula:

Step 1: Calculation of the person years lived in a single state, denoted by A

$$A= 15 + \sum_{x=15-19}^{45-49} S_x * 5$$

Where S_x = Proportion single in the age group x

Step 2: Estimation of the proportion of the remaining single at age 50, denoted by B

$$B=\frac{(S_{45-49}+S_{50-54})}{2}$$

If the proportion single in age group 50-54 is not available, then B= S_{45-49}

Step 3: Estimation of the proportion ever married by age 50, denoted by C i.e. C=1-B

Step 4: Calculation of the number of person-years lived by proportion not married, denoted by D, i.e. D=50*B

Step 5: Calculation of SMAM= $\frac{(A-D)}{C}$

Never Married: Persons who have remained single all their lives excluding persons who have lived with another person and are now living alone.

Separated:- Persons who were once married but now are living apart. Those who live apart because their spouses are employed far away from home or for similar reasons are considered to be in union (married or living together).

Widowed - Persons whose marriages were terminated by death and have not remarried since. However, in polygamous marriages the death of one or more wives does not make the husband a widower if he still has another wife (wives).

Fertility

Adolescent Fertility rate is the number of births per 1,000 women ages 15-19.

Age Specific Fertility Rate is calculated as number of births in a year to mothers of a specific age per woman (or per 1000 women) of the same age at midyear. ASFR is usually calculated for women in each 5-year age group for ages 15-49 years.

ASFRa = (Ba/Ea) x1000

Where:

Ba = number of births to women in age group a in a given year or reference period; and

Ea =number of person-years of exposure in age group a during the specified reference period

Children Ever Born (CEB) to women in a particular age group is the mean number of children born alive to women in that age group. The number of children ever born to a particular woman is a measure of her lifetime fertility experience up to the moment at which the data are collected.

Childlessness is the condition of being without children. Two distinguished types of childlessness are voluntary and involuntary. Voluntary childlessness is a consequence of having made a decision not to reproduce. To be childlessness not by choice is defined as involuntary childlessness.

Crude Birth Rate (CBR): The CBR is defined as the number of births in a year divided by the mid-year population, multiplied by 1000. While all other indices are derived by using births of women in childbearing age, the indicator on CBR includes all births in the population including from women outside the reproductive age group 15 – 49.

$$\frac{B}{P} x 1000$$

Where **B** is births in a year, **P** is the total population or mid-year population. The CBR is a general indicator of fertility in a population or country or a particular area.

Current Fertility refers to the total number of live births in the year preceding the census date, of women of reproductive age (15-49 years).

General Fertility Rate (GFR) is defined as the number of live births per 1,000 women aged 15-49 years in a population per year represented as:

$$\frac{B}{P_{f15-49}} x\ 1000$$

Where **B** is the number of births in a year and P_{f15-49} is the number of women aged 15 to 49 years.

Gross Reproduction Rate (GRR) is the measure analogous to the total fertility rate, but it refers only to female births. Thus, it is derived as the same manner of TFR but uses a set of Age-Specific Fertility Rates calculated based on female births only.

GRR = TFR x Proportion of Births that are female

Live Birth is defined as the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy, which after separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such a birth is considered live-born.

Net Reproduction Rate (NRR) is the average number of daughters that would be born to a female (or a group of females) if she passed through her lifetime conforming to the age-specific fertility and mortality rates of a given year. This rate is similar to the gross reproduction rate but takes into account that some females will die before completing their childbearing years

Total Fertility Rate (TFR)

TFR is the average number of children that would be born to a woman by the time she ended her child-bearing if she were to pass through all her childbearing years conforming to the age-specific fertility rates of a given year. TFR is the sum of the age-specific fertility rate (ASFR) for women aged 15-49, in 5-year age intervals.

TFR is calculated as 5*∑ASFRs where there are 5-year age groups

Or ∑ASFRs per singe year 15 to 49

Parity is the number of children born alive to a woman.

Parity Progression Ratio (PPR) is the probability of having another child given that the mother has reached certain parity. PPRs are usually represented as a0, a1, a2 and so on. The term a0 is a measure of infertility. Women progressing to higher parities usually have high fertility rates. Zero parity women are those with no live births and single parity refers to those women who have one child and so on. PPR can be calculated by using the following formula:

$$a_x = \frac{Women\ with\ at\ least\ x+1\ children\ ever\ born}{Women\ with\ at\ least\ x\ children\ ever\ born}$$

1.9 Linkage between Nuptiality and Fertility

The analysis of nuptiality trends and differentials contribute to our understanding of fertility trends and differentials because most childbearing occurs within marriage. Changes in fertility are usually conditioned by differences in the proportions marrying and age at marriage. Marriage is one of the proximate determinants of fertility (Bongaarts, 1978). Marriage at later ages allows women to prolong their education and delay first births, and such women tend to have fewer children. Divorce, separation or widowhood also have an impact on fertility. Divorce reduces the proportion of the reproductive period during which women are exposed to intercourse and consequently tend to have a depressing effect on fertility. Also, marital dissolution tends to reduce fertility if re-marriage is infrequent or delayed.

Studies also suggest that women in polygynous marriages have a lower fertility than women in monogamous marriages. The analysis carried out on census data from several countries, found a negative relationship between polygyny prevalence and community fertility.

In general, age at marriage, form of marriage, duration of marriage, divorce and widowhood all determine the woman's period of exposure to child-bearing and therefore the level of fertility. A woman who marries at the age of thirty-five years is very unlikely to produce more than one or two children because of declining fertility with age, while a girl who marries at the age of eighteen years would have the potential to produce ten children by age thirty-five.

Chapter Two

Nuptiality

2.1 Introduction

Nuptiality status is one of the basic population characteristics generally determined in population censuses and household surveys. Nuptiality refers to marriage as a population phenomenon, including the rate at which it occurs, the characteristics of persons united in marriage, and the dissolution of such unions through divorce, separation and widowhood. The institution of marriage is, therefore, a milestone stage in the growth of human evolution.

In the 2012 PHC, marital status referred to personal status of each individual in relation to defined six categories: Never married, married, living together, divorced, separated and widowed. The question was: "*What is the current marital status of* [NAME]?"

The analysis of marital status and nuptiality is important in helping to understand the social dynamics of a society and how it changes over time. Indeed, marriage is the major determinant of fertility, especially in a country such as Tanzania where the large majority of children are born in wedlock. Thus, knowing how many people are in union or not and at what age they tend to get married enables us to understand more about the dynamics of the population. In addition, the comparison of the distribution of marital status at different periods provides information on how a society is evolving.

2.2 Marital Status by Age and Sex

Table 2.1 shows the marital status of persons aged 15 years and above in the 2012 PHC. Fifty seven (57 percent) of the male population aged 15 years and above were in union (50.5 and 6.3 percent married or living together respectively) which was slightly higher than that for females (58 percent, including 51.6 percent married and 6.5 living together). The proportion of people who have never been married was significantly higher among the male population (38 percent) than among the female population (33 percent). The majority of never married persons are in younger age groups which explains the relatively high percentage of unmarried population (38 for male and 33 for female).

The proportion of married male population in Tanzania Mainland (50.4 percent) was almost the same as that for Tanzania (50.5 percent), while the proportion of married males was higher in

Tanzania Zanzibar (56.4 percent) compared to Tanzania and Tanzania Mainland. Results further show extremely low proportions of person living together in Tanzania Zanzibar (0.6 and 0.7 percent for males and females respectively) compared to those in Tanzania Mainland (6.5 and 6.7 for males and females respectively). The proportion of females who were divorced in Tanzania Zanzibar was higher (5.6 percent) than that for Tanzania Mainland (3.4 percent) which may be explained by major differences in religious belief between the Mainland and Zanzibar.

Table 2.1: Percentage Distribution of Population Aged 15 Years and Above by Marital Status and Sex; Tanzania, 2012 Census

Marital status	Tanzania		Tanzania Mainland		Tanzania Zanzibar	
	Male	Female	Male	Female	Male	Female
Total	**11,654,542**	**12,938,491**	**11,310,935**	**12,547,931**	**343,607**	**390,560**
Never married	38.3	33.0	38.3	32.9	38.8	34.0
Married	50.5	51.6	50.4	51.5	56.4	56.5
Living together	6.3	6.5	6.5	6.7	0.6	0.7
Divorced	2.3	3.5	2.3	3.4	2.9	5.6
Separated	0.7	1.2	0.7	1.2	0.2	0.3
Widowed	1.9	4.2	1.9	4.3	1.2	2.9

Table 2.2 compares the percentage distribution of population aged 15 years and above by marital status in 1978, 1988, 2002 and 2012 PHCs. Major observation from the results is the patterns of males versus females. While male patterns have remained more or less unchanged since 1978 in all statuses, females show major change in never married and widowed categories. The percentage of never married females has more than doubled over the period and the percentage of widowed females dropped from 9.1 percent in 1978 to 4.2 percent in 2012. Doubling of never married females may be associated with development in the education sector whereby girls are increasingly getting equal opportunities in education and spending more years in schools as compared to three decades ago.

Table 2.2: **Percentage of Distribution of Population Aged 15 Years and Above by Census Year, Sex and Marital Status; Tanzania, 2012 Census**

Census Year	Male				Female			
	Never married	Married	Divorced	Widowed	Never married	Married	Divorced	Widowed
1978	33.2	61.4	3.7	1.7	15.5	69.5	5.8	9.1
1988	38.3	57.0	3.1	1.6	21.5	63.8	6.2	8.5
2002	39.2	56.1	3.2	1.5	24.5	60.1	6.7	8.6
2012	38.3	56.8	3.0	1.9	33.0	58.1	4.7	4.2

Table 2.3 and Figure 2.1 present the percentage of population aged 15 and above by marital status, age and sex from the 2012 Census. Marriage is associated with the individual's age, and hence, the distribution by marital status concurrently varies with age. The proportion of males who have never been married in the population decreases significantly from 92.2 percent for the age group 15–19 to 6.5 percent for those aged 60 years and above. (Corresponding figures for females are 83.3 and 15 percent). Like in many Sub-Saharan African countries, marriage is almost universal and this is confirmed by results that show that at age 50, the percentage of the population still single was only 7.2 percent for males and 11.9 percent for females.

The age structure shows that widowhood also increases with age irrespective of sex, but with higher proportions among women. For males in age groups 50-54 years, 55-59 years and 60 years and over, the proportion widowed was 3.9 percent, 4.3 percent and 11 percent, respectively. The proportion widowed for females in corresponding age groups was 7.3 percent, 9.5 percent and 30.8 percent, respectively. There are three factors that may explain big gaps between the two sexes. Firstly, in many marriages, wives are younger than their husbands; secondly, women on average tend to live longer than men and thirdly, widowed men, especially al older ages, have a greater chance of remarrying than widowed women.

Table 2.3: Percentage Distribution of Population Aged 15 Years and Above, by Age, Sex and Marital Status; Tanzania, 2012 Census

Age	Total	Never Married	Married	Living Together	Divorced	Separated	Widowed
Male Total	**11,654,542**	**38.3**	**50.5**	**6.3**	**2.3**	**0.7**	**1.9**
15-19	2,185,879	92.2	7.6	0.2	0.0	0.0	0.0
20-24	1,715,419	68.7	25.3	3.1	2.8	0.1	0.1
25-29	1,490,891	37.5	51.9	9.7	0.6	0.3	0.1
30-34	1,335,795	20.3	65.1	9.7	4.1	0.7	0.1
35-39	1,148,252	13.6	71.8	9.6	3.9	0.9	0.2
40-44	917,866	10.4	76.2	8.8	2.0	1.1	1.6
45-49	700,443	6.8	77.6	8.0	2.4	1.3	4.0
50-54	593,696	7.2	77.5	7.4	2.6	1.4	3.9
55-59	384,188	6.9	74.5	8.5	4.3	1.5	4.3
60 and above	1,182,113	6.5	70.5	7.0	3.5	1.5	11.0
Female Total	**12,938,491**	**33.0**	**51.6**	**6.5**	**3.5**	**1.2**	**4.2**
15-19	2,309,554	83.3	14.7	1.9	0.0	0.0	0.0
20-24	2,100,896	46.2	44.1	7.2	2.3	0.3	0.1
25-29	1,809,019	24.9	63.0	10.1	1.3	0.7	0.0
30-34	1,503,808	16.8	68.3	8.6	5.0	1.3	0.1
35-39	1,238,028	13.3	71.4	7.9	5.5	1.7	0.2
40-44	939,611	12.1	72.4	6.9	4.4	2.3	1.9
45-49	776,612	9.6	70.8	6.0	5.0	2.5	6.1

50-54	594,285	11.9	67.2	5.2	5.7	2.7	7.3
55-59	376,083	13.5	57.1	7.9	9.2	2.9	9.5
60 and above	1,290,595	15.0	40.4	4.9	6.7	2.2	30.8

2.2.2 Marital Status by Place of Residence

Population in rural areas is more likely to be married than those living in urban areas as shown in Table 2.4. Percentage of never married urban population (53.1 percent for males and 39.7 for females) was higher than that of rural population (36.4 percent for males and 29.6 percent for females). The observed marital patterns by place of residence is consistent with fertility patterns reported in Chapter Four i.e. Higher proportion of never married population in urban compared to rural areas is likely associated with lower fertility in the former vis-a-vis the latter areas. Many societies in developing countries regard marriage as a necessity and marriage is considered important for reproduction and social status. Furthermore, relatively hard economic conditions in urban areas as compared to rural may force urban population to remain single. Results further show that the percentage of widowed populations was more than twice among female population (4.2 percent) than male population (1.9 percent). As highlighted in Section 2.2.1 of this Chapter, this is caused by several factors including more chances for widowed men to remarry than women, and since the Census questionnaire sought the prevailing status of marriage, differences between the two sexes is inevitable.

Table 2.4: Percentage Distribution of Population Aged 15 Years and Above by Sex, Marital Status and Rural-Urban Residence; Tanzania, 2012 Census

Sex and Marital Status	Number			Percentage		
	Tanzania	Rural	Urban	Tanzania	Rural	Urban
Male						
Never Married	4,466,795	2,838,300	1,628,495	38.3	36.4	42.2
Married or Living Together	6,628,641	4,578,377	2,050,264	56.8	58.7	53.1
Divorced or Separated	341,034	222,705	118,329	3.0	2.9	3.1
Widowed	218,072	156,370	61,702	1.9	2.0	1.6
Female						
Never Married	4,264,033	2,544,123	1,719,910	33.0	29.6	39.7
Married or Living Together	7,520,418	5,263,871	2,256,547	58.1	61.1	52.1
Divorced or Separated	606,828	393,889	212,939	4.7	4.6	4.9
Widowed	547,212	407,399	139,813	4.2	4.7	3.2

The proportion of the population who had never married was higher in urban than in rural areas for all age groups and sex (Table 2.5). Relatively higher percentages of urban unmarried women in age group 25–39 have an influence on urban fertility lowering it as compared to rural areas.

Table 2.5: Percentage Distribution of Never Married Population Age 15 Years and Above by Five Years Age Groups, Rural – Urban Residence and Sex; Tanzania, 2012 Census

Age	Rural		Urban	
	Male	Female	Male	Female
Total	**36.4**	**29.6**	**42.2**	**39.7**
15-19	92.0	81.2	92.7	87.1
20-24	65.7	41.7	73.6	53.4
25-29	33.5	21.0	43.9	31.3
30-34	17.6	13.8	24.7	22.1
35-39	11.8	10.8	16.7	18.1
40-44	9.2	10.3	12.6	16.3
45-49	6.1	8.3	8.4	12.6
50 and above	6.3	13.3	8.0	16.2

Table 2.6 compares the proportion of population aged 15 years and above who reported that they were currently in union (currently married or living together). The proportion in union was higher in rural areas (58.7 for males and 61.1 for females) than urban areas (53.1 for males and 52.1 for females) in all age groups and for both males and females. The trend shows that the proportion increases with increasing age for both males and females.

Table 2.6: Percentage Distribution of Married or Living Together Population Age 15 Years and Above by Five Years Age Groups, Rural – Urban Residence and Sex; Tanzania, 2012 Census

Age	Rural		Urban	
	Male	Female	Male	Female
Total	**58.7**	**61.1**	**53.1**	**52.1**
15-19	8.0	18.7	7.3	12.9
20-24	31.3	55.8	23.5	43.8
25-29	65.5	77.1	55.2	66.4
30-34	77.6	80.3	70.3	70.8
35-39	83.4	82.3	77.9	73.1
40-44	86.4	81.9	82.1	73.6
45-49	86.7	79.2	83.1	71.2
50 and above	81.5	56.9	78.4	51.7

.

Persons living in urban areas are slightly more likely to be divorced than their counterparts in rural areas. Table 2.7 shows that, for all age groups 15 years and above for both sexes, the proportion of the divorced or separated population was higher in urban than rural areas. Furthermore, results reveal that the percentage of the divorced or separated were relatively high for females as compared

with males in both rural and urban areas. This may be explained by, among other reasons, the higher possibility of men remarrying compared with women especially at older ages.

Table 2.7: Percentage Distribution of Divorced or Separated Population Age 15 Years and Above by Five Years Age Groups, Rural – Urban Residence and Sex; Tanzania,2012 Census

Age	Rural		Urban	
	Male	Female	Male	Female
Total	**2.9**	**4.6**	**3.1**	**4.9**
15-19	0.0	0.1	0.0	0.1
20-24	2.9	2.4	2.8	2.7
25-29	1.0	1.9	0.8	2.3
30-34	4.7	5.8	4.8	7.0
35-39	4.6	6.6	5.1	8.6
40-44	2.8	6.1	3.6	8.0
45-49	3.4	6.8	4.2	9.1
50 and above	4.7	8.9	5.5	10.7

The proportion of widowed population is relatively higher in rural than in urban areas for all age groups and sex (Table 2.8). Seven percent of women in urban areas and 5.8 in rural areas are widowed and this is likely to lower fertility among them as fertility is negatively associated with divorce or separation. About one third of the female population aged 50 years and above was widowed compared to only one tenth of the male population. As noted earlier, this is due to the fact that older men are more likely to remarry than women and hence reducing number of widowed males (Table 2.8).

Table 2.8: Percentage Distribution of Widowed Population Age 15 Years and Above by Five Years Age Groups, Rural – Urban Residences and Sex; Tanzania, 2012 Census

Age	Rural		Urban	
	Male	Female	Male	Female
Total	**2.0**	**4.7**	**1.6**	**3.2**
15-19	0.0	0.0	0.0	0.0
20-24	0.1	0.1	0.1	0.1
25-29	0.1	0.03	0.1	0.03
30-34	0.1	0.1	0.1	0.1
35-39	0.2	0.2	0.2	0.2
40-44	1.5	1.8	1.7	2.2
45-49	3.8	5.7	4.3	7.1
50 and above	7.7	21.0	8.1	21.4

Tables 2.9 to 2.12 compare the proportion of never-married, the proportion married, the proportion divorced and the proportion widowed, by age and sex, for the 2012 census with the previous censuses of 1978, 1988 and 2002.

Table 2.9 shows that there was an increase of the never married population for both sexes from 1978 to 2012. An increase was more pronounced for females than males this may be explained by the marginal increased in Mean Age at Marriage for females. The percentage of females increased from 15.5 percent in 1978 to 33 percent in 2012 compared with the increase from 33.2 to 38.2 for males over the same period. The percentage of females aged 60 years and above who remained unmarried increased from 1.7 percent to 15 percent, a reflection of rising age at marriage.

Table 2.9: Percentage Distribution of Never Married Population Age 15 Years and Above by Five Years Age Groups; Tanzania, 1978-2012 Censuses

Age	Male				Female			
	1978	1988	2002	2012	1978	1988	2002	2012
Total	**33.2**	**38.3**	**39.2**	**38.3**	**15.5**	**21.5**	**24.5**	**33.0**
15-19	96.5	95.9	96.5	92.2	62.4	70.6	74.8	83.3
20-24	65.4	69.2	69.3	68.7	16.1	25.9	30.0	46.2
25-29	28.6	36.0	36.2	37.5	5.4	11.6	15.8	24.9
30-34	11.8	17.0	18.4	20.3	2.9	6.3	10.0	16.8
35-39	7.5	9.3	11.4	13.6	1.9	3.8	7.3	13.3
40-44	5.1	6.5	8.0	10.4	1.6	2.7	5.9	12.1
45-49	4.4	4.8	6.5	6.8	1.4	2.4	4.7	9.6
50-54	3.7	4.2	5.5	7.2	1.6	2.0	4.3	11.9
55-59	3.3	3.5	4.8	6.9	1.7	1.9	4.2	13.5
60 and above	2.2	3.1	4.3	6.5	1.7	2.4	5.2	15.0

The proportion of married population or in union decreased steadily for both sexes between 1978 and 2012 (Table 2.10). A decline in the proportion married was more pronounced among females than males. The proportion of the female population that was married dropped from 69.5 percent in 1978 to 58.1 percent, while that for males dropped from 61.4 percent to 56.8 percent over the same period. Such a decline may possibly be due to changing socio-economic conditions in the country. However, there is need to investigate further as to why.

Table 2.10: Percentage Distribution of Married Population Age 15 Years and Above by Five Years Age Groups and Sex; Tanzania, 1978-2012 Censuses

	Male				Female			
	1978	1988	2002	2012	1978	1988	2002	2012
Total	**61.4**	**57.0**	**56.1**	**56.8**	**69.5**	**63.8**	**60.1**	**58.1**
15-19	3.4	3.9	3.3	7.8	35.7	28.3	24.1	16.6
20-24	33.0	29.9	29.6	28.4	78.7	69.9	65.5	51.3
25-29	68.2	61.8	61.3	61.6	87.9	81.6	76.8	73.1
30-34	83.1	79.3	77.7	74.8	89.1	84.0	79.3	74.9
35-39	86.7	85.7	83.6	81.4	87.3	84.6	79.2	79.3
40-44	88.4	87.0	85.7	85.0	84.0	81.3	75.4	79.3
45-49	88.1	87.7	86.2	85.6	78.2	77.2	72.2	76.8
50-54	87.4	87.0	85.5	84.9	70.3	70.0	65.2	72.4
55-59	87.7	87.2	85.0	83.0	63.1	63.1	59.2	65.0
60 and above	86.6	81.9	79.7	77.5	40.8	41.0	35.5	45.3

Note: *"Married" in this table includes living together.*

The 2012 PHC results showed that stability in marriages has remained more or less universal between 1978 and 2012 as percentages of divorced/separated population in many age groups remained almost unchanged (Table 2.11) over the period.

Table 2.11: Percentage Distribution of Divorce Population Aged 30 Years and Above by Five Years Age Groups and Sex; Tanzania, 1978-2012 Censuses

Age	Male				Female			
	1978	1988	2002	2012	1978	1988	2002	2012
30-34	4.3	3.1	3.3	4.8	5.5	7.3	7.5	6.3
35-39	4.9	4.1	4.1	4.8	6.4	7.6	8.4	7.2
40-44	5.1	5.1	4.9	3.1	7.3	8.7	10.1	6.7
45-49	5.8	5.7	5.4	3.7	8.5	9.9	10.9	7.5
50-54	6.4	6.0	6.3	4.0	9.5	10.8	12.2	8.4
55-59	5.8	6.2	6.7	5.8	9.8	11.8	13.0	12.1
60 and above	5.4	7.0	7.7	5.0	9.7	11.1	12.5	8.9

Note: *"Divorced" in this table includes "separated".*

Table 2.12 reveals that, although the percentage of widowed females is still high when compared to males, almost half (47.8 percent) of the female population aged 60 years and above were widowed as compared with 30.8 percent of males in 2012.

Table 2.12: Percentage Distribution of Widowed Population Aged 30 Years and Above by Five Years Age Groups and Sex; Tanzania, 1978-2012 Censuses

Age	Male				Female			
	1978	1988	2002	2012	1978	1988	2002	2012
30-34	0.7	0.6	0.6	0.1	2.5	2.4	3.2	0.1
35-39	0.9	0.8	0.9	0.2	4.4	4.0	5.2	0.2
40-44	1.5	1.4	1.4	1.6	7.1	7.3	8.6	1.9
45-49	1.6	1.7	2.0	4.0	11.9	10.5	12.2	6.1
50-54	2.5	2.7	2.7	3.9	18.6	17.2	18.3	7.3
55-59	3.2	3.1	3.5	4.3	25.4	23.1	23.6	9.5
60 and above	5.8	8.0	8.3	11.0	47.8	45.4	46.7	30.8

2.2.3 Age-Specific Marriage Rates

Age -Specific Marriage Rates (ASMRs) are general marriage rates that consider age distribution of the population. However, these rates do not take into consideration the fact that married couples may not of the same age, which is one of the disadvantages of the method. For example, in Tanzania and in fact in many countries husbands are often older than their wives.

Table 2.13 shows the Age-Specific Marriage Rate by Place of Residence for the 2012 Census. Marriage rates increase with increasing age for both males and females. The table reveals that marriage rates are low in younger age groups but reaches their peak in age group 40 – 49. Age Specific Marriage Rate for males (ASMRm) rises slowly but shows a sharp increase in age 25 – 29 years which corresponds with average age at first marriage for male of 25.8 years. On the other hand, ASMR for females (ASMRf) rises sharply in the age group 20 – 24 consistent with average age at first marriage for females of 22.3 years. (ASMRm) for males reaches 705/1000 per thousand population for those aged 60 years and above but that for women drops to 403/1000 for the same age group. Similar patterns were also observed in rural and urban areas.

Table 2.13: Age-Sex Specific Marriage Rate for Population Age 15 Years and Above by Five Years Age Group, Place of Residence and Sex; Tanzania, 2012 Census

Place / Residence	Tanzania			Rural			Urban		
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both sexes	Male	Female
Total	**511.1**	**505.4**	**516.3**	**535.4**	**524.3**	**545.5**	**462.5**	**467.3**	**458.3**
15 - 19	112.5	75.6	147.3	121.7	77.6	166.8	94.0	71.2	112.3
20 - 24	356.3	253.1	440.6	393.9	280.5	488.3	294.1	206.4	363.4
25 - 29	579.5	518.7	629.5	623.4	562.4	673.4	507.8	448.4	557.3
30 - 34	667.9	651.1	682.7	700.8	683.6	715.7	611.5	597.5	624.5
35 - 39	715.9	718.3	713.6	739.8	739.1	740.5	670.4	680.7	660.2
40 - 44	742.9	761.9	724.4	758.8	774.6	744.0	709.2	736.6	680.0
45 - 49	740.2	775.6	708.2	752.2	782.5	725.2	713.0	760.4	669.1
50 - 54	723.6	775.5	671.7	730.8	778.2	685.3	705.2	768.9	634.6
55 - 59	658.8	744.9	570.9	667.2	746.6	589.2	637.3	740.6	520.2
60 and above	547.7	705.1	403.6	556.2	711.0	415.4	517.5	684.1	360.5

2.2.4 Singulate Mean Age at First Marriage

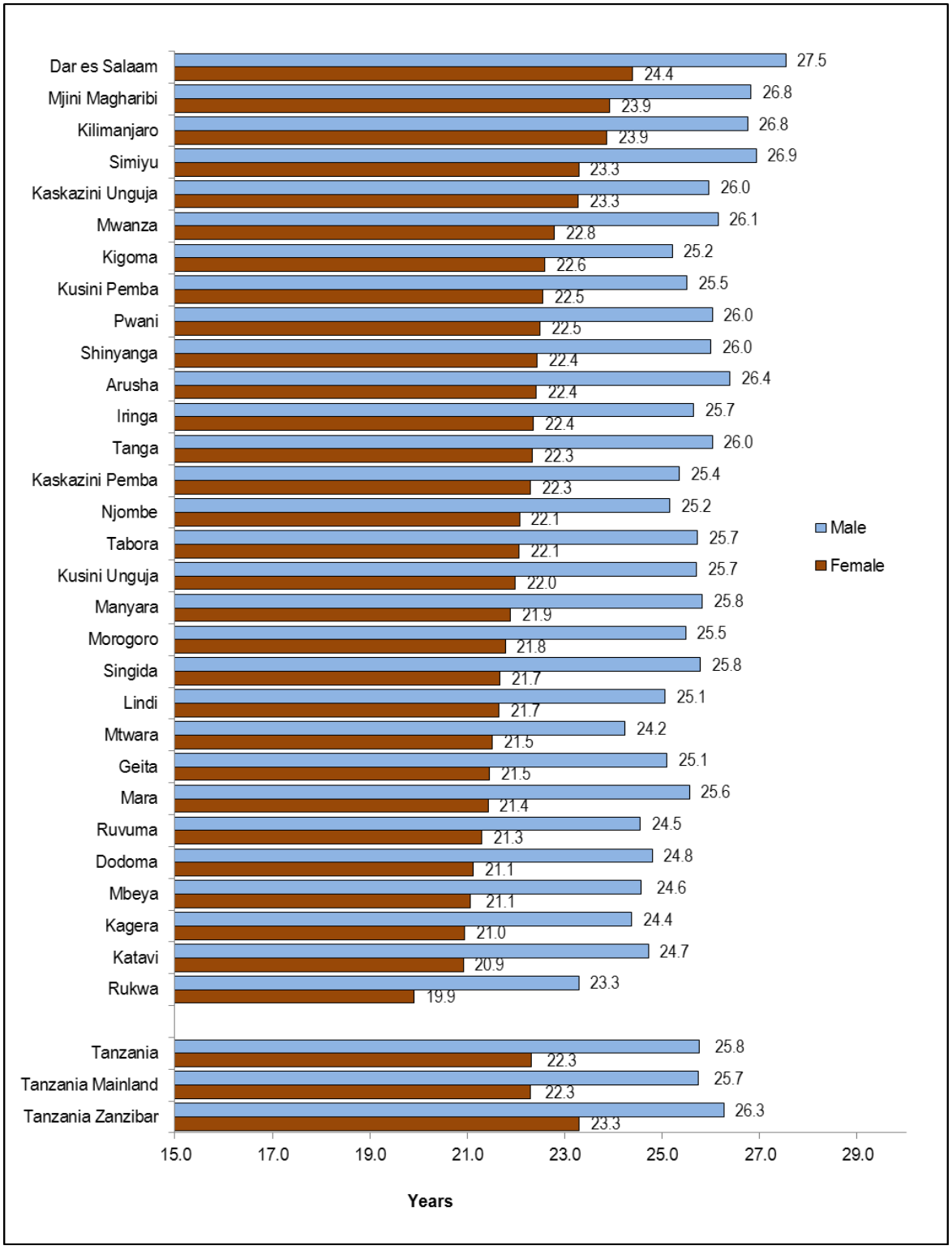
Age at first marriage is one of the proximate determinants of fertility. The population, in which age at first marriage is low, tends to have early childbearing and high fertility. Since there was no direct question on age at first marriage in the 2012 PHC, the mean age at first marriage was estimated by using Singulate Mean Age at Marriage (SMAM). The Mean Age at Marriage is defined as the average length of single life expressed in years among those who marry before age 50.

Table 2.14 shows results on the mean age at first marriage, by sex and place of residence from the 2012 Census. The mean age at first marriage was 24 years in Tanzania, 23.9 years for Tanzania Mainland and 24.7 years for Tanzania Zanzibar. Mean age at first marriage was higher for males (25.8 years) as compared to females (22.3 years), a difference of 3.5 years. The results show on average that individuals living in urban areas get married 2 years later than those in rural areas. The mean age at first marriage was higher in urban areas (24.9 years) than rural areas (23.3 years). The mean age at first marriage in Tanzania Mainland (22.3. years) is almost identical to that for the country as a whole. However, mean age at first marriage in Tanzania Zanzibar (24.7 years) was slightly higher than Tanzania Mainland (23.9 years) for both males and females.

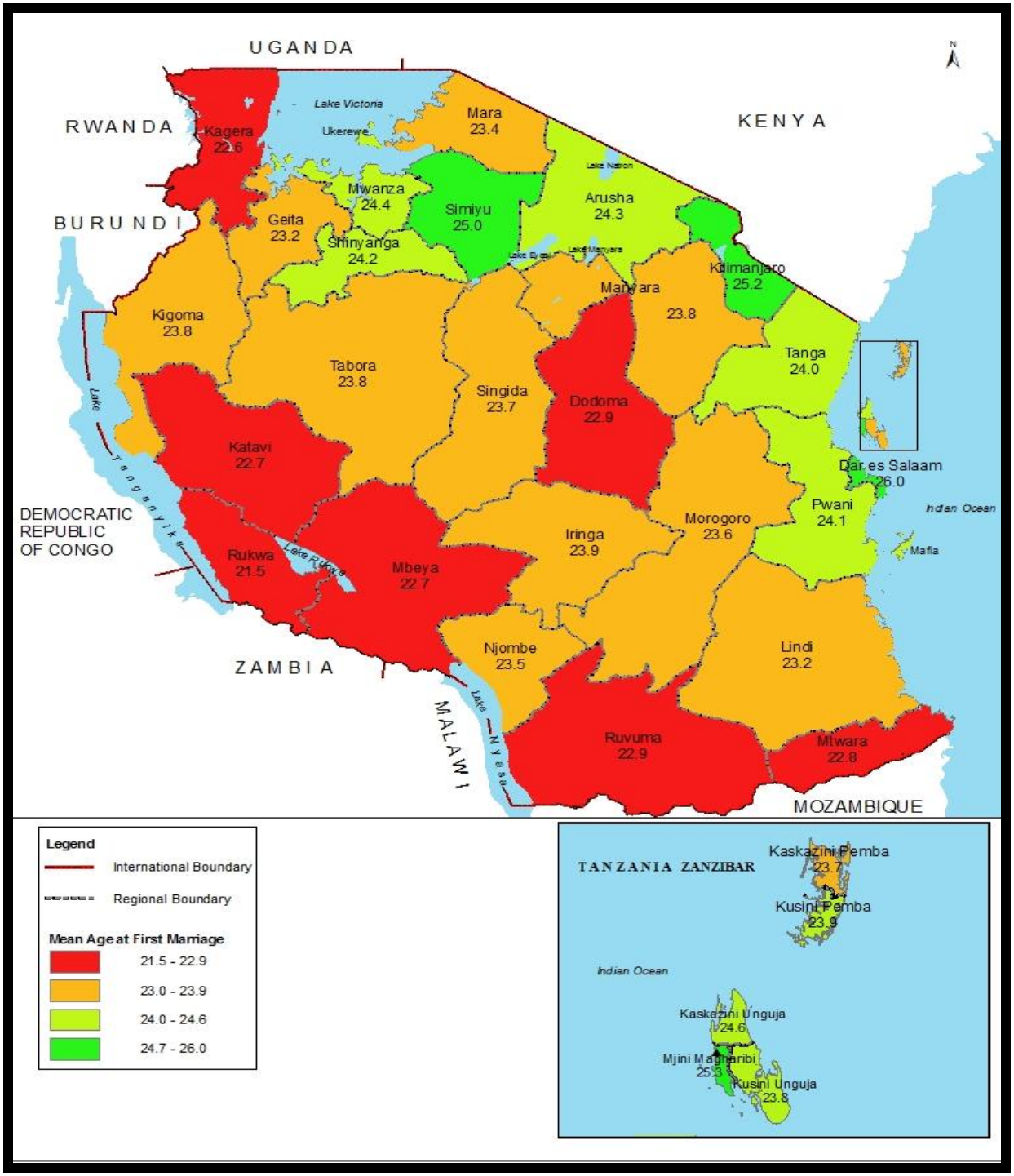
Figure 2.2 and Map 2.1 show that there were variations among regions with regard to mean age at first marriage. Dar es Salaam Region had the highest mean age at first marriage for both males (27.5 years) and females (24.4 years) followed by Mjini Magharibi (26.8 years for males and 23.9 years for females) and Kilimanjaro (26.8 years for males and 23.9 years for females). The region with the lowest mean age at first marriage was Rukwa (23.3 years for males and 19.9 years for

females). Generally, regions with high mean age at first marriage had low fertility rates as compared to those with low mean age at marriage (Refer to Chapter 3 and 4 of this Publication).

Figure 2.1: **Mean Age at First Marriage in Years by Place of Residence and Sex; Tanzania, 2012 Census**

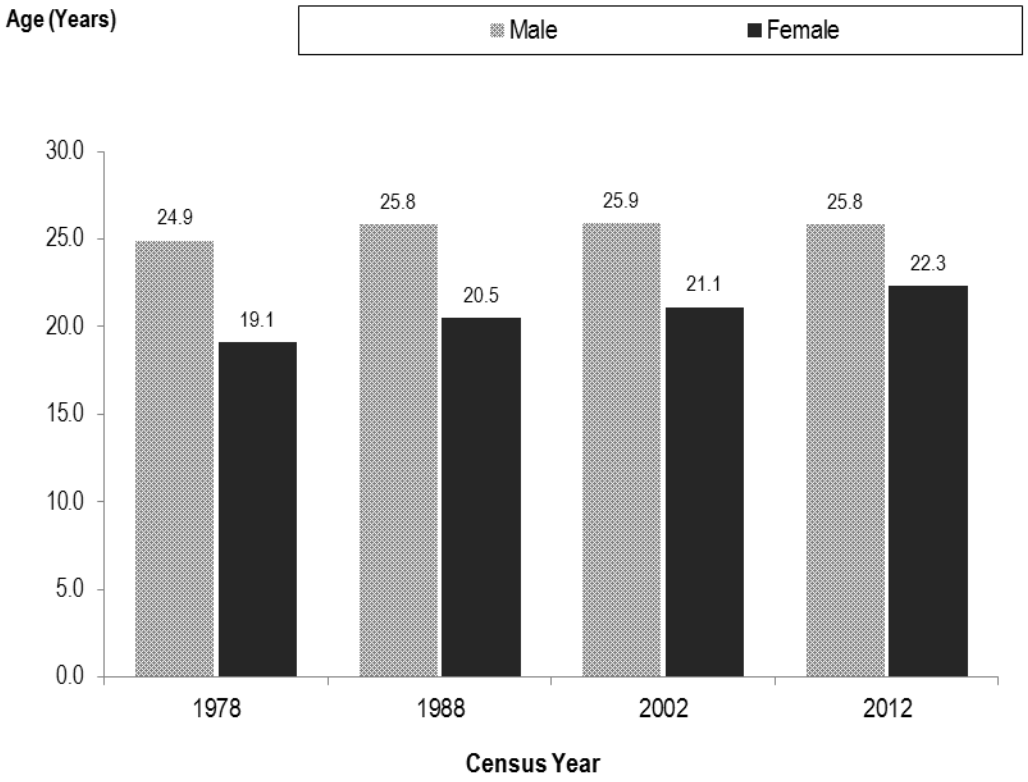


Map 2.1: Mean Age at First Marriage in Years by Place of Residence and Sex; Tanzania, 2012 Census



The mean age at first marriage was estimated for 1978, 1988, 2002 and 2012, and the results are shown in Table 2.14 and Figure 2.2. A rise in the mean age at first marriage is observed in both males and females during the period of 1978 to 2012. The mean age at first marriage for males increased from 24.9 years in 1978 to 25.8 years in 2012, an increase of almost one year. For females, mean age at first marriage increased by three years from 19.1 years to 22.3 years during the same period. Thus, for the last three decades in the country, a steady rise in mean age at first marriage has accompanied a steady decline in fertility from 6.9 in 1978 to 5.5 births per woman in 2012.

Figure 2.2: **Mean Age at First Marriage by Sex; Tanzania, 1978 – 2012 Censuses**



2.2.5 Mean Age at First Birth

Populations with low age at first birth tend to have high fertility. Since there was no direct question on age at first birth in the 2012 PHC, the mean age at first birth was estimated by using in approach similar to the calculation of Singulate Mean Age at Marriage (SMAM). The Mean Age at first birth is defined as the average length of being childless expressed in years among those who experienced child-bearing before age 50.

Table 2.14 shows the mean age at first birth by place of residence in the 2012 Census. The mean age at first birth was 20.2 years for Tanzania, 20.1 years for Tanzania Mainland and 22.9 years for Tanzania Zanzibar. The results further reveal that females in urban areas delay their first births by almost three years as compared to those in rural areas. On average, women in urban areas stay in school longer and are more informed on family planning services, which may explain the difference of the two groups. Likewise, mean age at first marriage was higher in Tanzania Zanzibar (23.3 years) than Tanzania Mainland (22.3 years). Education system in Tanzania Zanzibar, which is compulsory up to Form Two, allows young women to stay in school longer and in so doing delaying childbearing. For Tanzania Mainland, education is compulsory up to standard seven, and therefore a good number of girls who do not continue with secondary education start childbearing at an early age.

Comparison of mean age at first marriage and mean age at first birth indicate that many females give birth before getting married. On average, females were married 2 years later than first birth. (Table 2.14). However, the difference between mean age at first marriage and average age at first birth was less than one year for Tanzania Zanzibar.

Only in Arusha District Council on Tanzania Mainland was average age at first birth lower than average age at first marriage. However, in 4 Districts out of 10 in Tanzania Zanzibar, average age at marriage was lower than average age at first birth. (Average Age at First Marriage and First Birth at Regional and District Level is attached as Appendix VII).

Table 2.14: Average Age at First Marriage by Sex and Average Age at First Birth by Place of Residence; Tanzania, 2012 Census

Region	Average Age at First Marriage			Average Age at First Birth for Mothers
	Both Sexes	Male	Female	
Tanzania	**24.0**	**25.8**	**22.3**	**20.2**
Rural	23.3	25.2	21.6	19.3
Urban	25.0	26.7	23.4	21.7
Tanzania Mainland	**23.9**	**25.7**	**22.3**	**20.1**
Rural	23.3	25.2	21.6	19.3
Urban	24.9	26.7	23.3	21.6
Dodoma	22.9	24.8	21.1	19.9
Arusha	24.3	26.4	22.4	22.0
Kilimanjaro	25.2	26.8	23.9	22.0
Tanga	24.0	26.0	22.3	20.6
Morogoro	23.6	25.5	21.8	19.7
Pwani	24.1	26.0	22.5	20.1
Dar es Salaam	26.0	27.5	24.4	23.1
Lindi	23.2	25.1	21.7	19.5
Mtwara	22.8	24.2	21.5	19.3
Ruvuma	22.9	24.5	21.3	19.4
Iringa	23.9	25.7	22.4	21.3
Mbeya	22.7	24.6	21.1	20.1
Singida	23.7	25.8	21.7	19.6
Tabora	23.8	25.7	22.1	19.0
Rukwa	21.5	23.3	19.9	18.9
Kigoma	23.8	25.2	22.6	20.2
Shinyanga	24.2	26.0	22.4	19.5
Kagera	22.6	24.4	21.0	20.3
Mwanza	24.4	26.1	22.8	20.1
Mara	23.4	25.6	21.4	19.0
Manyara	23.8	25.8	21.9	20.9
Njombe	23.5	25.2	22.1	21.5
Katavi	22.7	24.7	20.9	18.4
Simiyu	25.0	26.9	23.3	19.4
Geita	23.2	25.1	21.5	18.9
Tanzania Zanzibar	**24.7**	**26.3**	**23.3**	**22.9**
Rural	23.8	25.5	22.3	21.9
Urban	25.5	27.0	24.2	23.9
Kaskazini Unguja	24.6	26.0	23.3	22.9
Kusini Unguja	23.8	25.7	22.0	21.9
Mjini Magharibi	25.3	26.8	23.9	23.7
Kaskazini Pemba	23.7	25.4	22.3	21.8
Kusini Pemba	23.9	25.5	22.5	22.7

Chapter Three
Fertility Levels, Trends and Patterns

3.1 Introduction

Fertility is perhaps the most important of the components of population change, so it remains a subject of active research. Fertility rates have, in some countries, tracked fairly closely general measures of economic conditions such as unemployment rate. The link between social economic development and population change calls for analysis of fertility estimates and their relationship to socio-economic development. This analysis will furnish policy makers and planners with information for effective policies and practical interventions.

Estimation of fertility levels for Tanzania and its regions from the 2012 census is based on reported live births by age of mother in the 12 months preceding the census and reported number of children ever born by age of mother. However, given the limitations of the 2012 census data explained in chapter one of this document, several indirect methods were used to estimate adjusted fertility indicators to evaluate the direct estimates of age-specific and total fertility rates based on births in the year preceding the census. Finally, a decision about the most plausible level of fertility in Tanzania and its regions in 2012 has been informed by review of estimated fertility levels and trends based on the 1988 and 2002 censuses; nationally representative Demographic and Health Surveys undertaken in 1991, 1996, 1999, 2004 and 2010 (TDHS); and the 2007-08 Tanzania HIV/AIDS and Malaria Indicator Surveys (THMIS) (Details of different estimation methods is attached as Annex I).

3.2. Determination of a Most Likely Estimate of Fertility for 2012

Table 3.1 presents age-specific and total fertility rates from the 2002 and 2012 censuses either directly estimated from reported births during the 12 months preceding the census or as indirectly estimated using each of the methods discussed. The range of TFR estimates for 2012 is 4.9 births per woman (reported) to 6.4 births per woman (P/F ratio technique). The reported TFR level of 4.9 is likely to be too low, reflecting a history of underreporting of births in Tanzanian censuses, but some additional information may be useful in making a choice of most likely TFR level for 2012.

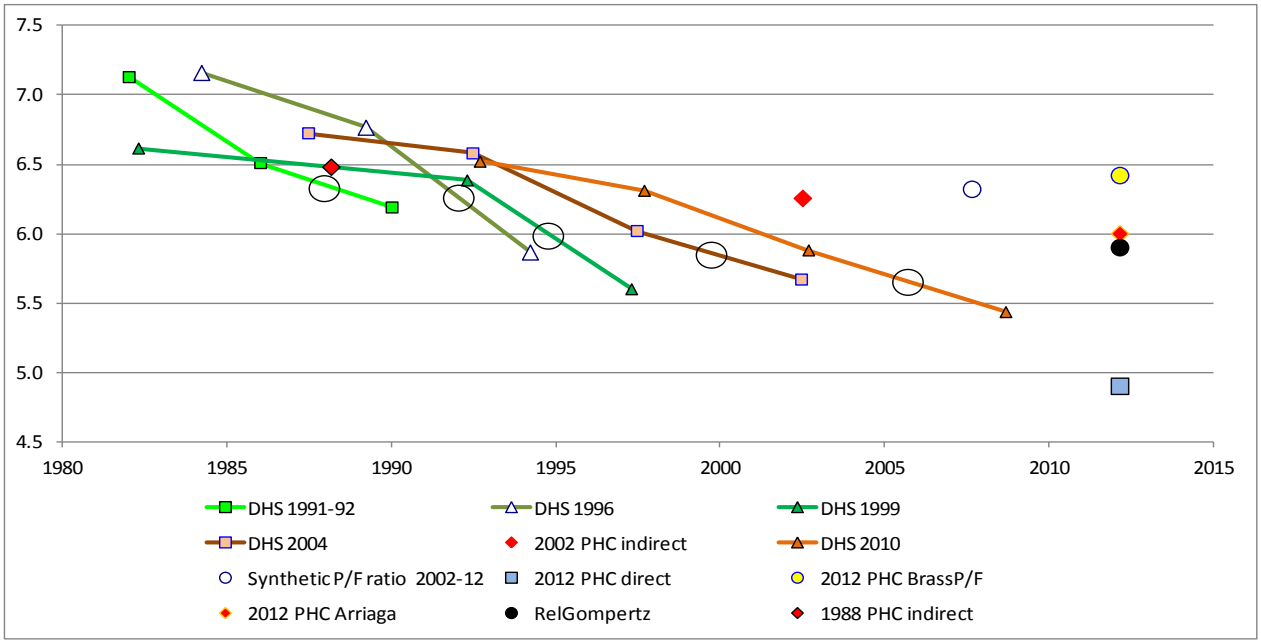
Table 3.1: Summary of Results of Methods Used to Determine a Most Likely Total Fertility Rate from the 2012 Census; Tanzania, 2012 Census

Age	Reported		Brass P/F Ratio		Relational Gompertz	Arriaga*		Synthetic P/F ratio	Own-children
	2002	2012	2002	2012	2012	2002	2012	2002-12	2006-10
15-19	0.065	0.0721	0.1234	0.1126	5.884	0.1131	0.095	0.0954	0.128
20-24	0.186	0.203	0.3029	0.2754	5.859	0.2898	0.237	0.2706	0.235
25-29	0.190	0.221	0.2979	0.2887	5.897	0.2866	0.249	0.2871	0.235
30-34	0.167	0.1988	0.2581	0.2553	5.912	0.2481	0.221	0.2555	0.201
35-39	0.127	0.1568	0.1935	0.1986	5.912	0.1848	0.171	0.1983	0.146
40-44	0.068	0.0886	0.0988	0.1063	5.868	0.0957	0.093	0.1090	0.076
45-49	0.029	0.0417	0.0372	0.0463	5.970	0.0339	0.039	0.0482	0.035
TFR	**4.2**	**4.9**	**6.6**	**6.4**	**5.9**	**6.3**	**5.5**	**6.3**	**5.3**

* Estimates shown for 2002 are based on the 1988 and 2002 censuses; for 2012, on the 2002 and 2012 censuses

Figure 3.1 shows these estimates of TFR along with estimates from the 1988 census, and 5-year average TFRs from five Demographic and Health Surveys (DHS). The Arriaga technique estimates from the 1988, 2002 and 2012 censuses show a slowly declining trend in total fertility of 6 births per woman in 2012. The Brass P/F ratio estimates, Relational Gompertz, and synthetic P/F ratio estimates suggest similarly high TFRs, at or close to 6 births per woman.

Figure 3.1:Total Fertility Rate Estimates from Censuses and Surveys Data; Tanzania, 2012 Census



Note

The largest circles on this chart are the averages of the TDHS direct estimates for periods of 0-4 and 5-9 years preceding the survey

These estimates all may be on the high side because of the historically higher fertility reflected in the children ever born used to adjust fertility patterns in these methods. In contrast, the DHS direct estimates, based on pregnancy history data, suggest a slowly declining TFR trend but at a lower level. Specifically, averages of the two DHS estimates for periods 0-4 and 5-9 years prior to each survey are circled to draw attention to the fact that DHS surveys in Tanzania consistently exhibit more rapidly declining TFRs for each survey than does the data for the surveys taken collectively. The average TFR estimates for periods 0-4 and 5-9 years prior to each survey from the five DHS surveys indicate a relatively slow decline in TFR over time, a trend implying a value of about 5.5 births per woman for 2012.

The own-children technique, derived from a cross-tabulation of mothers and children by age from the 2012 CPH, suggests a TFR of roughly 5.3 births per woman for the 5-year period preceding the census. Taken together, estimates from the 2012 PHC suggest a possible range of total fertility of 4.9 to 6.4 births per woman for 2012, centered on a value of around 5.6 births per woman. The DHS survey trendline and own-children estimate for the period preceding the 2012 census strongly suggests that a TFR estimate of about 5.5 births per woman may be the most likely case, and this is the level accepted for the 2012 Population and Housing Census. Fertility indicators presented in the following section are based on this assessment of national fertility levels and trend up to 2012.

3.3 Fertility Measures, Levels and Trends

3.3.1 Measures of Fertility

Information on Children Ever Born (CEB) and births in the last 12 months was collected from all women aged 12 to 49 years, however most of the analysis in this publication is based on women aged 15 – 49 years. Key measures of fertility presented in this Chapter are Age Specific Fertility Rates, Total Fertility Rates and Crude Birth Rates and Gross Reproduction Rates. Others are General Fertility Rate, Net Fertility Rate, Adolescent and Lifetime fertility.

3.3.2 Total Fertility Rate

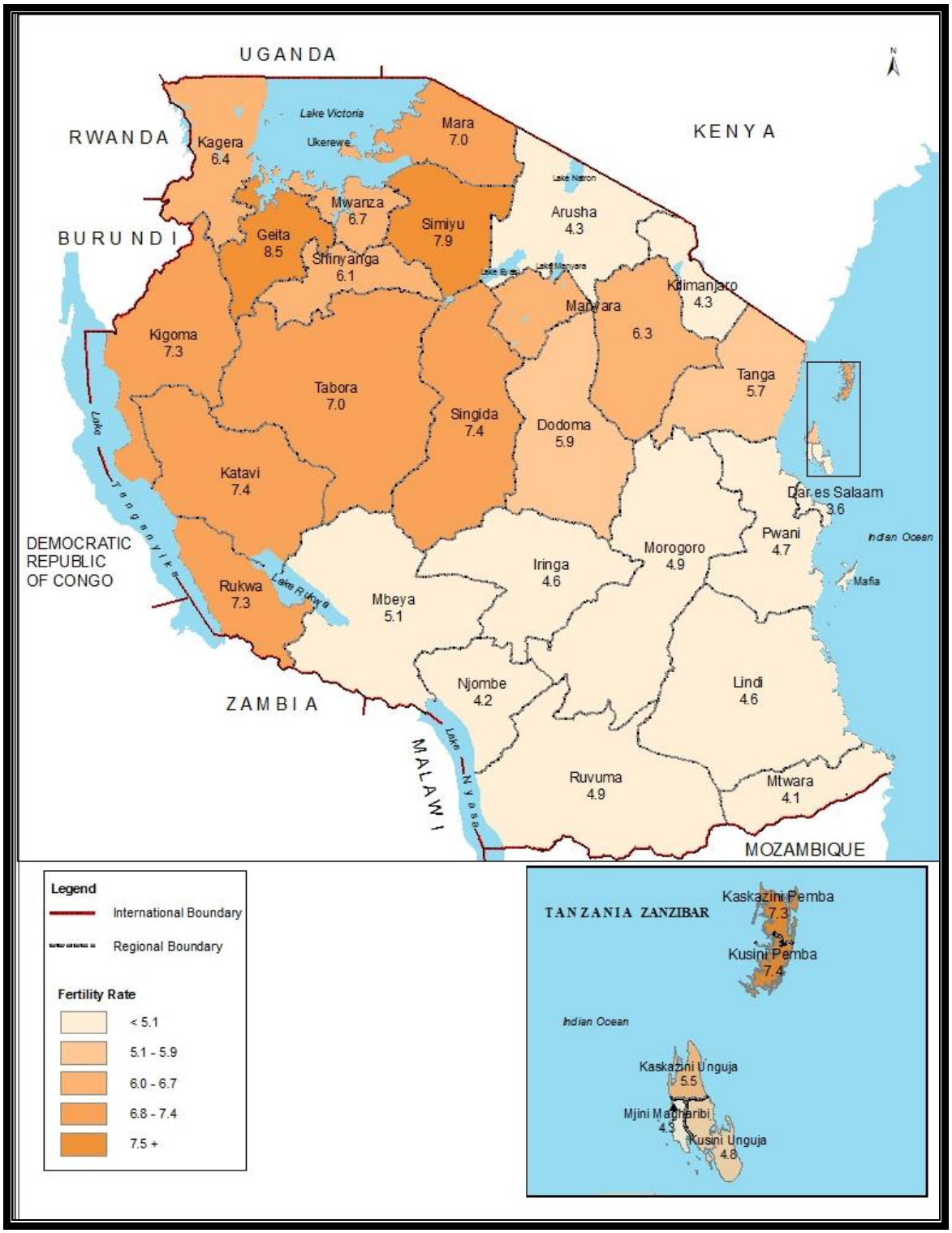
Table 3.2 shows reported and adjusted TFR for Tanzania, Tanzania Mainland, Tanzania Zanzibar and Regions. **The results show the TFR of 5.5 for Tanzania and Tanzania Mainland and 5.2 for Tanzania Zanzibar**.

Map 3.1 and Table 3.2 reveal wide variations of TFRs among regions, ranging from 8.5 for Geita to 3.6 for Dar es Salaam. Generally, fertility levels are higher in regions around Lake Victoria, Western part and Pemba when compared with other parts of the country.

Table 3.2: Reported and Estimated Total Fertility Rates; 2012 Census; Tanzania, 2012 Census

Region	Total Fertility Rate	
	Reported	Adjusted
Tanzania	**4.9**	**5.5**
Tanzania Mainland	**4.9**	5.5
Dodoma	5.0	5.9
Arusha	5.3	4.3
Kilimanjaro	3.6	4.3
Tanga	4.7	5.7
Morogoro	4.2	4.9
Pwani	4.3	4.7
Dar es Salaam	2.9	3.6
Lindi	4.0	4.6
Mtwara	4.0	4.1
Ruvuma	4.7	4.9
Iringa	4.2	4.6
Mbeya	4.2	5.1
Singida	6.2	7.4
Tabora	6.2	7.0
Rukwa	7.1	7.3
Kigoma	6.4	7.3
Shinyanga	5.5	6.1
Kagera	6.0	6.4
Mwanza	5.8	6.7
Mara	6.3	7.0
Manyara	5.5	6.3
Njombe	3.7	4.2
Katavi	7.3	7.4
Simiyu	6.3	7.9
Geita	6.9	8.5
Tanzania Zanzibar	**4.7**	**5.2**
Kaskazini Unguja	4.8	5.5
Kusini Unguja	4.9	4.8
Mjini Magharibi	3.8	4.3
Kaskazini Pemba	6.1	7.3
Kusini Pemba	6.5	7.4

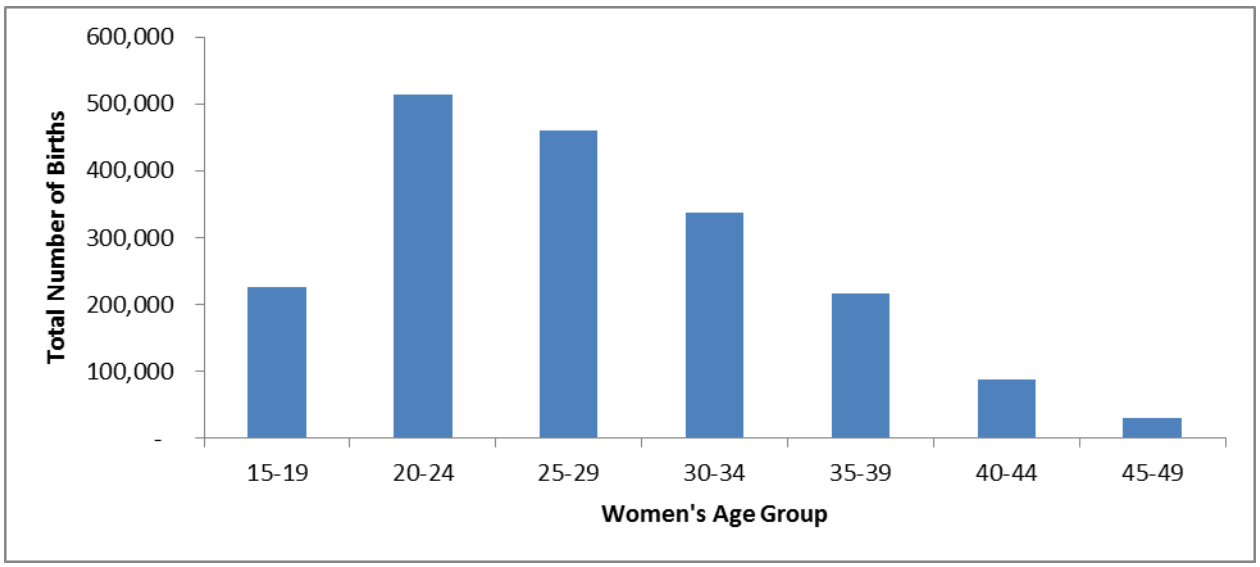
Map 3. 1: Adjusted Total Fertility Rates by Region; Tanzania, 2012 Census



3.3.3 Crude Birth Rate

Crude Birth Rate (CBR) is a measure of fertility equal to the ratio of births occurring in a year to women aged 15-49 years relative to total population. Overall, Tanzanian women gave an estimated 1,871,040 births during the last 12 months prior to the census. As expected, there are fewer reported births for age groups 15-19 and 45-49 in the last 12 months preceding the census compared to age groups 20-24, 25-29 and 30-34, as shown in Figure 3.2. Most of the births occurred among women aged 20-29.

Figure 3.2: Total Number of Births in the Last 12 Months Preceding the Census by Age Group; Tanzania, 2012 Census



This crude measure is influenced by age structure since it includes in its denominator the old, children and males, none of whom are at risk of giving birth. Thus, it can sometimes mislead if used for comparing different population or the same population at widely different times. With this limitation notwithstanding, CBR remains a good general indicator showing the changes in the total population in respect of births that have taken place over a 12 months period prior to the census. Crude Birth Rate is also widely used since it is easily estimated with minimum data requirements.

In 2012, the crude birth rate in Tanzania was about 42 per 1,000 population, the same as for Tanzania Mainland while for Tanzania Zanzibar, CBR was about 39 births per 1,000 population. Different parts of the country registered varied crude birth rates, as shown in Table 3.3. The differences may be due to different socio-economic conditions existing in different regions. Geita registered the highest crude birth rate of 56 births per 1,000, followed by Rukwa and Simiyu (CBR of 52 births per 1,000 population) which is consistent with high TFRs in these regions. On the other

hand, the region with the lowest crude birth rate was Kilimanjaro with 30 births per 1,000 population.

Table 3.3: Estimated Crude Birth Rates, General Fertility Rates, Gross Reproduction Rates and Net Reproduction Rates; Tanzania, 2012 Census

Region	CBR	General Fertility Rate	Gross Reproduction Rate	Net Reproduction Rate
Tanzania	**42**	**171.6**	**2.8**	**2.4**
Tanzania Mainland	**42**	**172.1**	**2.8**	**2.4**
Dodoma	42	184.2	3.0	2.7
Arusha	35	133.7	2.2	2.1
Kilimanjaro	30	124.3	2.2	2.0
Tanga	41	170.9	2.9	2.5
Morogoro	38	154.4	2.5	2.2
Pwani	36	147.0	2.4	2.0
Dar es Salaam	37	115.5	1.8	1.5
Lindi	35	139.4	2.4	2.1
Mtwara	32	128.3	2.1	1.9
Ruvuma	37	150.8	2.4	2.1
Iringa	35	144.2	2.4	1.9
Mbeya	40	160.2	2.6	2.2
Singida	48	217.9	3.7	3.4
Tabora	50	222.2	3.6	3.1
Rukwa	52	233.5	3.7	3.1
Kigoma	48	217.4	3.7	3.2
Shinyanga	44	191.9	3.1	2.6
Kagera	44	198.8	3.2	2.7
Mwanza	48	202.8	3.4	3.0
Mara	49	220.1	3.6	3.1
Manyara	42	189.9	3.1	2.8
Njombe	33	133.2	2.2	1.8
Katavi	51	232.0	3.8	3.2
Simiyu	52	237.0	4.0	3.5
Geita	57	255.8	4.3	3.7
Tanzania Zanzibar	**39**	**149.3**	**2.6**	**2.3**
Kaskazini Unguja	39	154.6	2.8	2.6
Kusini Unguja	38	147.1	2.3	2.0
Mjini Magharibi	36	127.2	2.1	1.9
Kaskazini Pemba	46	198.6	3.7	3.3
Kusini Pemba	48	207.7	3.7	3.3

3.3.4 General Fertility Rate

General Fertility Rate (GFR) is defined as number of births per 1,000 women of reproductive age. GFR is, therefore a birth rate because it expresses the births relative to the number of women of reproductive age. The main advantage of GFR over CBR is that it controls for age and sex structure by relating the births to roughly the women at risk of having them. Although the GFR represents a refinement over the CBR, it also has its limitation. The limitation arises from the fact that the frequency of births varies by age of women within the span of reproductive ages. The GFR indicates, in part, the extent to which the level of births in a country is attributable to the age composition of its population. General Fertility Rate for Tanzania was 171.6 births per 1,000 women of reproductive age (Table 3.4). GFR ranges from 256/1000 women in Geita to 115 births per thousand women in Dar es Salaam.

3.3.5 Gross Reproduction Rate

The association between fertility and economic development has contributed to population policies aimed at fertility reduction. However, it is important that a population ensures that fertility does not decline below the replacement level. Three indicators are used to capture the likelihood of the population to be replaced. These are Total Fertility Rate (TFR), Gross Reproduction Rate (GRR) and Net Reproduction Rate (NRR). For a population to be replaced, TFR should be greater or equal to 2.1 children per woman and GRR and NRR should be greater than or equal to one (1) to ensure that each female is replaced by a daughter. The GRR is a measure analogous to the total fertility rate, but it refers only to female births. Therefore, it is derived in the same manner as the TFR[1] but uses a set of age-specific fertility rates calculated based on female births only. It can also be derived by multiplying the TFR by the proportion of all births that are female. The GRR is interpreted as the average number of daughters that would replace each woman in the absence of female mortality from birth through the childbearing years, based on a set of age specific fertility rates. This index assumes that none of the girls die before they reach the age of their mothers in the reproductive years.

Analysis of the 2012 Census data indicates a GRR of 2.8 which implies that, on average, a woman in Tanzania would have about three daughters during her childbearing age. On the other hand, NRR for Tanzania is 2.4 which is more above replacement level of one girl child per woman.

[1] The TFR is derived by the sum of 5 year average age-specific fertility rates, and multiply their sum by five or it is the sum of ASFRs for all women 15-49 years

3.4 Fertility Trends

3.4.1 Total Fertility Rate

Tanzania has been undertaking Demographic Health Surveys (DHS) and censuses regularly,l which have endowed the country with a wealth of data to examine fertility trends. Data from all the past censuses and surveys indicate a downward trend of fertility in the country. This is evidenced in Figure 3.3 and Table 3.4 which shows the Total Fertility Rate decline from a high of 6.9 children per woman in 1978 to 6.5 in 1988, and dropping to 6.3 in 2002 and to 5.5 in 2012.

Although fertility level is still high when compared to developed countries, Tanzania has experienced a reduction of 1.4 children per woman from 1978 to 2012. Several correlates are consistent with the observed trend, notably increased modern contraceptive prevalence rate from 18.4 percent in 1996 to 26 percent in 2004 and 34 percent in 2010 (TDHS, 2010). Decline in fertility is also associated with increased levels of education among women in the country, increase in mean age at first marriage and urbanisation.

Figure 3.3: Total Fertility Rates for Tanzania, Tanzania Mainland and Tanzania Zanzibar; 1967 – 2012 Censuses

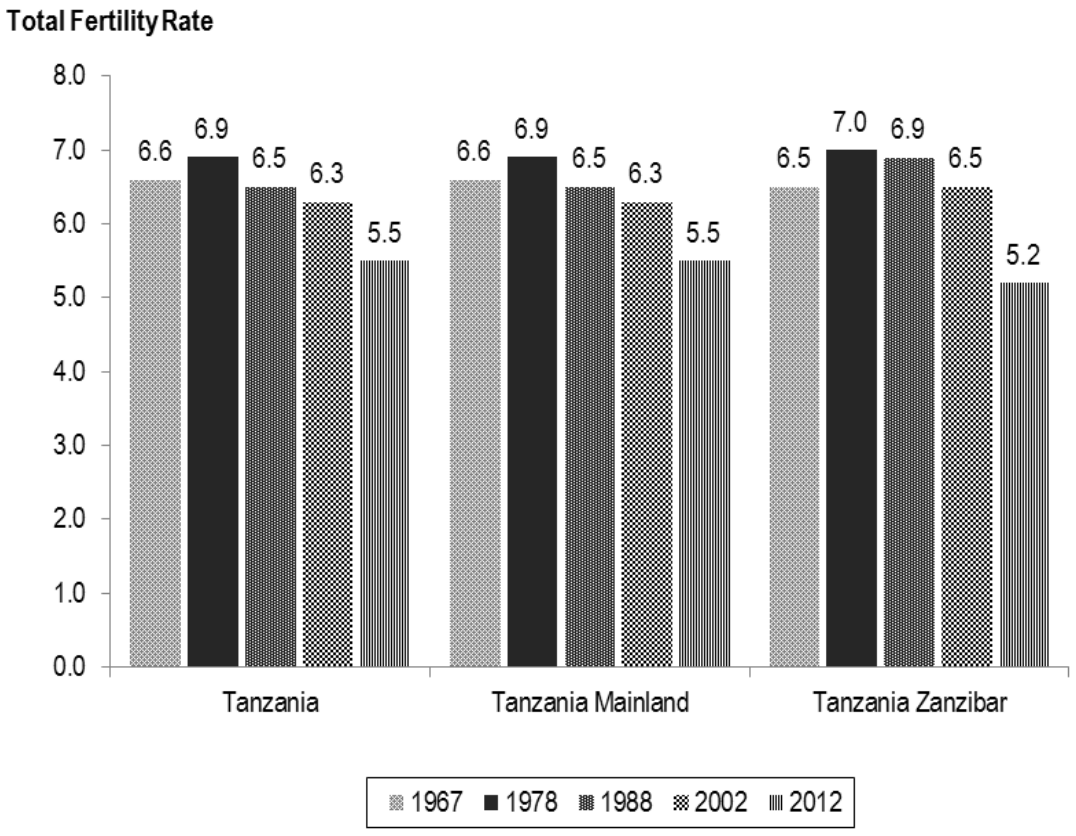


Table 3.4: Estimated Total Fertility Rate by Region, Tanzania; 1967-2012 Censuses

Region	1967	1978	1988	2002	2012
Tanzania	**6.6**	**6.9**	**6.5**	**6.3**	**5.5**
Tanzania Mainland	**6.6**	**6.9**	**6.5**	**6.3**	**5.5**
Dodoma	6.9	7.4	6.7	6.8	5.9
Arusha	7.1	6.9	6.6	5.0	4.3
Kilimanjaro	7.9	7.6	7.1	5.2	4.3
Tanga	6.9	7.1	6.4	6.1	5.7
Morogoro	6.0	6.3	6.3	5.9	4.9
Pwani	4.9	5.3	5.0	5.3	4.7
Dar es Salaam	4.3	5.7	4.6	3.8	3.6
Lindi	-	5.9	5.7	5.2	4.6
Mtwara	5.0	6.2	5.7	5.0	4.1
Ruvuma	6.7	6.4	6.6	5.8	4.9
Iringa	8.4	7.3	6.7	5.7	4.6
Mbeya	7.6	7.4	6.5	5.9	5.1
Singida	6.1	6.9	6.1	6.8	7.4
Tabora	5.5	6.2	6.4	7.7	7.0
Rukwa	-	8.7	7.5	7.6	7.3
Kigoma	5.9	7.1	6.9	7.9	7.3
Shinyanga	7.5	7.1	7.2	8.1	6.1
Kagera	7.1	7.6	7.2	7.9	6.4
Mwanza	6.9	7.4	7.0	7.2	6.7
Mara	7.1	7.4	7.6	6.9	7.0
Manyara	N/A	N/A	N/A	7.2	6.3
Njombe	N/A	N/A	N/A	N/A	4.2
Katavi	N/A	N/A	N/A	N/A	7.4
Simiyu	N/A	N/A	N/A	N/A	7.9
Geita	N/A	N/A	N/A	N/A	8.5
Tanzania Zanzibar	**6.5**	**7.0**	**6.9**	**6.2**	**5.2**
Kaskazini Unguja	N/A	7.0	6.8	7.3	5.5
Kusini Unguja	N/A	6.6	6.9	5.7	4.8
Mjini Magharibi	N/A	6.2	6.4	5.1	4.3
Kaskazini Pemba	N/A	7.8	7.4	7.4	7.3
Kusini Pemba	N/A	7.5	7.3	8.1	7.4

Note

i. N/A – Not Applicable

ii. Manyara, Njombe, Katavi, Simiyu, Geita, Kaskazini Unguja, Kusini Unguja, Mjini Magharibi, Kaskazini Pemba and Kusini Pemba regions did not exist during the corresponding Censuses. Njombe, Katavi, Simiyu and Geita are new regions; where Njombe was formed from Iringa, Katavi was formed from Rukwa, Simiyu was formed from Shinyanga and Mwanza and Geita was formed from Mwanza, Kagera and Shinyanga

3.4.2 Adjusted Crude Birth Rate

Table 3.5 presents adjusted Crude Birth Rate at National and Regional level from 1988 to 2012. The results show declining CBR from 47 births per 1000 in 1988 to 42 in 2012 which is consistent with declining fertility in the country. The decline was more pronounced in Tanzania Zanzibar (49 to 39 per 1000 births) than Tanzania Mainland (47 to 42 per 1000 birth).

Table 3.5: Crude Birth Rate Trend, Tanzania, Tanzania Mainland and Tanzania Zanzibar; 1988-2012 Censuses

Region	1988	2002	2012
Tanzania	**47**	**43**	**41.7**
Tanzania Mainland	**47**	**43**	**41.7**
Dodoma	48	44	41.7
Arusha	46	43	35.2
Kilimanjaro	47	36	29.8
Tanga	46	40	41.3
Morogoro	45	41	37.6
Pwani	33	38	35.7
Dar es Salaam	38	35	36.7
Lindi	42	37	34.9
Mtwara	44	36	32.1
Ruvuma	46	41	36.8
Iringa	49	40	35.3
Mbeya	51	42	40.5
Singida	46	43	48.0
Tabora	45	48	49.6
Rukwa	52	52	52.0
Kigoma	47	56	48.4
Shinyanga	51	49	44.1
Kagera	49	48	44.2
Mwanza	50	46	48.2
Mara	53	47	49.0
Manyara	N/A	46	41.6
Njombe	N/A	N/A	33.4
Katavi	N/A	N/A	51.1
Simiyu	N/A	N/A	52.2
Geita	N/A	N/A	56.9
Tanzania Zanzibar	**49**	**43**	**38.9**
Kaskazini Unguja	44	43	38.8
Kusini Unguja	46	38	38.4
Mjini Magharibi	51	42	36.0
Kaskazini Pemba	52	46	46.3
Kusini Pemba	51	45	48.4

Note:

i. N/A - Not Applicable

ii. Njombe, Katavi, Simiyu and Geita are new regions; where Njombe was formed from Iringa, Katavi was formed from Rukwa, Simiyu was formed from Shinyanga and Mwanza and Geita was formed from Mwanza, Kagera and Shinyanga

3.5 Fertility Patterns

3.5.1 Age-Specific Fertility Rates

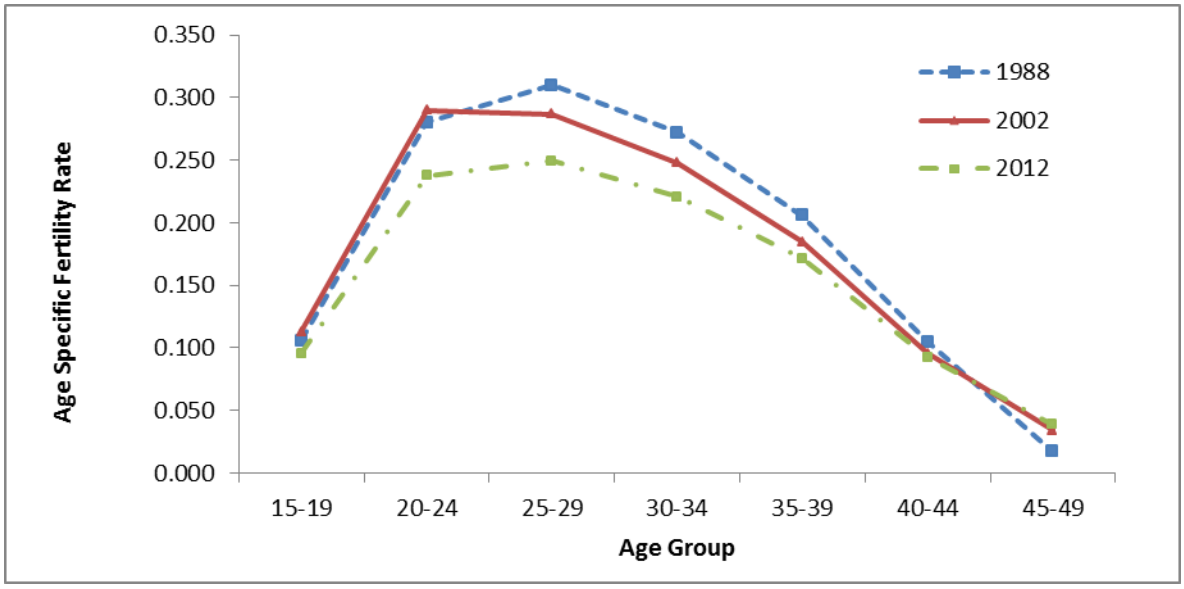
The frequency of childbearing varies considerably from one group to another within the reproductive age range. This variation is reflected in the calculated age-specific fertility rates (ASFRs). Age-Specific Fertility Rate is a valuable measure of the current childbearing performance of women, as it is not directly influenced by age or sex composition of the whole population. Table 3.6 shows a fairly standard pattern among women in all age groups. Rates start from low levels at very young ages (15-19), rising to a peak in the mid - twenties, then declining gradually to forties.

Table 3.6: Recorded and Adjusted Age Specific Rate; Tanzania, 2012 Census

Age	Age Specific Fertility Rates (ASFR)	
	Reported	Adjusted
15-19	0.072	0.095
20-24	0.203	0.237
25-29	0.221	0.249
30-34	0.199	0.221
35-39	0.157	0.171
40-44	0.089	0.093
45-49	0.042	0.039
Total Fertility Rate (TFR)	**4.9**	**5.5**

Results from the three Censuses, portrays the same patterns of fertility, i.e. slow start at younger ages of 15 – 19, an early peak in mid – twenties and gradually falling in older age group of 45 – 49 years (Figure 3.3). However the ASFR for women aged 45-49 from the 2012 census is relatively higher than that of 1988 and 2002, indicating that more women are giving birth at older ages compared to 20 years ago. This observation calls for interventions, as complications of childbearing are higher for this group than for the middle age groups. At the same time, the ASFR of 15-19 has shown a declining trend, implying a decrease in adolescent fertility as result of young females spending more years in school than two decades ago. The age-specific fertility rate of a population varies from time to time depending on marriage patterns and family planning practices, among other factors.

Figure 3. 4: Age-Specific Fertility Rates for Tanzania; 1988-2012 Census



Chapter Four

Fertility Differentials

4.1 Introduction

Differential fertility refers to the study of fertility differences between specific population groups. The common analyses are by socio-economic group, by religion, by education level, by race, by occupation, by residence (urban/rural region), by wife's work experience and by husband's income (Karki, 2012). Further, Karki state that three main sources contribute to differences in fertility of specific population groups. These are the differences in the number of children which couples in the various population groups desire to have, difference in their knowledge, attitude and practice of fertility control which enables them to obtain such desires, and difference caused by the demographic characteristics of each population group. From the 2012 PHC, differentials to be studied here are age, marital status, education level, occupation and residence.

4.2 Fertility by Age

Age is, to say the least, one of the most important variables in the study of fertility. Figure 4.1 illustrates that the age-specific fertility rates increase with age of mother until around age 25-29 when the levels start to decrease with age. Results further illustrates that Urban ASFR are below the national average and Rural ASFR for all age groups.

Figure 4.1: ASFR by Residence; Tanzania, 2012 Census

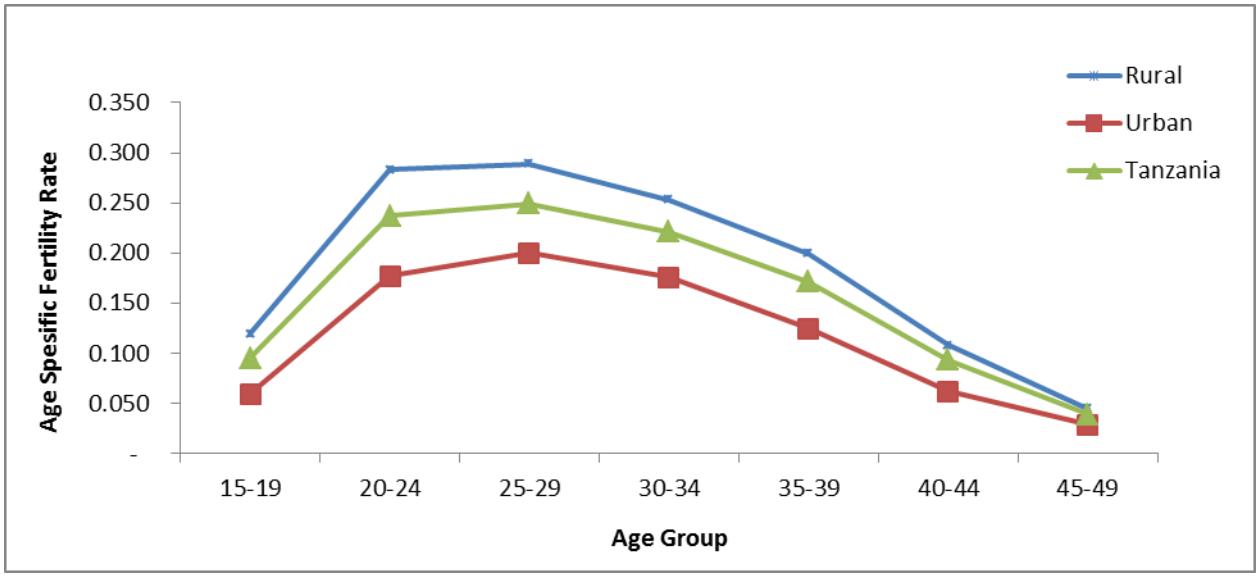


Table 4.1 shows Urban Age-Specific Fertility Rate as a proportion of total ASFR. Results show that most births occur in rural as compared to urban areas for all age groups. The ratio of urban to total ASFR ranges from 0.33 percent for age group 15 – 19 to 0.41 percent for those aged 25 – 34.

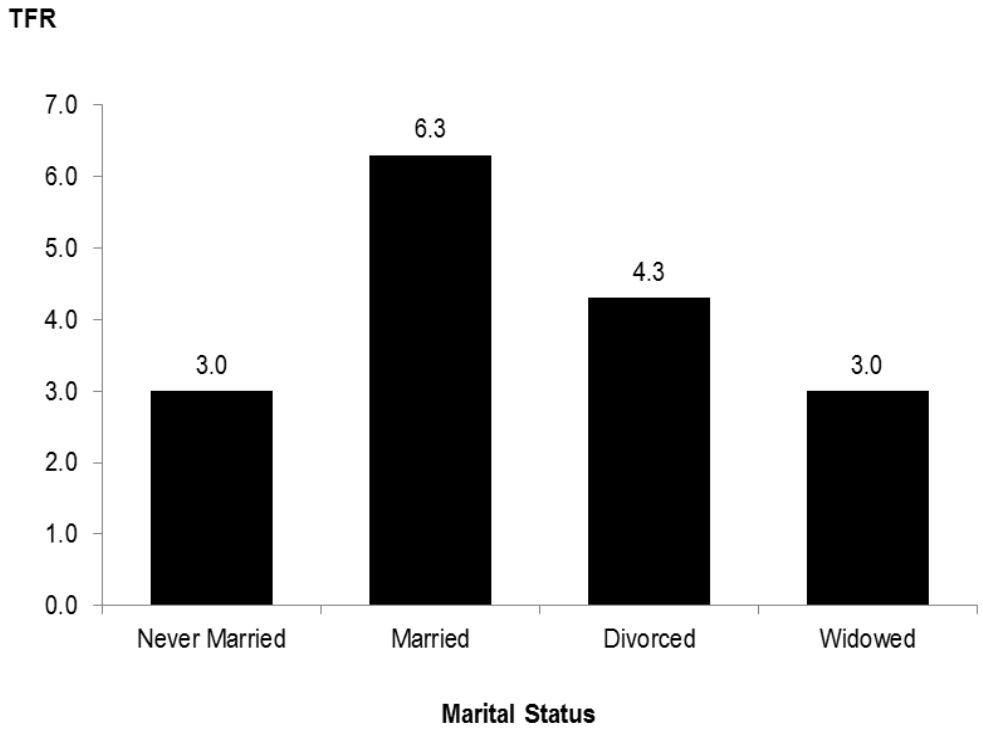
Table 4.1: Urban Age Specific Fertility as a Proportion of Total ASFR; Tanzania, 2012 Census

Age Group	ASFR Urban	ASFR Rural	$\frac{ASFR\ Urban}{ASFR\ Rural}$
15-19	0.059	0.119	0.33
20-24	0.177	0.283	0.38
25-29	0.200	0.289	0.41
30-34	0.176	0.253	0.41
35-39	0.125	0.199	0.39
40-44	0.062	0.108	0.36
45-49	0.028	0.045	0.39

4.3 Fertility by Marital Status

In Tanzania, just like in many other countries in sub Saharan Africa, marriage is a strong determinant of fertility, because traditionally women are expected to bear children once married. Figure 4.4 shows that women who were in union (married and living together) had higher fertility rate above the national average of 5.5 births per woman. Total Fertility Rate among married women was 6.8. The lowest TFR was recorded among the never married and widowed, both at 3.0 births per woman.

Figure 4.2: Fertility Differentials by Marital Status; Tanzania, 2012 Census

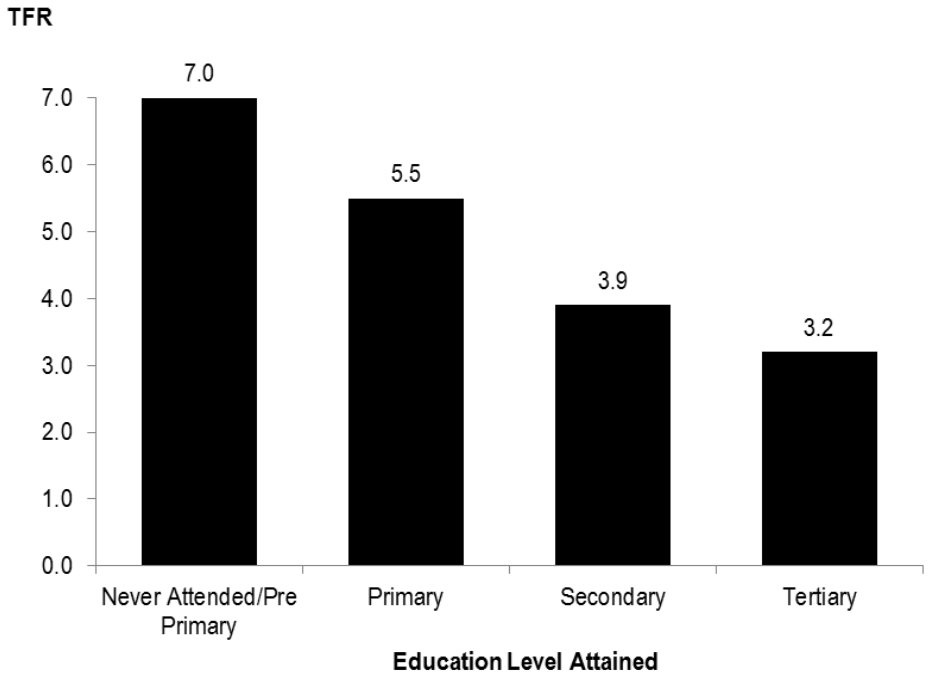


4.4 Fertility by Education Level

Education level is one of the important factors that affect fertility levels in a society. The effects of education on fertility can be divided into three parts; those that act on the demand for children, those that affect the supply of children and those that influence the costs of fertility regulation. Education facilitates the acquisition of information concerning family planning and in particular it is associated with the use of more effective contraceptive methods. Education increases husband-wife communication and it imparts a sense of control over one's destiny, which may encourage attempts to control childbearing. Furthermore, education increases couples' income potential, making a wide range of contraceptive methods affordable and delays entry into marital unions (See also Kpedkepo, 1982) and in so doing reducing fertility.

Results from Tanzania 2012 PHC further prove that fertility is negatively associated with the educational attainment of the mother. Figure 4.5 show that Total Fertility Rate (TFR) decreases as education level of the mother increases. Total Fertility Rate decreases from 7.0 for women with no education or who have attended pre-primary education only to 3.2 for women with tertiary education (university or related). This suggests that the national TFR of 5.5 children per woman is mainly influenced by women who had never attended school or with pre-primary education alone.

Figure 4.3: Fertility Differentials by Education Level; Tanzania, 2012 Census



4.5 Fertility by Occupation

Fertility levels are closely related with occupation of a woman. Generally women who are employed/working have lower fertility than those who are not. Experience from more developed, industrialized countries, proves that women's employment is likely to lead to sustained declines in fertility.

Results from the 2012 PHC show that women engaged in agricultural activities (farmers, livestock keepers and fishers) had the highest TFR (5.9 children per woman) when compared to other occupations or those not working (Table 4.2). Women engaged in small businesses and service workers recorded the lowest TFR of 3.3 births per woman while professionals, street vendors and clerks recorded a fertility level of around 3.5. Generally working women are more educated and therefore well informed on advantages of having a small family. Work commitment and career advancement also limit employed and professional women from having many children. On the other hand, most of the unemployed women are less educated and reside in rural areas where accessibility to family planning services is limited.

Table 4.2: Recorded Total Fertility Rates by Occupation of Woman; Tanzania, 2012 Census

Occupation of Woman	Total Fertility Rate
Professionals and Managers	3.6
Technicians	4.1
Small Business and Service	3.3
Agriculture	5.9
Street Vendors	3.5
Clerks	3.5
Not working	4.6

4.6 Fertility by Region and Residence

4.6.1 Total Fertility Rates by Region and Residence

Generally urban fertility rates are lower than rural fertility rates, especially in developing countries. Studies have shown that urban fertility in Sub-Saharan Africa is on average almost 30 percent lower than rural fertility (Shapiro and Tambashe 2000; Dudley and Pillet 1998). Results from the 2012 PHC indicate the same pattern for Tanzania.

The TFR in rural areas was higher (6.5 children per woman) compared to urban TFR (4.1 children per woman), which means that, on average, women in rural areas of Tanzania have two children more than those in urban areas. Data from Table 4.6 and Figure 4.7 show that for all the regions in Tanzania, the estimated TFR for rural areas was higher than that for urban areas. Regions with the largest difference between rural and urban fertility rates were Tabora (2.9), Simiyu (2.6), Mwanza and Kagera (2.5) while regions with the lowest differences were Kusini Unguja (0.3), Kaskazini Unguja (0.4) and Kilimanjaro (1.9). Variation between rural and urban areas fertility rates probably portrays the differences of socio-economic development between rural and urban areas of a particular region.

Generally regions around Lake Victoria, Western part of the country and Pemba regions have high fertility rates when compared with other parts of the country. The highest TFR of 8.5 was estimated for Geita region, and the lowest (3.6) was estimated from Dar es Salaam. Other regions with TFR of 7 or more were Rukwa (7.1), Kigoma (7.3), Tabora (7.0), Singida (7.4) and Kaskazini Pemba (7.4). Other regions are Mara (7.0), Katavi (7.4), Simiyu (7.9) and Kusini Pemba (7.3). High level of fertility in these regions is consistent with mean age at first marriage and mean age at first births. All these regions had average mean age at first marriage and mean age at first birth below the national average of 22.3 and 20 years, respectively.

Table 4. 3: Estimated Total Fertility Rate by Region; Tanzania, 2002 and 2012 Censuses

Region	2002 TFR	2012			
		TFR	Rural	Urban	Difference (Rural-Urban)
Tanzania	**6.3**	**5.5**	**6.5**	**4.1**	**2.3**
Tanzania Mainland	**6.3**	**5.5**	**6.4**	**4.1**	**2.3**
Dodoma	6.8	5.9	6.3	4.3	2.0
Arusha	5.0	4.3	5.1	3.1	2.0
Kilimanjaro	5.2	4.3	4.8	3.4	1.4
Tanga	6.1	5.7	6.1	4.3	1.8
Morogoro	5.9	4.9	5.4	3.8	1.5
Pwani	5.3	4.7	5.4	3.9	1.5
Dar es Salaam	3.8	3.6	N/A	3.6	-
Lindi	5.2	4.6	4.8	3.8	1.1
Mtwara	5.0	4.1	4.3	3.6	0.7
Ruvuma	5.8	4.9	5.1	4.5	0.7
Iringa	5.7	4.6	5.1	3.5	1.6
Mbeya	5.9	5.1	5.7	4.4	1.3
Singida	6.8	7.4	7.5	5.1	2.4
Tabora	7.7	7.0	7.5	4.6	2.9
Rukwa	7.6	7.3	7.8	6.4	1.3
Kigoma	7.9	7.3	7.7	5.6	2.1
Shinyanga	8.1	6.1	6.8	4.4	2.4
Kagera	7.9	6.4	6.7	4.3	2.5
Mwanza	7.2	6.7	7.9	5.4	2.5
Mara	6.9	7.0	7.4	5.2	2.3
Manyara	7.2	6.3	6.6	4.3	2.3
Njombe	N/A	4.2	4.6	3.5	1.0
Katavi	N/A	7.4	8.1	6.0	2.1
Simiyu	N/A	7.9	8.1	5.5	2.6
Geita	N/A	8.5	8.7	6.8	1.8
Tanzania Zanzibar	**6.2**	**5.2**	**6.2**	**4.5**	**1.7**
Kaskazini Unguja	7.3	5.5	5.6	5.2	0.4
Kusini Unguja	5.7	4.8	4.8	4.5	0.3
Mjini Magharibi	5.1	4.3	4.8	4.2	0.6
Kaskazini Pemba	7.4	7.3	7.8	6.7	1.1
Kusini Pemba	8.1	7.4	7.9	5.9	2.0

Note:

i. *N/A- Not Applicable*

ii. *Dar es Salaam Region is completely urban and therefore a difference of TFR between rural and urban area cannot be calculated*.

iii. *Njombe, Katavi, Simiyu and Geita are new regions; where Njombe was formed from Iringa, Katavi was formed from Rukwa, Simiyu was formed from Shinyanga and Mwanza and Geita was formed from Mwanza, Kagera and Shinyanga*

4.6.2 Average Parity by Region and Residence

The regional analysis of reported average parities indicates that average parity has been lowest for women in Dar es Salaam (1.8) and highest for women in Kaskazini Pemba (4.7) followed by Singida and Geita (3.5) (See Table 4.4). Women in rural areas had high parity when compared to those living in urban areas for all regions in the country.

Table 4.4: Reported Average CEB by Region and Residence; Tanzania, 2012 Census

Region	Total	Rural	Urban	Difference (Rural-Urban)
Tanzania	**2.9**	**3.3**	**2.1**	**1.2**
Tanzania Mainland	**2.9**	**3.3**	**2.1**	**1.2**
Dodoma	3.1	3.4	2.1	1.3
Arusha	2.3	2.6	1.7	0.9
Kilimanjaro	2.5	2.7	1.9	0.8
Tanga	3.1	3.3	2.3	1.0
Morogoro	2.8	3.1	2.1	1.0
Pwani	2.7	3.1	2.2	0.9
Dar es Salaam	1.8	N/A	1.8	-
Lindi	2.9	3.1	2.3	0.8
Mtwara	2.6	2.8	2.1	0.7
Ruvuma	2.8	3.0	2.3	0.7
Iringa	2.6	3.0	1.9	1.1
Mbeya	2.8	3.2	2.3	0.9
Singida	3.5	3.7	2.6	1.1
Tabora	3.3	3.4	2.4	1.0
Rukwa	3.4	3.5	2.9	0.6
Kigoma	3.3	3.4	2.6	0.8
Shinyanga	3.1	3.3	2.3	1.0
Kagera	3.3	3.4	2.1	1.3
Mwanza	3.2	3.7	2.5	1.2
Mara	3.4	3.6	2.6	1.0
Manyara	3.1	3.2	2.3	0.9
Njombe	2.6	2.8	1.9	0.9
Katavi	3.3	3.5	2.8	0.7
Simiyu	3.4	3.5	2.6	0.9
Geita	3.5	3.5	2.8	0.7
Tanzania Zanzibar	**2.8**	**3.6**	**2.3**	**1.3**
Kaskazini Unguja	3.1	3.1	2.9	0.2
Kusini Unguja	2.8	2.8	2.7	0.1
Mjini Magharibi	2.3	2.7	2.2	0.5
Kaskazini Pemba	4.7	3.6	3.1	0.5
Kusini Pemba	3.4	3.6	3.1	0.5

Note:

i. *N/A- Not Applicable*
ii. *Dar es Salaam Region is completely urban and therefore a difference of TFR between rural and urban area cannot be calculated.*

Chapter Five

Adolescent Fertility

5.1 Introduction

The issue of adolescent fertility is important for health, social and economic reasons. Children born to adolescent women (mothers aged 15 – 19 years) face an increased risk of illness and death. Adolescent mothers themselves are more likely to experience difficult pregnancy outcomes and maternity-related mortality than older women, and they are more constrained in their ability to pursue educational opportunities than their counterparts who delay childbearing. Pregnancy is the leading cause of death for adolescent females in many developing countries (WHO, 2012), with adolescent mothers twice as likely to die from pregnancy-related complications compared to mothers aged 20 years and above (Patton et al., 2009).

Early childbearing is also associated with lower educational attainment and persistent poverty among those who become mothers during adolescent ages. The 2010 Tanzania Demographic and Health Survey, reports that 52 percent of teenagers who had no education had begun childbearing compared to only six percent of women who attended secondary education. The Programme of Action of the 1994 International Conference on Population and Development (ICPD) highlighted the importance of reducing adolescent pregnancy and the multiple factors underlying adolescent fertility, and recommended that governments take actions to substantially reduce adolescent pregnancies.

5.2 Levels of Adolescent Fertility

Results show that the Adolescent Fertility Rate (AFR) for Tanzania was 81 births per 1,000 women aged 15 – 19 years (Table 5.1). This rate is very high when compared with a 2015 Millennium Development Goals which aims at reducing AFR to 5.4 per 1,000 women aged 15 – 19 years by 2015. Regions in Tanzania Zanzibar have lower AFR when compared to those in Tanzania Mainland, which may be explained by different education systems between Tanzania Mainland and Tanzania Zanzibar. The education system in Tanzania Zanzibar allows young girls to stay longer in school than those on the Mainland and hence delaying childbearing.

Adolescent fertility rates vary across regions, ranging from 140.2 in Katavi to 26.0 for Mjini Magharibi. Regions with AFRs above one hundred are Tabora (127.0), Rukwa (126.8), Mara (119.2), Katavi (140.2), Simiyu (101.2) and Geita (124).

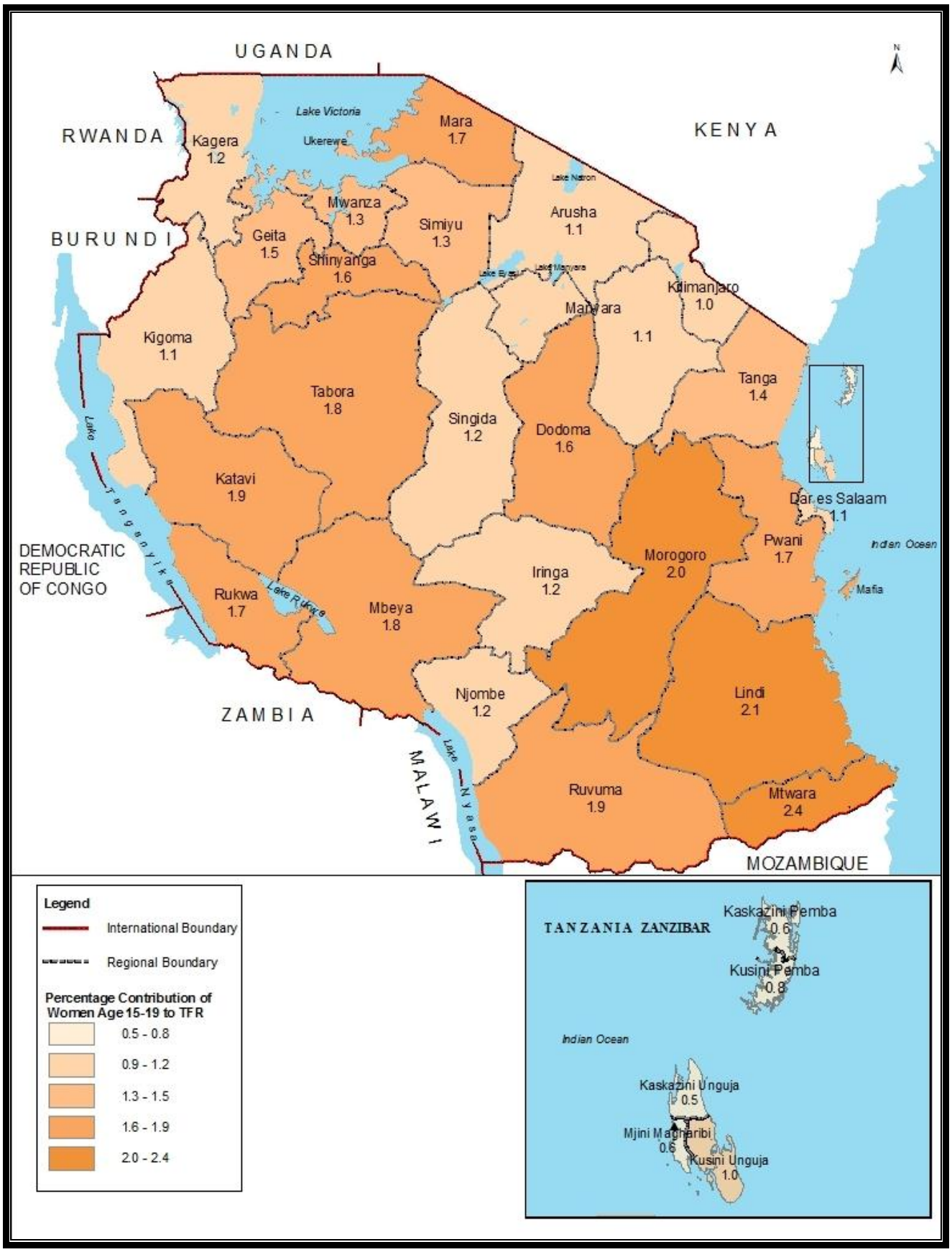
Table 5.1: Adolescent Fertility Rate; Tanzania, 2012 Census

Region	Age-Specific Fertility Rates					Adolescent Fertility (Births per 1000 Women)	TFR (women aged 15-49)	Percentage Contribution of Women Age 15-19 to TFR
	15	16	17	18	19			
Tanzania	**0.021**	**0.037**	**0.068**	**0.119**	**0.166**	**81.2**	**5.5**	**1.5**
Tanzania Mainland	**0.022**	**0.038**	**0.069**	**0.121**	**0.169**	**82.7**	**5.5**	**1.5**
Dodoma	0.023	0.046	0.087	0.135	0.200	94.0	5.9	1.6
Arusha	0.014	0.017	0.033	0.067	0.103	45.5	4.3	1.1
Kilimanjaro	0.007	0.020	0.033	0.065	0.112	43.2	4.3	1.0
Tanga	0.019	0.037	0.058	0.114	0.173	77.2	5.7	1.4
Morogoro	0.026	0.045	0.091	0.142	0.189	98.2	4.9	2.0
Pwani	0.025	0.039	0.066	0.116	0.151	79.8	4.7	1.7
Dar es Salaam	0.007	0.013	0.034	0.050	0.075	37.7	3.6	1.1
Lindi	0.033	0.051	0.090	0.147	0.179	98.9	4.6	2.1
Mtwara	0.026	0.054	0.108	0.132	0.186	99.6	4.1	2.4
Ruvuma	0.017	0.052	0.093	0.135	0.178	93.7	4.9	1.9
Iringa	0.017	0.016	0.040	0.085	0.124	53.7	4.6	1.2
Mbeya	0.017	0.038	0.069	0.143	0.184	90.4	5.1	1.8
Singida	0.020	0.035	0.075	0.134	0.207	90.2	7.4	1.2
Tabora	0.045	0.065	0.119	0.188	0.220	127.2	7.0	1.8
Rukwa	0.028	0.052	0.102	0.184	0.267	127.0	7.3	1.7
Kigoma	0.016	0.030	0.060	0.118	0.199	82.2	7.3	1.1
Shinyanga	0.036	0.048	0.090	0.132	0.185	96.8	6.1	1.6
Kagera	0.012	0.023	0.053	0.125	0.198	78.3	6.4	1.2
Mwanza	0.028	0.044	0.075	0.123	0.176	87.6	6.7	1.3
Mara	0.031	0.056	0.102	0.172	0.245	119.4	7.0	1.7
Manyara	0.018	0.035	0.051	0.112	0.149	70.2	6.3	1.1
Njombe	0.011	0.015	0.037	0.084	0.120	50.9	4.2	1.2
Katavi	0.034	0.082	0.128	0.202	0.263	140.3	7.4	1.9
Simiyu	0.033	0.057	0.090	0.142	0.202	101.3	7.9	1.3
Geita	0.029	0.062	0.108	0.191	0.252	125.0	8.5	1.5
Tanzania Zanzibar	**0.008**	**0.012**	**0.025**	**0.046**	**0.088**	**35.6**	**5.2**	**0.7**
Kaskazini Unguja	0.005	0.006	0.032	0.032	0.077	29.1	5.5	0.5
Kusini Unguja	0.014	0.016	0.034	0.042	0.138	48.0	4.8	1.0
Mjini Magharibi	0.005	0.012	0.018	0.033	0.059	26.0	4.3	0.6
Kaskazini Pemba	0.010	0.010	0.034	0.068	0.122	47.0	7.3	0.6
Kusini Pemba	0.016	0.018	0.030	0.088	0.149	59.0	7.4	0.8

5.2.1 Contribution of Adolescent Fertility to Total Fertility Rate

Adolescent fertility contributed 1.5 percent of the Total Fertility Rate (TFR) at national level. The contribution is high for Tanzania Mainland (1.5 percent) when compared to Tanzania Zanzibar (0.7 percent). Table 5.1 reveals that the largest contribution of adolescent fertility to total fertility rate is observed from Mtwara region (2.4 percent) followed by Lindi (2.1 percent) and Morogoro (2.0 percent). These are the regions where early marriages are relatively more common compared to other regions. On the other hand, the contribution of AFR to TFR was 1 percent or less for regions in Tanzania Zanzibar.

Map 5.1: Percentage Contribution of Adolescent Fertility to TFR by Region; Tanzania, 2012 Census



5.3 Adolescent Fertility Differentials

5.3.1 Education Status

Table 5.2 shows percentage of girls who had at least one birth at the time of Census and their education attainment. Results confirm that early childhood fertility is negatively related to education status of girls. Teenagers with no educations are more likely to start childbearing than the more educated. Results show that 42.2 percent of girls with no education had started childbearing compared with only 9 percent with university or related education.

Table 5.2: Percentage of Adolescents with at Least One Birth by their Education Attainment; Tanzania, 2012 Census

Education Attainment	Number of Females						Percentage					
	Total	15	16	17	18	19	Total	15	16	17	18	19
Total	**2,309,557**	**470,210**	**466,818**	**431,719**	**536,140**	**404,670**	**23.3**	**8.7**	**12.7**	**19.7**	**32.9**	**43.8**
Never Attended	247,510	46,304	44,293	40,394	70,325	46,195	42.2	15.8	24.3	38.1	55.8	68.8
Primary	1,255,414	295,000	256,300	219,320	277,669	207,125	26.9	9.3	14.4	23.7	39.2	54.5
Secondary	800,599	128,906	166,226	172,005	185,992	147,470	11.9	5.0	7.0	10.2	15.0	21.8
University and Other related	5,735	N/A	N/A	N/A	2,155	3,580	9.0	N/A	N/A	N/A	6.2	10.7

Adolescent fertility is strongly associated with education of the head of the household. Adolescents living in households headed by least educated heads were most likely to have started childbearing as compared to those headed by better educated heads. Table 5.3 shows that 40.9 percentage of adolescents that were living in households headed by heads that had never attended schools had already started childbearing at the time of the Census compared with 8.9 percent of those living in households headed by heads with university or related education. Education of the head of the households is related with general welfare of the household. Households headed by poorly educated heads are more likely to be poor than those headed by better educated heads. It can be implied, therefore, that adolescent fertility is positively associated with poverty status of the household.

Table 5.3: Percentage of Adolescents with at Least One Birth by Education Attainment of the Household Head; Tanzania, 2012 Census

Education Attainment	Number of Females						Percentage					
	Total	15	16	17	18	19	Total	15	16	17	18	19
Total	**2,309,557**	**470,210**	**466,818**	**431,719**	**536,140**	**404,670**	**23.3**	**8.7**	**12.7**	**19.7**	**32.9**	**43.8**
Never Attended	235,832	45,390	43,114	38,612	66,308	42,407	40.9	15.2	23.4	37.1	54.8	67.8
Primary	1,220,464	291,752	252,508	214,085	266,736	195,384	26.2	9.1	14.1	23.3	38.6	53.8
Secondary	847,861	133,068	171,196	179,021	201,024	163,550	14.4	5.8	7.9	11.5	18.3	26.4
University and Other related	5,400	N/A	N/A	N/A	2,072	3,329	8.9	N/A	N/A	N/A	5.8	10.8

5.3.2 Residence

Table 5.4 gives percentage of adolescent girls with at least one birth by the time of Census in August, 2012. Results show that 23.3 percent of all adolescent had given at least one birth. Fertility among adolescents is very low at age 15 and 16 but becomes substantial at ages 17 to 19. The percentage of adolescents who have started childbearing was substantially higher in rural (28.1 percent) than in urban areas (14.8 percent) and higher in Tanzania Mainland (23.7 percent) than Tanzania Zanzibar (11.6 percent).

Table 5.4: Percentage Distribution of Adolescents with at Least One Birth by Residence; Tanzania, 2012 Census

Age	Tanzania			Tanzania Mainland			Tanzania Zanzibar		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Total	**23.3**	**28.1**	**14.8**	**23.7**	**28.5**	**15.0**	**11.6**	**14.1**	**9.0**
15	8.7	10.4	5.2	8.9	10.5	5.3	4.3	4.9	3.6
16	12.7	15.7	7.2	12.9	15.9	7.3	6.1	6.7	5.5
17	19.7	24.7	11.5	20.0	25.1	11.6	9.4	11.4	7.5
18	32.9	39.9	20.1	33.5	40.5	20.5	15.1	18.2	11.7
19	43.8	53.2	29.0	44.5	53.8	29.6	23.2	30.5	16.1

Table 5.5 shows the percentage of girls aged 15 – 19 who had started childbearing by region and residence. Overall, the percentage of adolescent who had at least one birth was high in the regions around Lake Victoria and Western part of the country. These are the same regions with high Total Fertility Rates in the country and their higher levels of adolescent fertility contribute to the higher TFRs. Katavi had the highest percentage of adolescent mothers (36.8 percent) and the lowest was in Mjini Magharibi (9.3 percent). Generally, percentage of adolescent mothers was lower in Tanzania Zanzibar than Tanzania Mainland. Percentage of adolescent mothers was less than 10 percent for all regions in Tanzania Zanzibar, while the region with lowest percentage was Dar es Salaam (12 percent).

The percentage of adolescents who had started childbearing was higher in rural than urban areas for all regions in the country except Kaskazini and Kusini Unguja. At the national level, the percentage of adolescent mothers in rural areas (28.1 percent) was twice that in urban areas (14.8 percent). A similar pattern was for other 19 regions in Tanzania Mainland. Differences in socio-economic conditions between the rural and urban population largely explain these variations.

Table 5.5: Percentage of Adolescent with at Least One Birth by Region and Rural – Urban Residence; Tanzania, 2012 Census

Region	Number of Adolescents			Adolescents with at Least One Birth			Percentage		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Tanzania	**2,309,557**	**1,483,204**	**826,353**	**538,686**	**416,619**	**122,067**	**23.3**	**28.1**	**14.8**
Dodoma	94,273	72,982	21,291	25,022	21,656	3,366	26.5	29.7	15.8
Arusha	96,436	58,833	37,603	14,058	10,661	3,397	14.6	18.1	9.0
Kilimanjaro	86,151	61,673	24,478	11,821	9,171	2,650	13.7	14.9	10.8
Tanga	97,335	71,130	26,205	21,078	17,360	3,718	21.7	24.4	14.2
Morogoro	106,190	68,633	37,557	29,114	22,100	7,014	27.4	32.2	18.7
Pwani	49,973	30,230	19,743	12,512	8,728	3,784	25.0	28.9	19.2
Dar es Salaam	275,312	N/A	275,312	32,934	N/A	32,934	12.0	N/A	12.0
Lindi	34,908	26,910	7,998	9,968	8,453	1,515	28.6	31.4	18.9
Mtwara	53,091	37,835	15,256	15,914	12,861	3,053	30.0	34.0	20.0
Ruvuma	64,612	45,025	19,587	18,905	15,025	3,880	29.3	33.4	19.8
Iringa	46,278	29,019	17,259	7,366	5,338	2,028	15.9	18.4	11.8
Mbeya	149,609	91,383	58,226	33,389	23,949	9,440	22.3	26.2	16.2
Singida	58,489	48,403	10,086	14,275	12,753	1,522	24.4	26.3	15.1
Tabora	118,435	100,521	17,914	43,215	39,543	3,672	36.5	39.3	20.5
Rukwa	52,273	37,958	14,315	16,034	12,521	3,512	30.7	33.0	24.5
Kigoma	106,019	82,553	23,466	23,311	19,131	4,180	22.0	23.2	17.8
Shinyanga	82,044	66,112	15,932	25,595	22,807	2,788	31.2	34.5	17.5
Kagera	121,740	106,995	14,745	25,002	23,225	1,777	20.5	21.7	12.1
Mwanza	148,248	88,175	60,073	38,867	e28,566	10,301	26.2	32.4	17.1
Mara	86,078	67,230	18,848	26,295	22,240	4,055	30.5	33.1	21.5
Manyara	67,043	56,103	10,940	13,085	11,520	1,565	19.5	20.5	14.3
Njombe	35,155	23,993	11,162	5,354	4,146	1,208	15.2	17.3	10.8
Katavi	29,270	20,460	8,810	10,762	8,331	2,431	36.8	40.7	27.6
Simiyu	86,160	79,381	6,779	27,627	26,362	1,265	32.1	33.2	18.7
Geita	90,499	73,828	16,671	28,602	24,835	3,767	31.6	33.6	22.6
Kaskazini Unguja	10,015	9,174	841	1,087	985	102	10.9	10.7	12.1
Kusini Unguja	5,673	5,337	336	991	928	63	17.5	17.4	18.8
Mjini Magharibi	34,498	4,523	29,975	3,211	655	2,556	9.3	14.5	8.5
Kaskazini Pemba	12,258	9,850	2,408	1,596	1,330	267	13.0	13.5	11.1
Kusini Pemba	11,492	8,955	2,537	1,696	1,440	257	14.8	16.1	10.1

Chapter Six
Lifetime Fertility

6.1 Introduction

The 2012 Population and Housing Census collected information from women aged 15 -49 on the total number of children ever born as well as the births that occurred in the last 12 months preceding the Census. The number of children ever born to a woman at the time of the Census is used to capture lifetime fertility of a woman. Lifetime fertility therefore, refers to the number of children born alive during the entire reproductive period of a woman.

6.2 Mean Number of Children Ever Born

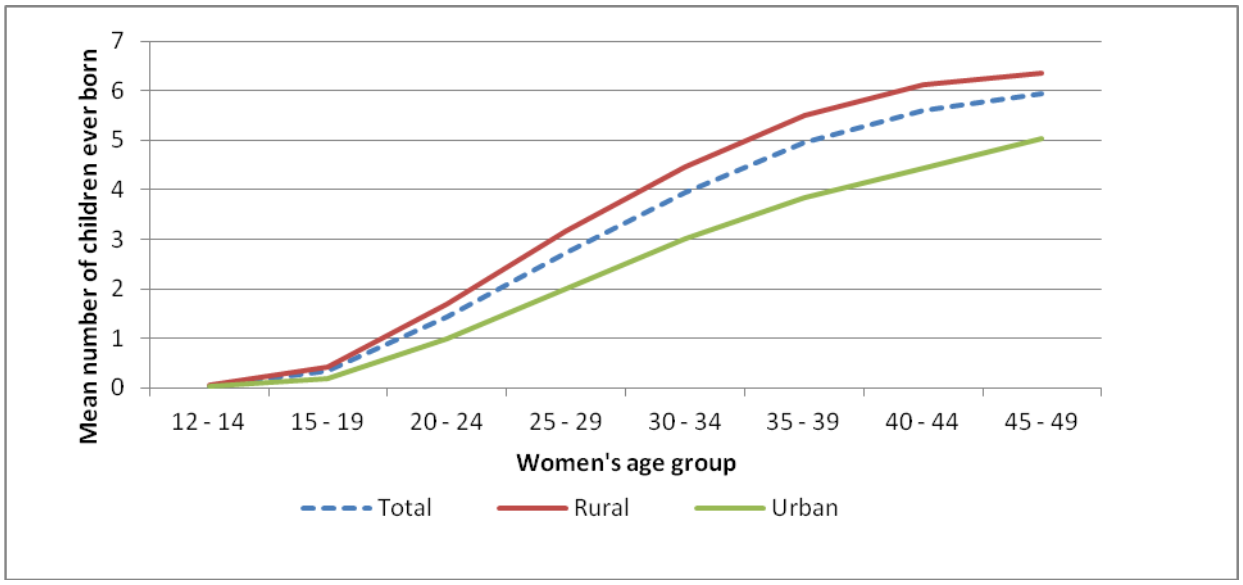
The average number of children ever born (CEB) in the lifetime of women at the census by 5-year age group is presented in Table 6.1 and Figure 6.1. The results show that parity ranges from 0 to 7 for women aged 12 – 49 years. The number of children ever born to a woman increases with age, and therefore, the parity curves shows a slow increase in early stages of reproductive stages followed by a stable increase. The mean parity starts to increase at the age of 18-19 years, confirming earlier observations that adolescent fertility level in the country is high.

Regional variations are observed with four regions registering parity of above seven (Rukwa 7.079; Kigoma 7.121; Kaskazini Pemba 7.124; Kusini Pemba 7.721). Arusha and Kilimanjaro recorded the lowest parity of 5.150 and 5.109 respectively. This observation is consistency with current fertility where regions around Lake Victoria, Western part of the country and Pemba showed the higher TFR compared with other part of the country (Refer to Chapter Three of this Document).

Table 6.1: Mean Number of Children Ever Born by Region; Tanzania, 2012 Census

Parity	1	2	3	4	5	6	7
Region	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40-44**	**45-49**
Tanzania	**0.337**	**1.421**	**2.731**	**3.946**	**4.949**	**5.600**	**5.945**
Tanzania Mainland	**0.343**	**1.437**	**2.746**	**3.952**	**4.942**	**5.583**	**5.924**
Dodoma	0.360	1.552	2.910	4.150	5.194	5.944	6.197
Arusha	0.203	1.072	2.171	3.200	4.048	4.663	5.150
Kilimanjaro	0.187	1.047	2.137	3.227	4.109	4.731	5.109
Tanga	0.306	1.423	2.795	3.996	4.896	5.531	5.980
Morogoro	0.380	1.424	2.591	3.636	4.581	5.209	5.588
Pwani	0.344	1.363	2.500	3.585	4.468	5.144	5.517
Dar es Salaam	0.160	0.823	1.705	2.590	3.285	3.848	4.546
Lindi	0.376	1.422	2.448	3.443	4.290	4.879	5.416
Mtwara	0.377	1.338	2.297	3.193	3.835	4.374	4.702
Ruvuma	0.374	1.475	2.654	3.690	4.534	5.067	5.400
Iringa	0.207	1.141	2.394	3.564	4.543	5.216	5.546
Mbeya	0.309	1.369	2.731	3.960	4.915	5.543	5.906
Singida	0.361	1.618	3.192	4.644	5.787	6.546	6.562
Tabora	0.584	1.918	3.387	4.749	5.825	6.294	6.619
Rukwa	0.437	1.851	3.499	5.001	6.219	6.927	7.079
Kigoma	0.321	1.527	3.220	4.759	6.013	6.846	7.121
Shinyanga	0.479	1.746	3.172	4.495	5.504	5.997	6.208
Kagera	0.284	1.586	3.193	4.613	5.750	6.476	6.804
Mwanza	0.399	1.623	3.175	4.603	5.754	6.382	6.620
Mara	0.465	1.901	3.491	4.899	5.860	6.370	6.424
Manyara	0.278	1.369	2.854	4.264	5.488	6.234	6.674
Njombe	0.196	1.137	2.318	3.435	4.321	4.931	5.338
Katavi	0.554	1.972	3.433	4.850	6.003	6.545	6.904
Simiyu	0.539	1.868	3.521	5.049	6.231	6.781	6.876
Geita	0.480	1.997	3.728	5.123	6.222	6.803	6.869
Tanzania Zanzibar	**0.170**	**0.942**	**2.271**	**3.746**	**5.166**	**6.113**	**6.510**
Kaskazini Unguja	0.156	0.930	2.468	4.227	5.672	6.560	6.532
Kusini Unguja	0.224	1.100	2.315	3.511	4.823	5.752	6.447
Mjini Magharibi	0.135	0.739	1.824	3.086	4.357	5.238	5.888
Kaskazini Pemba	0.205	1.335	3.173	5.042	6.497	7.227	7.124
Kusini Pemba	0.222	1.262	3.053	4.998	6.453	7.505	7.721

Figure 6.1: Pattern of Mean Number of Children Ever Born by Women; Tanzania, 2012 Census



6.3 Parity Distribution and Progression Ratios

6.3.1 Parity Distribution

The changes in fertility by age may be further explained by examining the parity distribution of women. The parity distribution of women showed a zero parity of 76.7 percent and 30.5 percent for women in age groups 15-19 and 20-24 respectively. These women were about twice more than the rest of the childless women in the female population. The percentage of women with zero parity declined steadily as age advanced as shown in Table 6.2. As expected, the percentage of women with high parity increases with age.

Table 6.2: Percentage Distribution of Women Five year's Age group 15 - 49 by Total Children Ever Born_1+; Tanzania, 2012 Census.

Age Group	Women	0	1	2	3	4	5	6	7	8	9	10+
Total	**12,032,885**	**24.1**	**13.2**	**12.7**	**10.9**	**9.5**	**7.4**	**6.3**	**4.7**	**3.7**	**2.7**	**4.9**
15 - 19	2,309,557	76.7	16.2	5.0	1.4	0.6	0.1	0.0	0.0	0.0	0.0	0.0
20 - 24	2,100,897	30.5	28.4	22.2	10.9	5.0	1.9	0.8	0.2	0.1	0.0	0.0
25 - 29	1,809,024	11.1	15.6	22.3	20.5	14.9	7.9	4.3	1.8	1.0	0.4	0.3
30 - 34	1,503,813	5.7	8.4	14.3	17.2	17.2	13.7	10.4	5.9	3.4	1.7	2.0
35 - 39	1,238,033	4.2	5.6	9.6	12.6	14.6	13.7	12.7	9.6	7.1	4.4	5.9
40 - 44	939,619	3.9	4.9	7.8	10.0	12.0	12.2	12.2	10.4	8.8	6.6	11.1
45 - 49	776,619	4.4	4.6	6.9	8.8	10.6	11.2	11.5	10.6	9.3	7.3	14.9

The parity distribution of women for rural and urban areas as displayed in Table 6.3 and 6.4 reveal some variations. Urban women of zero parity (31.5 percent) were higher in proportion than their rural counterparts (20.2 percent). This observation may be influenced by relatively higher number of urban women aged 15-24 with zero parity compared to their counterparts in rural areas. The percentage of women with zero parity decreased steadily with age for both urban and rural women.

Table 6.3: Percentage Distribution of Women Five year's Age group 15 - 49 by Total Children Ever Born_1+; Tanzania Rural, 2012 Census.

Age Group	Women	0	1	2	3	4	5	6	7	8	9	10+
Total	**7,889,802**	**20.2**	**12.0**	**11.7**	**10.7**	**9.9**	**8.3**	**7.3**	**5.7**	**4.6**	**3.4**	**6.2**
15 - 19	1,483,204	71.9	19.1	6.2	1.8	0.7	0.1	0.1	0.0	0.0	0.0	0.0
20 - 24	1,298,528	21.9	28.1	25.7	13.8	6.5	2.6	1.1	0.3	0.1	0.0	0.0
25 - 29	1,125,281	7.0	10.9	19.7	22.8	18.5	10.5	5.8	2.5	1.4	0.5	0.3
30 - 34	960,180	3.9	5.5	10.0	15.2	18.3	16.5	13.2	7.8	4.6	2.3	2.7
35 - 39	824,156	3.2	4.0	6.6	9.7	13.1	14.4	14.7	11.9	9.1	5.7	7.6
40 - 44	651,068	3.3	3.9	5.8	7.8	10.2	11.7	12.9	11.9	10.5	8.1	13.9
45 - 49	541,288	4.0	3.9	5.7	7.3	9.1	10.4	11.6	11.4	10.3	8.5	17.7

Table 6.4: Percentage Distribution of Women Five year's Age group 15 - 64 by Total Children Ever Born_1+; Tanzania Urban, 2012 Census.

Age Group	Women	0	1	2	3	4	5	6	7	8	9	10+
Total	**4,143,083**	**31.5**	**15.5**	**14.6**	**11.2**	**8.7**	**5.8**	**4.3**	**2.8**	**2.0**	**1.3**	**2.3**
15 - 19	826,353	85.2	10.9	2.9	0.7	0.3	0.0	0.0	0.0	0.0	-	0.0
20 - 24	802,369	44.5	28.9	16.6	6.2	2.5	0.8	0.4	0.1	0.0	0.0	0.0
25 - 29	683,743	17.9	23.2	26.6	16.6	9.0	3.6	1.8	0.7	0.4	0.1	0.1
30 - 34	543,633	8.8	13.7	21.8	20.8	15.4	8.8	5.3	2.5	1.4	0.7	0.9
35 - 39	413,877	6.1	8.8	15.5	18.3	17.8	12.3	8.8	5.0	3.3	1.7	2.4
40 - 44	288,551	5.3	7.1	12.2	15.2	16.2	13.2	10.6	7.1	5.1	3.1	4.8
45 - 49	235,331	5.2	6.1	9.8	12.2	14.0	12.8	11.3	8.7	6.8	4.6	8.4

6.3.2 Parity Progression Ratios

Parity Progression Ratio (PPR) measures the rate at which families are growing and the likelihood that a woman with "n" children proceeds to "n+1" children. Table 6.6 presents PPR by five years age groups for women aged 15 – 49. The table reveals that probability of a woman having an additional child is high and stable between 83 to 96 percent up to the sixth child which is slightly above the national TFR of 5.5 children per woman. PPR ranges between 78 and 70 percent after child number 6, suggesting that majority of women with already high parity are likely to pursue additional childbearing.

Variation is observed between rural and urban areas. Table 6.5 results show that 80 percent of women in rural areas will probably proceed to have seventh child. However, PPR for urban areas drops from 85 to 80 percent after the fourth child.

Table 6.5: Parity Progression Ratios by Age, Residence; Tanzania, 2012 Census

Age Group	2	3	4	5	6	7	8	9
Tanzania								
20 - 24	0.592	0.460	0.423	-	-	-	-	-
25 - 29	0.825	0.696	0.599	0.512	0.496	-	-	-
30 - 34	0.911	0.834	0.760	0.683	0.631	0.557	-	-
35 - 39	0.941	0.894	0.844	0.785	0.743	0.679	0.645	0.589
40 - 44	0.949	0.915	0.880	0.836	0.801	0.751	0.718	0.667
45 - 49	0.952	0.924	0.896	0.859	0.828	0.785	0.748	0.705
Tanzania Rural								
20 - 24	0.641	0.487	0.433	-	-	-	-	-
25 - 29	0.883	0.760	0.635	0.533	0.501	-	-	-
30 - 34	0.943	0.890	0.811	0.720	0.650	0.568	-	-
35 - 39	0.958	0.929	0.887	0.829	0.773	0.700	0.654	0.594
40 - 44	0.960	0.938	0.911	0.872	0.830	0.774	0.733	0.678
45 - 49	0.959	0.938	0.916	0.884	0.851	0.805	0.762	0.717
Tanzania Urban								
20 - 24	0.480	0.375	0.383	-	-	-	-	-
25 - 29	0.717	0.548	0.485	0.427	0.466	-	-	-
30 - 34	0.850	0.718	0.627	0.560	0.548	0.505	-	-
35 - 39	0.906	0.818	0.737	0.653	0.632	0.583	0.594	0.556
40 - 44	0.925	0.861	0.798	0.731	0.700	0.655	0.646	0.606
45 - 49	0.935	0.890	0.846	0.790	0.757	0.716	0.695	0.655

6.4 Population of Women who are Childless

The percentage of childless women at the end of the reproductive (45 – 49 years) period is an indicator of the prevalence of sterility in a population. This measure, however, overestimates the true prevalence of sterility because some of the childless women at the end of their reproductive period may not have had children for reasons not related to their physiological ability to become pregnant or to give birth. Moreover, Census results indicates some of the women aged 45 – 49 actually gave births in the last 12 months prior to the Census, so it is not definite that all these women will remain childless.

Table 6.6 shows 4.4 percent of women aged 45 – 49 were childless at the time of the Census in 2012. Percentage of childless women was relatively higher among urban women (5.7 percent)

compared to rural women (4.7 percent). Percentage of women aged 45 – 49 without children ranged from 6.9 percent in Lindi to 2.7 percent for Kusini Pemba. With the exception of Shinyanga and Mara regions, percentage of women of 45-45 without children was higher in urban than rural areas.

Table 6.6: Percentage Distribution of Childless Women Aged 45 to 49 by Place of Residence; Tanzania, 2012 Census

Place of Residence	Total women	Total Women Without Children	Percentage of Women who are Childless		
			Total	Rural	Urban
Tanzania	**776,622**	**34,004**	**4.4**	**4.0**	**5.2**
Tanzania Mainland	**748,541**	**32,554**	**4.3**	**4.0**	**5.2**
Dodoma	34,142	1,169	3.4	3.5	3.2
Arusha	26,990	807	3.0	2.6	3.7
Kilimanjaro	36,394	1,325	3.6	3.5	4.3
Tanga	47,749	2,067	4.3	4.0	5.4
Morogoro	37,274	1,660	4.5	4.2	5.0
Pwani	18,424	722	3.9	3.7	4.5
Dar es Salaam	76,428	4,426	5.8		5.8
Lindi	24,616	1,690	6.9	6.5	8.3
Mtwara	28,082	1,655	5.9	5.6	7.1
Ruvuma	26,779	1,156	4.3	4.3	4.4
Iringa	16,789	641	3.8	3.6	4.5
Mbeya	55,556	2,773	5.0	4.9	5.3
Singida	32,105	1,499	4.7	4.6	5.1
Tabora	28,645	1,068	3.7	3.7	3.9
Rukwa	12,176	395	3.2	3.1	3.6
Kigoma	28,722	876	3.0	2.9	3.6
Shinyanga	20,330	885	4.4	4.4	3.9
Kagera	36,287	1,116	3.1	2.8	5.8
Mwanza	47,649	2,130	4.5	4.4	4.7
Mara	24,968	1,167	4.7	4.5	5.5
Manyara	21,898	614	2.8	2.7	3.5
Njombe	13,128	567	4.3	4.1	5.2
Katavi	6,491	258	4.0	2.9	6.6
Simiyu	20,619	720	3.5	3.4	4.3
Geita	26,300	1,168	4.4	4.2	5.6
Tanzania Zanzibar	**28,081**	**1,450**	**5.2**	**4.7**	**5.7**
Kaskazini Unguja	4,755	292	6.1	6.2	5.7
Kusini Unguja	2,284	92	4.0	3.8	6.8
Mjini Magharibi	12,182	719	5.9	5.5	6.0
Kaskazini Pemba	5,248	247	4.7	4.8	4.4
Kusini Pemba	3,612	99	2.7	2.5	3.6

Chapter Seven

Summary, Conclusion and Recommendations

7.1 Introduction

There is a strong relationship between levels of national development with nuptiality and fertility. In developing countries where nuptiality is almost universal, the level of fertility is very high, which in turn has strong implications to the development of the country because of high population dynamics (Todaro, 1992). Furthermore, nuptiality and fertility levels must reflect the national and international population goals like the National Population Policy of Tanzania (2006) and the Millennium Development Goals (2000).

7.2 Nuptiality

In terms of nuptiality, the PHC results indicate that adolescents aged 15-19 belong to the never married category which may be an indicator that most youth stay in school longer, which may lead to a positive result of lowering fertility. On the other hand, if not handled carefully it may lead to more single mothers and breakdown of families at younger ages and poor care of children. This may lead some young mothers to neglect their children, hence leading to the mushrooming of street children. An increase of mean age at first marriage for girls from 19.1 to 22.3 years that has been observed between 1978 and 2012 censuses may lead to positive results of reducing fertility at large as the length of reproduction span of women of about 30 years is reduced. Nonetheless, marriage at older ages may push women to bear children above age 35 years, which may risk their maternal and child health.

Moreover, the PHC results have shown that the proportion of married females decreased from 69.5 percent in 1978 to 58.1 percent. The same trend was observed among males which decreased from 61.4 percent in 1978 to 56.8 percent in 2012. These results are supported by the increase in the average age at first marriage from 24.9 years in 1978 to 25.8 years in 2012 for males and from 19.1 years in 1978 to 22.3 percent in 2012 for females. Also, the mean age at first marriage was higher in urban areas than rural areas and relatively developed regions like Kilimanjaro had higher mean age at first marriage compared to periphery regions like Rukwa, Mtwara and Lindi. These results indicate that in order to reduce fertility level at national level, more development inputs should be injected into “less” developed regions.

As a whole these changes, especially the increase at the mean age at first marriage of females, will have positive results in the reduction of fertility in the country as stipulated by the Development Vision 2025 (Tanzania Mainland) and Zanzibar Development Vision 2020, the National Population Policy, National Strategy for Growth and Reduction of Poverty in Tanzania Mainland and Zanzibar Strategy for Growth and reduction of Poverty and Millennium Development Goals (2015).

7.3 Fertility Patterns, Levels, Trends and Differentials

7.3.1 Patterns and Levels

The 2012 PHC results indicate that Tanzania's fertility patterns, levels and trends are typical of developing countries of Sub-Saharan Africa. This is because the crude birth rate as high as 30 per thousand is more prevalent in developing countries. The age-specific fertility rate, as a measure of current child bearing performance, peaks at age group 20-25 years, which coincides with the mean age at first marriage. The TFR that has been estimated for Tanzania is 5.5, 5.7 for Tanzania Mainland and 5.2 for Tanzania Zanzibar. These indicators are quite high; hence more efforts should be done to bring socio-economic development to all regions of Tanzania as a result of the country's "Big Results Now" programme. Middle income countries like Singapore, Hong Kong and Southern Korea have managed to reduce TFR to below 3. It has been observed that developed regions like Dar es Salaam (TFR 3.5), Mjini Magharibi (TFR 4.3), and Kilimanjaro (TFR 4.3) have a higher per capita income compared with regions with high TFR like Geita (TFR 8.4) and Kusini Pemba (TFR 7.4).

Moreover, there is an association between population reproduction and development. The 2012 PHC results indicate that the Gross Reproduction Rates (GRR) and Net Reproduction Rates (NRR) are similar to other developing countries. As a whole, with NRR of 2.4 for Tanzania Mainland and 2.3 for Tanzania Zanzibar, the country has a high potential of the population replacing itself with time. It is evident that every woman in the reproductive ages will be replaced by more than two daughters. This gives the potential for the population of Tanzania to grow faster during the next 50 years. This, therefore, calls for concerted efforts to adopt fertility reduction measures such as modern family planning.

Life time fertility indicates that "less developed" regions like Rukwa (7.1), Kigoma (7.1), Kaskazini Pemba (7.1) and Kusini Pemba (7.7) had more ever born children compared to "developed regions" like Arusha (5.1), Kilimanjaro (5.2) and Dar es Salaam. There are other

regions with low parity like Mtwara (4.7) because of high marriage instabilities whose interventions in terms of population dynamics must be both social and developmental.

7.3.2 Fertility Trends

Although the fertility of the country is still high, there is evidence which shows that it has been declining from 6.9 in 1967 to 5.5 in the 2012 Census. This decline is the result of interventions in terms of health and development of the country. This reduction of about 1.4 children per woman indicated some stagnation in fertility reduction which calls upon more investment in development so that the country turns to be a Middle Income by 2025 which will in turn trigger further changes in fertility and other population dynamics variables like mortality. To this end, the National Population Policy needs to be reviewed so that it integrates the Big Results Now.

7.3.3 Fertility Differentials

The PHC 2012 results indicate that there are substantial differentials of fertility levels by marital status, education and occupation of woman, rural – urban residence and between regions. Fertility levels are high among married women (6.3 children per woman) as compared to other groups. Results also confirm that, fertility levels are negatively associated with education of mothers. National TFR of 5.5 children per woman is mainly influenced by women who had never been to school or with no education who had a TFR of 7 children per woman. Women who were engaged in agriculture (farmers, livestock keepers and fishers) had the highest TFR of 5.9 when compared to other groups or those who were not working.

There were differences between rural and urban areas. Fertility levels were high in rural (6.5) than in urban areas (5.4). This means, that on average, women in rural areas of Tanzania have two more children than those in urban areas. Substantial variations are observed among regions. Total fertility rates ranges from as high as 8.4 in Geita to 3.6 in Dar es Salaam. Generally, regions around Lake Victoria, Western part of the country and Pemba Regions had the highest levels when compared to other parts of the country. The 2012 PHC results indicate that there are substantial differentials between rural and urban areas. Poverty in rural areas is still rampart; hence there is urgent need to focus development initiatives in order to eradicate poverty of the rural population. MKUKUTA and MKUZA should be reviewed to incorporate the fertility differentials in development. This policy should be extended to regional differentials where more investment should be directed to regions with “low development” such as Katavi and Kigoma.

7.3.4 Adolescent Fertility

The PHC 2012 shows that adolescent fertility rate (AFR) was 81 births per thousand women aged 15 – 19. Results further shows that 23 percent of adolescent girls already had at least one birth at the time of the Census in 2012. The contribution of adolescent fertility was 1.5 percent to total fertility rate. These levels are high when compared to developed countries where AFR are less than 10 per 1000 women aged 15 – 19. Adolescent fertility is associated with high maternal and child death. It is also associated with lower educational attainment and labour force participation rate. This calls upon the Government and the Civil Society to intervene in reproductive health by expanding and strengthening Family Life Education in secondary and vocational education institutions. Since the contribution of adolescent fertility to the total fertility is high the National Health Policy coupled with other policies such the National Population Policy should be revisited to incorporate some of the findings of PHC 2012. More social and health interventions in regions with high adolescent fertility contribution to total fertility like Morogoro, Lindi, Mtwara and Katavi in Tanzania Mainland and Northern Pemba, South Pemba should be introduced.

7.3.5 Lifetime Fertility

The 2012 Population and Housing Census results show that parity ranges from 0 to 7 for women aged 12 – 49 years. The mean parity remain close to 18 - 19 years, confirming earlier observations that, adolescent fertility level in the country is high. Parity Progression Ratio (PPR) reveal that the probability of a woman having an additional child is high and stable between 83 to 96 percent up to the sixth child which is slightly above the national TFR of 5.5 children per woman. PPR ranges between 78 and 70 percent after child number 6, suggesting that a majority of women with already high parity are likely to pursue additional childbearing.

About four percent (4.4 percent) of women aged 45 – 49 were childless at the time of the Census in 2012. Percentage of childless women was relatively higher among urban women (5.7 percent) compared to rural women (4.7 percent). Childlessness is an indirect measure of the prevalence of sterility in a population, although this overestimates the true prevalence of sterility because some of the childless women at the end of their reproductive period may have not had children for reasons not related to their physiological ability to become pregnant or to give birth.

References

Arriaga, EE ,1983. Estimating fertility from data on children ever-born by age of mother. International Research Document, No. 11, US Bureau of the Census, Washington DC.

Bledsoe, C. H., & B. Cohen. 1993. Social dynamics of adolescent fertility in sub Saharan Africa, Washington: National Academy Press.

Bongaarts J. 1978. A framework for analyzing the proximate determinants of fertility. Population and Development Review, vol 4, no. 1, pp. 105-132.

Brass, W. 1981. "The use Gompertz relational model to estimate fertility," in Proceedings of the International Population Conference, Manila, International Union for the Scientific Study of Population, vol. 3, pp. 345-362. Liège.

Kpedkepo, G.M.K. 1982**.** Essentials of Demographic Analysis for Africa, Heinmann, London.

Kuznets, S. 1974. "Rural-urban differences in fertility: An international comparison", *Proceedings of the American Philosophical Society, 118(1): 1-29.*

McDonald P. F., Ruzicka L. F., and Caldwell J. C. 1981. Interrelations between nuptiality and fertility: the evidence from the World Fertility Survey. In, World Fertility Survey Conference 1980: Record of proceedings, vol 2, pp77- 126.

Michael.P. 1992. Economics for a Developing World, Addison-Wesley

Randall S. 1996. Whose reality? Local perceptions of fertility versus demographic analysis. Population Studies, vol. 50, no. 2, pp. 221-234

Shapiro, D and B.O. Tambashe 2000. Fertility transition in urban and rural areas of Sub-Saharan Africa. Revised version of paper presented at the 1999 *Chaire Quetelet Symposium in Demography, Catholic University of Louvain, Louvain-la-Neuve, Pennsylvania State University.*

Shryock, H.S., Jacob Siegel et al. 1976. Methods and Materials of Demography, Washington, D.C:U.S. Government Printing Office

Udjo E. O. 1987. A determinant of fertility and its cultural context among Nigeria's Kanuri. In, Ebigbola and Van de Walle (eds.): The cultural roots of African fertility regimes, Ile-Ife, pp. 227-293.

Udjo E. O. 1989. Age of marriage, polygyny, divorce, re-marriage, and effect on the fertility of the Kanuri of N. E. Nigeria. Contributed paper, International Union for the Scientific Study of Population XXIst General Conference (Session F21), New Delhi.

United Nations. 1983. Manual X: Indirect Techniques for Demographic Estimation. ST/ESA/SER.A/81, New York.

United Republic of Tanzania. 2006. Analytical Report 2002 Census, Volume X. Dar es Salaam

United Republic of Tanzania. 2013. Population Distribution by Age and Sex, Volume II. National Bureau of Statistics and Office of the Chief Government Statistician. Tanzania.

United Republic of Tanzania. 2006. National Population Policy. Ministry of Planning, Economy and Empowerment. Dar es Salaam, Tanzania.

Appendices

Estimation and Adjustment of the 2012 PHC Fertility Data

Estimation of fertility levels for Tanzania and its regions from the 2012 census is based on reported live births by age of mother in the 12 months preceding the census and reported number of children ever born by age of mother. However, given the limitations of the 2012 census data explained in chapter one of this document, several indirect methods were used to estimate adjusted fertility indicators to evaluate the direct estimates of age-specific and total fertility rates based on births in the year preceding the census. Finally, a decision about the most plausible level of fertility in Tanzania and its regions in 2012 has been informed by review of estimated fertility levels and trends based on the 1988 and 2002 censuses; nationally representative Demographic and Health Surveys undertaken in 1991, 1996, 1999, 2004 and 2010 (TDHS); and the 2007-08 Tanzania HIV/AIDS and Malaria Indicator Survey (THMIS).

Direct Estimates of Age-specific and Total Fertility Rates

Because fertility rates based on reported births in the year preceding the census may be subject to misreporting for reasons having to do with the reference period or with underreporting or over-reporting for other reasons, analysis of fertility data from censuses conducted in Tanzania and in other countries has historically involved indirect estimation as a means of assessing data quality, as the basis for inferring trends, and as the basis for adjusting fertility levels if appropriate. Five indirect techniques were used to derive alternative fertility estimates from the 2012 census. These techniques are Brass's P/F ratio technique, Brass's relational Gompertz method, a synthetic intercensal Brass P/F ratio method, Arriaga's two-census technique (Arriaga et al 1994: 207-211; United Nations 1983: chapter 2) and the own-children technique (East-West Center 1992).

The P/F ratio and relational Gompertz methods use reported births and children ever born from one census and make the assumption that fertility is relatively stable over the 15 to 20 years preceding the inquiry. The synthetic P/F ratio and Arriaga techniques use data from two censuses to allow for changing fertility during an intercensal period. Each of these methods makes other assumptions about the data used in estimation, including accurate age reporting by women and roughly consistent reporting of births and children ever born by women in each 5-year age group (15 to 49). The own-children technique relies on children and mothers tabulated by age of children and age of mother plus an estimate of mortality level and pattern in the population. The technique estimates births during the fifteen years preceding the census from surviving children at different ages and

age-specific fertility rates by matching these births to a population of women survived by enumerated women from the census.

The P/F Ratio Technique

Brass's P/F ratio method is widely used in estimating fertility when the quality of available census data is unknown or suspect. The P/F ratio technique adjusts an age-specific fertility pattern to a level of fertility derived from comparison of information on children ever born (parity, P) and cumulated age-specific fertility (F). Underlying the method is the empirical observation that respondents, when asked about their fertility, are likely to provide reports which may contain at least two types of errors: (1) in responding to the question on children ever born, older women commonly omit some births, possibly a high proportion of the dead rather than the living children, so that the average parities of women 45-49 cannot be used to measure completed fertility without some allowance for this omission; and (2) over- or under-representation of births in the 12 months preceding the census on the part of all women of reproductive age, even though the information on live births in the 12 months preceding the census generally provides a fair idea of the age pattern of fertility.

The P/F ratio method has been shown to provide a useful check on the quality of directly estimated age-specific and total fertility from census data provided that (1) the distribution of numbers of children ever born is the same for women who report and those who did not report, and (2) fertility has been constant. If fertility has not been constant but rather, declining, the results of the technique may be biased upward.[2] In analyzing the 2012 census, the ratio of parity to cumulated fertility for women ages 25-34 was used to adjust all reported age-specific fertility rates because women in the age group 25-34 are less likely than older women to have memory lapse in reporting their ages and the number of their children. Brass's P/F Ratio technique yields an estimate of 6.4 births per woman, or 1.5 births per woman more than the reported total fertility rate, for the period preceding the 2012 census. (Table 3.1)

[2] In addition, underreporting of children ever born will cause a downward bias in the adjusted estimates. Children who died in infancy (especially in very early infancy), as well as those living away from home, are the births most likely to be omitted, especially by older women. Over-reporting of children ever born will cause an upward bias in the adjusted estimates. Over-reporting of children can sometimes occur when stillbirths, late foetal deaths, or adopted children are mistakenly included. In addition, if the pattern of fertility taken as the "actual" pattern contains errors, the estimated age-specific fertility rates will be incorrect. This may also affect the level of the total fertility rate (Arriaga, 2012:246).

The Relational Gompertz Technique

The relational Gompertz technique also estimates total fertility rates based on information on the number of children ever born by age of mother and a pattern of fertility (Brass, 1981). The technique uses the Gompertz function, which closely follows the pattern of cumulative fertility rates (Arriaga, 1994). Once the total fertility rate has been estimated, an age-specific fertility rate pattern can be adjusted to the estimated level as measured by that total fertility rate. The relational Gompertz technique applied to data from the 2012 census indicates a total fertility rate of 5.9 (Table 3.1).

Arriaga's Technique

Arriaga's technique (for two dates) was also used to estimate fertility. This technique uses average numbers of children ever born in two censuses, and the change in children ever born between the two censuses for women in each age group, to obtain a set of age-specific fertility rates and a total fertility rate for the period immediately following the first census and for the period immediately preceding the second census. Since the technique does not assume that fertility is constant, it can provide an estimate of fertility when it has been changing. Arriaga's technique, which provided the TFR estimate accepted as the best estimate from the 2002 census, indicates that total fertility in 2012 was about 6 births per women. This is an implied decrease of about 0.3 births per women compared with the 2002 census estimate, but it is also more than one birth per woman higher than the unadjusted TFR from the 2012 census.

The Synthetic Intercensal P/F Ratio Technique

A second method suited to estimation of fertility level when fertility has been declining, known as the synthetic intercensal P/F ratio technique, was also used to estimate TFR for the 2002-2012 intercensal period. This technique uses average parity and cumulated average age-specific fertility rates from two censuses to calculate a P/F ratio, using that ratio to adjust reported age-specific fertility (United Nations 1983: 41-45). TFR as measured by the synthetic intercensal P/F ratio technique is 6.3.

The Own-Children Technique

This technique provides estimates of age-specific and total fertility for each of 15 years preceding the inquiry using matched children and their mothers, the ages of those children and mothers, and an index of mortality to reverse-survive children and mothers. Census data on births and children

ever born are not required by this method. The own-children technique estimate of TFR from the 2012 census is slightly lower -- between 5.3 (mean value for 2006-2010) and 5.4 (mean for 2007 to 2009) using an estimate of life expectancy at birth of 60 years and Coale-Demeny North model mortality.

Determination of a Most Likely Estimate of Fertility for 2012

Table 3.15 presents age-specific and total fertility rates from the 2002 and 2012 censuses either directly estimated from reported births during the 12 months preceding the census or as indirectly estimated using each of the methods discussed. The range of TFR estimates for 2012 is 4.9 births per woman (reported) to 6.4 births per woman (P/F ratio technique). The reported TFR level of 4.9 is likely to be too low, reflecting a history of underreporting of births in Tanzanian censuses, but some additional information may be useful in making a choice of most likely TFR level for 2012.

Summary of Results of Methods Used to Determine a Most Likely Total Fertility Rate from the 2012 Census

Age	Reported		Brass P/F Ratio		Relational Gompertz	Arriaga*		Synthetic P/F ratio	Own-children
	2002	2012	2002	2012	2012	2002	2012	2002-12	2006-10
15-19	0.065	0.0721	0.1234	0.1126	5.884	0.1131	0.095	0.0954	0.128
20-24	0.186	0.203	0.3029	0.2754	5.859	0.2898	0.237	0.2706	0.235
25-29	0.190	0.221	0.2979	0.2887	5.897	0.2866	0.249	0.2871	0.235
30-34	0.167	0.1988	0.2581	0.2553	5.912	0.2481	0.221	0.2555	0.201
35-39	0.127	0.1568	0.1935	0.1986	5.912	0.1848	0.171	0.1983	0.146
40-44	0.068	0.0886	0.0988	0.1063	5.868	0.0957	0.093	0.1090	0.076
45-49	0.029	0.0417	0.0372	0.0463	5.970	0.0339	0.039	0.0482	0.035
TFR	**4.2**	**4.9**	**6.6**	**6.4**	**5.9**	**6.3**	**5.5**	**6.3**	**5.3**

* Estimates shown for 2002 are based on the 1988 and 2002 censuses; for 2012, on the 2002 and 2012 censuses

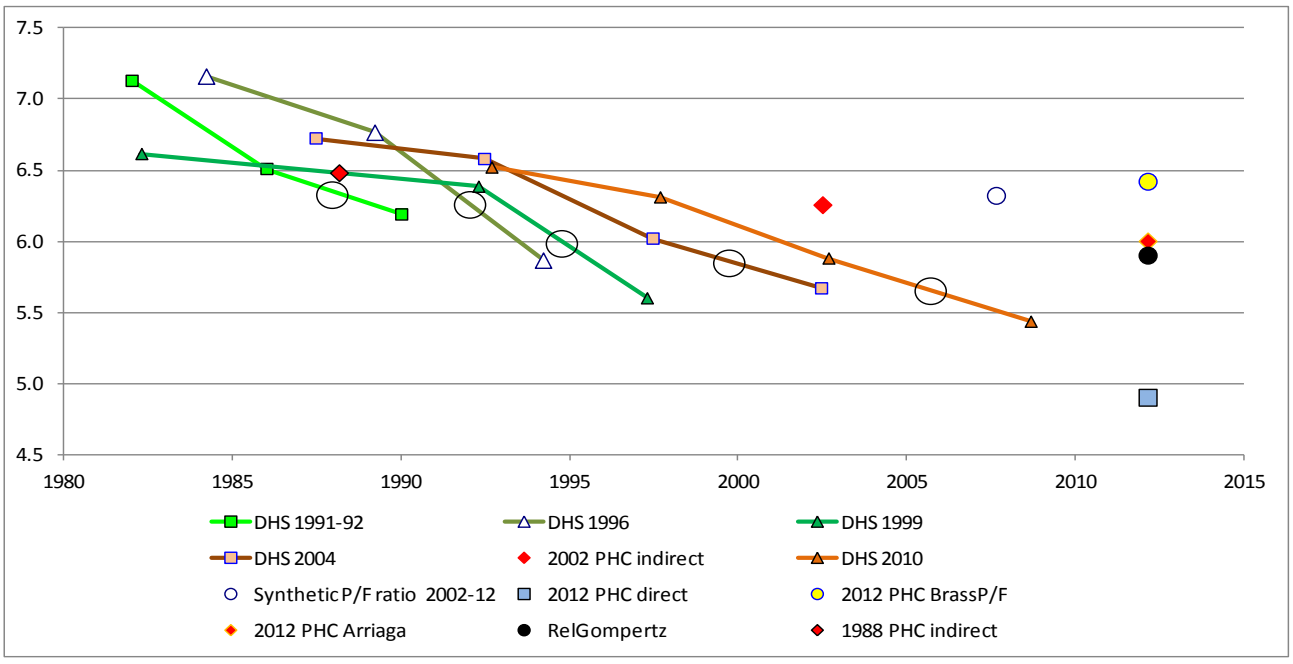
Figure shows these estimates of TFR along with estimates from the 1988 census, and 5-year average TFRs from five Demographic and Health Surveys (DHS). The Arriaga technique estimates from the 1988, 2002 and 2012 censuses show a slowly declining trend in total fertility culminating in a level of 6 births per woman in 2012. The Brass P/F ratio estimates, relational Gompertz, and synthetic P/F ratio estimates suggest similarly high TFRs, at or close to 6 births per woman.

These estimates all may be on the high side because of the historically higher fertility reflected in the children ever born used to adjust fertility patterns in these methods. In contrast, the DHS direct estimates, based on pregnancy history data, suggest a slowly declining TFR trend but at a lower

level. Specifically, averages of the two DHS estimates for periods 0-4 and 5-9 years prior to each survey are circled to draw attention to the fact that DHS surveys in Tanzania consistently exhibit more rapidly declining TFRs for each survey than does the data for the surveys taken collectively. The average TFR estimates for periods 0-4 and 5-9 years prior to each survey from the five DHS surveys indicate a relatively slow decline in TFR over time, a trend implying a value of about 5.5 births per woman for 2012.

The own-children technique, derived from a cross-tabulation of mothers and children by age from the 2012 CPH, suggests a TFR of roughly 5.3 births per woman for the 5-year period preceding the census, or a level of around 5.5 births per woman in 2012. Taken together, estimates from the 2012 CPH suggest a possible range of total fertility of 4.9 to 6.4 births per woman for 2012, centered on a value of around 5.6 births per woman. The DHS survey trendline and own-children estimate for the period preceding the 2012 census strongly suggests that a TFR estimate of about 5.5 births per woman may be the most likely case, and this is the level accepted for the 2012 census. This analysis also suggests that the relatively high indirect estimates reported for the 1988 and 2002 censuses may have been high.

Total Fertility Rate Estimates from Censuses and Surveys Data, 1982



Note

The largest circles on this chart are the averages of the TDHS direct estimates for periods of 0-4 and 5-9 years preceding the survey

Appendix I: Mean Number of Children Ever Born 2002 and 2012

Pi	Age Group	Tanzania		Tanzania Mainland		Tanzania Zanzibar	
		2002	2012	2002	2012	2002	2012
1	15-19	0.286	0.337	0.291	0.343	0.132	0.170
2	20-24	1.508	1.421	1.519	1.437	1.132	0.942
3	25-29	2.890	2.731	2.893	2.746	2.765	2.271
4	30-34	4.284	3.946	4.279	3.952	4.444	3.746
5	35-39	5.458	4.949	5.437	4.942	6.067	5.166
6	40-44	6.451	5.600	6.430	5.583	7.106	6.113
7	45-49	7.078	5.945	7.062	5.924	7.655	6.510

Appendix II: Adjusted Age Specific Fertility Rates, 2012

Region	Age group						
	15-19	20-24	25-29	30-34	35-39	40-44	45-49
Tanzania	**0.095**	**0.238**	**0.250**	**0.221**	**0.172**	**0.093**	**0.039**
Tanzania Mainland	**0.097**	**0.240**	**0.250**	**0.220**	**0.170**	**0.092**	**0.039**
Dodoma	0.111	0.262	0.260	0.232	0.184	0.098	0.039
Arusha	0.055	0.185	0.205	0.177	0.131	0.073	0.037
Kilimanjaro	0.052	0.197	0.210	0.186	0.131	0.065	0.023
Tanga	0.091	0.250	0.260	0.226	0.171	0.096	0.037
Morogoro	0.112	0.212	0.211	0.187	0.147	0.073	0.032
Pwani	0.093	0.202	0.204	0.183	0.142	0.082	0.032
Dar es Salaam	0.045	0.145	0.176	0.159	0.106	0.057	0.031
Lindi	0.114	0.208	0.192	0.160	0.135	0.082	0.033
Mtwara	0.115	0.193	0.172	0.145	0.117	0.064	0.024
Ruvuma	0.109	0.223	0.213	0.182	0.136	0.079	0.031
Iringa	0.065	0.217	0.227	0.193	0.134	0.059	0.021
Mbeya	0.105	0.235	0.235	0.194	0.145	0.074	0.030
Singida	0.108	0.304	0.329	0.298	0.237	0.135	0.064
Tabora	0.149	0.297	0.301	0.274	0.211	0.113	0.062
Rukwa	0.151	0.318	0.312	0.277	0.232	0.125	0.054
Kigoma	0.098	0.287	0.326	0.306	0.247	0.129	0.062
Shinyanga	0.114	0.260	0.278	0.242	0.190	0.098	0.039
Kagera	0.096	0.306	0.300	0.250	0.193	0.105	0.030
Mwanza	0.104	0.278	0.302	0.269	0.218	0.124	0.053
Mara	0.142	0.307	0.313	0.273	0.208	0.108	0.049
Manyara	0.084	0.255	0.293	0.266	0.206	0.103	0.045
Njombe	0.062	0.215	0.207	0.164	0.124	0.055	0.016
Katavi	0.164	0.299	0.302	0.280	0.228	0.130	0.067
Simiyu	0.120	0.311	0.350	0.329	0.265	0.142	0.067
Geita	0.149	0.348	0.362	0.335	0.269	0.159	0.069
Tanzania Zanzibar	**0.043**	**0.179**	**0.243**	**0.242**	**0.193**	**0.096**	**0.034**
Kaskazini Unguja	0.036	0.191	0.263	0.262	0.217	0.084	0.046
Kusini Unguja	0.056	0.187	0.229	0.224	0.165	0.077	0.022
Mjini Magharibi	0.032	0.137	0.203	0.214	0.163	0.079	0.027
Kaskazini Pemba	0.059	0.276	0.360	0.333	0.263	0.131	0.048
Kusini Pemba	0.071	0.277	0.346	0.323	0.266	0.165	0.038

Appendix III: Mean Number of Children Ever Born by Region, 2012

Pi	1	2	3	4	5	6	7
Region	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40-44**	**45-49**
Tanzania	**0.337**	**1.421**	**2.731**	**3.946**	**4.949**	**5.600**	**5.945**
Tanzania Mainland	**0.343**	**1.437**	**2.746**	**3.952**	**4.942**	**5.583**	**5.924**
Dodoma	0.360	1.552	2.910	4.150	5.194	5.944	6.197
Arusha	0.203	1.072	2.171	3.200	4.048	4.663	5.150
Kilimanjaro	0.187	1.047	2.137	3.227	4.109	4.731	5.109
Tanga	0.306	1.423	2.795	3.996	4.896	5.531	5.980
Morogoro	0.380	1.424	2.591	3.636	4.581	5.209	5.588
Pwani	0.344	1.363	2.500	3.585	4.468	5.144	5.517
Dar es Salaam	0.160	0.823	1.705	2.590	3.285	3.848	4.546
Lindi	0.376	1.422	2.448	3.443	4.290	4.879	5.416
Mtwara	0.377	1.338	2.297	3.193	3.835	4.374	4.702
Ruvuma	0.374	1.475	2.654	3.690	4.534	5.067	5.400
Iringa	0.207	1.141	2.394	3.564	4.543	5.216	5.546
Mbeya	0.309	1.369	2.731	3.960	4.915	5.543	5.906
Singida	0.361	1.618	3.192	4.644	5.787	6.546	6.562
Tabora	0.584	1.918	3.387	4.749	5.825	6.294	6.619
Rukwa	0.437	1.851	3.499	5.001	6.219	6.927	7.079
Kigoma	0.321	1.527	3.220	4.759	6.013	6.846	7.121
Shinyanga	0.479	1.746	3.172	4.495	5.504	5.997	6.208
Kagera	0.284	1.586	3.193	4.613	5.750	6.476	6.804
Mwanza	0.399	1.623	3.175	4.603	5.754	6.382	6.620
Mara	0.465	1.901	3.491	4.899	5.860	6.370	6.424
Manyara	0.278	1.369	2.854	4.264	5.488	6.234	6.674
Njombe	0.196	1.137	2.318	3.435	4.321	4.931	5.338
Katavi	0.554	1.972	3.433	4.850	6.003	6.545	6.904
Simiyu	0.539	1.868	3.521	5.049	6.231	6.781	6.876
Geita	0.480	1.997	3.728	5.123	6.222	6.803	6.869
Tanzania Zanzibar	**0.170**	**0.942**	**2.271**	**3.746**	**5.166**	**6.113**	**6.510**
Kaskazini Unguja	0.156	0.930	2.468	4.227	5.672	6.560	6.532
Kusini Unguja	0.224	1.100	2.315	3.511	4.823	5.752	6.447
Mjini Magharibi	0.135	0.739	1.824	3.086	4.357	5.238	5.888
Kaskazini Pemba	0.205	1.335	3.173	5.042	6.497	7.227	7.124
Kusini Pemba	0.222	1.262	3.053	4.998	6.453	7.505	7.721

Appendix IV: Major Indicators of Fertility and Nuptiality in Tanzania, 2012

Region	CBR (000)	TFR	CWR	GRR	NRR	% Never married			% Married		
						Both Sexes	Male	Female	Both Sexes	Male	Female
Tanzania	**41.7**	**5.5**	**0.672**	**2.8**	**2.4**	**35.5**	**38.3**	**33**	**51.1**	**50.5**	**51.6**
Tanzania Mainland	**41.7**	**5.5**	**0.674**	**2.8**	**2.4**	**35.5**	**38.3**	**32.9**	**50.9**	**50.4**	**51.5**
Dodoma	41.7	5.9	0.713	3	2.7	30.2	34	26.9	55.9	55.5	56.1
Arusha	35.2	4.3	0.568	2.2	2.1	37	40.3	34	53.2	51.3	54.9
Kilimanjaro	29.8	4.3	0.501	2.2	2	35.7	37.7	33.9	53	53	53.1
Tanga	41.3	5.7	0.623	2.9	2.5	33.2	36.5	30.3	54.7	53.7	55.6
Morogoro	37.6	4.9	0.608	2.5	2.2	33.9	36.6	31.3	46.1	45.9	46.4
Pwani	35.7	4.7	0.588	2.4	2	33	35.7	30.6	52.2	52.3	52.1
Dar es Salaam	36.7	3.6	0.382	1.8	1.5	44.5	44.9	44.1	43.5	44.1	43
Lindi	34.9	4.6	0.524	2.4	2.1	29.4	31.9	27.2	51.3	51.7	50.9
Mtwara	32.1	4.1	0.537	2.1	1.9	28	29.6	26.7	53.9	55.2	52.8
Ruvuma	36.8	4.9	0.627	2.4	2.1	31.4	33.7	29.4	53.2	52.8	53.7
Iringa	35.3	4.6	0.569	2.4	1.9	34.8	38.8	31.4	48.1	47.4	48.7
Mbeya	40.5	5.1	0.621	2.6	2.2	33	36	30.3	52.9	52.3	53.4
Singida	48.0	7.4	0.8	3.7	3.4	33.4	37.7	29.4	53.5	52.2	54.7
Tabora	49.6	7.0	0.84	3.6	3.1	36.8	40.2	33.7	48.2	47.2	49.2
Rukwa	52.0	7.3	0.89	3.7	3.1	28.7	31.9	25.8	58.9	58.2	59.5
Kigoma	48.4	7.3	0.867	3.7	3.2	36.3	38.7	34.2	48.8	48.6	49
Shinyanga	44.1	6.1	0.804	3.1	2.6	37.5	40.8	34.6	50.3	49.4	51.1
Kagera	44.2	6.4	0.831	3.2	2.7	31.4	35	28.2	53	52.1	53.8
Mwanza	48.2	6.7	0.772	3.4	3	38.7	41.4	36.3	48.5	48.1	48.8
Mara	49.0	7.0	0.86	3.6	3.1	35.4	39.5	31.9	55.3	53.8	56.6
Manyara	41.6	6.3	0.812	3.1	2.8	34.8	39	30.6	53.6	51.1	56.2
Njombe	33.4	4.2	0.539	2.2	1.8	33.6	36.7	31	53.8	53.7	53.8
Katavi	51.1	7.4	0.902	3.8	3.2	32.8	36.2	29.6	55	53.4	56.5
Simiyu	52.2	7.9	0.906	4	3.5	40.2	43.8	37.1	51	49.7	52.1
Geita	56.9	8.5	0.89	4.3	3.7	35.5	39	32.1	51.7	50.4	53
Tanzania Zanzibar	**38.9**	**5.2**	**0.607**	**2.3**	**2.3**	**36.2**	**38.8**	**34**	**56.5**	**56.4**	**56.5**
Kaskazini Unguja	38.8	5.5	0.655	2.8	2.6	35.4	38.2	32.8	57	56.1	57.8
Kusini Unguja	38.4	4.8	0.568	2.3	2.0	31.8	36.3	27.6	59.7	58.5	60.7
Mjini Magharibi	36.0	4.3	0.52	2.1	1.9	38.4	40.1	36.9	54	54.7	53.5
Kaskazini Pemba	46.3	7.3	0.76	3.7	3.3	34.1	37.4	31.2	59.6	58.7	60.4
Kusini Pemba	48.4	7.4	0.738	3.7	3.3	34.6	37.9	31.8	59	58.8	59.1

Appendix V: Recorded and Adjusted Crude Birth Rate by Region, 1967-2012 Censuses

Region	1967		1978		1988		2002		2012	
	Recorded	Adjusted	Recorded	Adjusted	Recorded	Adjusted	Recorded	Adjusted	Recorded	Adjusted
Tanzania	**NA**	**47**	**46**	**49**	**38**	**47**	**35**	**43**	**36**	**41.7**
Tanzania Mainland	**NA**	**47**	**46**	**49**	**38**	**47**	**35**	**43**	**37**	**41.7**
Dodoma	61	48	44	52	40	48	35	44	37	41.7
Arusha	56	47	48	48	40	46	33	43	31	35.2
Kilimanjaro	57	51	46	48	38	47	28	36	24	29.8
Tanga	58	46	42	47	35	46	33	40	34	41.3
Morogoro	50	44	48	45	34	45	31	41	32	37.6
Pwani	48	37	40	35	34	33	30	38	32	35.7
Dar es Salaam	NA	33	42	48	34	38	24	35	30	36.7
Lindi	NA		41	43	34	42	28	37	30	34.9
Mtwara	49	35	38	47	34	44	28	36	31	32.1
Ruvuma	62	46	44	47	35	46	30	41	35	36.8
Iringa	58	55	45	53	35	49	30	40	31	35.3
Mbeya	62	52	46	55	36	51	32	42	33	40.5
Singida	55	45	40	47	41	46	35	43	40	48.0
Tabora	55	40	43	45	38	45	35	48	43	49.6
Rukwa			56	62	42	52	39	52	50	52.0
Kigoma	54	43	54	52	42	47	43	56	42	48.4
Shinyanga	65	51	48	49	47	51	41	49	39	44.1
Kagera	53	50	48	49	46	49	42	48	41	44.2
Mwanza	62	49	48	51	43	50	40	46	41	48.2
Mara	62	52	68	53	42	53	42	47	43	49.0
Manyara	NA	NA	NA	NA	NA	NA	38	46	36	41.6
Njombe	NA	NA	NA	NA	NA	NA	NA	NA	16	33.4
Katavi	NA	NA	NA	NA	NA	NA	NA	NA	NA	51.1
Simiyu	NA	NA	NA	NA	NA	NA	NA	NA	50	52.2
Geita	NA	NA	NA	NA	NA	NA	NA	NA		56.9
Tanzania Zanzibar	**58**	**48**	**48**	**48**	**45**	**49**	**32**	**43**	**35**	**38.9**
Kaskazini Unguja	NA	NA	47	46	47	44	31	43	33	38.8
Kusini Unguja	NA	NA	39	41	42	46	28	38	38	38.4
Mjini Magharibi	NA	NA	47	47	40	51	30	42	31	36.0
Kaskazini Pemba	NA	NA	54	53	47	52	36	46	38	46.3
Kusini Pemba	NA	NA	53	48	51	51	35	45	42	48.4

Appendix VI: Child Woman Ratio by Region

Region	CHILD WOMAN RATIO (Children aged 0-4 to women aged 15-49)		
	Total	Rural	Urban
Tanzania	**0.672**	**0.790**	**0.459**
Tanzania Mainland	**0.674**	**0.792**	**0.456**
Dodoma	0.713	0.784	0.418
Arusha	0.568	0.680	0.394
Kilimanjaro	0.501	0.532	0.423
Tanga	0.623	0.686	0.435
Morogoro	0.608	0.690	0.442
Pwani	0.588	0.661	0.468
Dar es Salaam	0.382	N/A	0.382
Lindi	0.524	0.554	0.411
Mtwara	0.537	0.574	0.427
Ruvuma	0.627	0.666	0.522
Iringa	0.569	0.635	0.431
Mbeya	0.621	0.695	0.499
Singida	0.800	0.857	0.489
Tabora	0.840	0.904	0.483
Rukwa	0.890	0.963	0.686
Kigoma	0.867	0.929	0.626
Shinyanga	0.804	0.880	0.505
Kagera	0.831	0.868	0.538
Mwanza	0.772	0.912	0.555
Mara	0.860	0.923	0.609
Manyara	0.812	0.862	0.548
Njombe	0.539	0.583	0.425
Katavi	0.902	0.961	0.763
Simiyu	0.906	0.934	0.600
Geita	0.890	0.935	0.693
Tanzania Zanzibar	**0.607**	**0.701**	**0.513**
Kaskazini Unguja	0.655	0.659	0.610
Kusini Unguja	0.568	0.570	0.538
Mjini Magharibi	0.520	0.659	0.497
Kaskazini Pemba	0.760	0.793	0.628
Kusini Pemba	0.738	0.781	0.585

Appendix VII: Mean at First Marriage and Age First Birth by Region and District

Region	Average Age at First Marriage				Ave Age First Birth	
District	Total	Males	Females	Age difference	Age	FB - Mar diff
Tanzania Total	23.9	25.5	22.3	3.2	20.2	2.1
Tanzania Rural	23.4	25.1	21.8	3.3	19.3	2.5
Tanzania Urban	24.6	26.3	23.2	3.1	21.7	1.5
Tanzania Mainland Total	23.8	25.5	22.3	3.2	20.1	2.2
Tanzania Mainland Rural	23.4	25.1	21.8	3.3	19.3	2.5
Tanzania Mainland Urban	24.6	26.2	23.1	3.1	21.6	1.5
Zanzibar Total	24.8	26.3	23.5	2.8	22.9	0.6
Zanzibar Rural	23.6	25.3	22.1	3.2	21.9	0.2
Zanzibar Urban	25.9	27.3	24.7	2.6	23.9	0.8
Dodoma	**23.0**	**24.8**	**21.4**	**3.4**	**19.9**	**1.5**
Kondoa District Council	23.4	25.8	21.2	4.6	20.3	0.9
Mpwapwa District Council	22.6	24.1	21.3	2.9	19.6	1.6
Kongwa District Council	22.8	24.3	21.3	3.0	19.0	2.3
Chamwino District Council	22.3	24.0	20.7	3.4	19.2	1.4
Dodoma Municipal Council	24.4	25.8	23.1	2.7	21.8	1.3
Bahi District Council	22.3	24.1	20.7	3.3	18.7	2.1
Chemba District Council	22.3	24.7	20.0	4.8	19.1	0.9
Arusha	**24.2**	**26.2**	**22.5**	**3.7**	**22.0**	**0.5**
Monduli District Council	23.5	26.1	21.4	4.7	20.7	0.6
Meru District Council	24.5	26.2	23.0	3.2	22.2	0.8
Arusha City Council	24.8	26.3	23.3	3.0	23.5	-0.2
Karatu District Council	25.4	26.8	24.1	2.7	22.4	1.7
Ngorongoro District Council	22.7	26.2	20.2	6.0	19.5	0.6
Arusha District Council	24.2	26.0	22.6	3.4	22.3	0.3
Longido District Council	23.3	26.4	21.0	5.4	20.0	1.0
Kilimanjaro	**25.0**	**26.5**	**23.6**	**3.0**	**22.0**	**1.6**
Rombo District Council	25.9	27.2	24.8	2.4	22.2	2.5
Mwanga District Council	25.0	26.7	23.5	3.2	21.1	2.4
Same District Council	23.7	25.2	22.2	3.1	20.8	1.3
Moshi District Council	25.8	27.1	24.5	2.6	22.0	2.5
Hai District Council	25.1	26.8	23.5	3.3	22.5	1.0
Moshi Municipal Council	25.1	26.6	23.6	3.0	23.4	0.2
Siha District Council	23.9	26.1	21.9	4.2	21.2	0.8
Tanga	**24.0**	**25.8**	**22.5**	**3.3**	**20.6**	**1.9**
Lushoto District Council	23.7	25.5	22.4	3.1	21.2	1.2
Korogwe District Council	23.9	25.9	22.3	3.5	20.4	1.9
Muheza District Council	24.4	26.1	23.0	3.1	20.5	2.5
Tanga City Council	25.4	26.8	24.2	2.5	22.1	2.2
Pangani District Council	24.3	25.7	23.3	2.4	20.1	3.2
Handeni District Council	23.4	25.4	21.7	3.7	19.4	2.3
Kilindi District Council	22.4	24.8	20.3	4.5	18.4	1.9
Mkinga District Council	24.4	26.0	23.2	2.9	19.5	3.6
Korogwe Town Council	24.9	26.4	23.6	2.9	21.3	2.3
Handeni Town Council	24.6	26.2	23.3	2.9	20.3	3.0
Morogoro	**23.5**	**25.2**	**21.9**	**3.4**	**19.7**	**2.1**
Kilosa District Council	22.9	24.7	21.2	3.5	18.8	2.4
Morogoro District Council	23.5	25.3	21.9	3.4	19.3	2.6
Kilombero District Council	23.6	25.4	21.9	3.5	20.1	1.8
Ulanga District Council	23.5	25.3	21.8	3.5	19.5	2.3
Morogoro Municipal Council	25.0	26.6	23.7	2.8	22.1	1.6

Mvomero District Council	23.3	25.1	21.5	3.6	19.5	2.0
Gairo District Council	22.2	23.6	20.8	2.7	18.3	2.5

Table . Average Age at First Marriage and First Birth, Tanzania: 2012 -- continued

Region	Average Age at First Marriage				Ave Age First Birth	
District	Total	Males	Females	Age difference	Age	FB - Mar diff
Pwani	**24.0**	**25.6**	**22.6**	**3.1**	**20.1**	**2.4**
Bagamoyo District Council	24.0	25.5	22.6	2.9	20.1	2.5
Kibaha District Council	24.6	26.1	23.2	2.9	21.0	2.3
Kisarawe District Council	24.3	25.8	23.0	2.8	20.5	2.5
Mkuranga District Council	24.0	25.6	22.7	2.9	20.1	2.6
Rufiji District Council	23.4	25.3	21.9	3.5	18.9	2.9
Mafia District Council	23.3	25.2	21.7	3.5	20.4	1.3
Kibaha Town Council	25.0	26.6	23.3	3.3	22.0	1.3
Dar es Salaam	**25.1**	**26.8**	**23.6**	**3.2**	**23.1**	**0.5**
Kinondoni Municipal Council	25.3	26.8	23.9	3.0	23.4	0.5
Ilala Municipal Council	25.1	26.7	23.6	3.1	23.0	0.7
Temeke Municipal Council	24.9	26.8	23.1	3.7	22.9	0.2
Lindi	**23.3**	**24.9**	**21.8**	**3.2**	**19.5**	**2.3**
Kilwa District Council	23.3	25.4	21.4	4.0	19.6	1.8
Lindi District Council	23.2	24.9	21.8	3.2	18.9	2.9
Nachingwea District Council	22.7	24.0	21.4	2.6	19.5	1.9
Liwale District Council	23.5	25.2	22.1	3.1	19.5	2.6
Ruangwa District Council	23.5	25.0	22.2	2.8	19.2	3.0
Lindi Municipal Council	24.8	26.3	23.5	2.8	20.5	3.0
Mtwara	**22.7**	**24.1**	**21.5**	**2.6**	**19.3**	**2.2**
Mtwara District Council	22.7	24.5	21.2	3.3	18.8	2.4
Newala District Council	22.8	24.1	21.7	2.4	19.1	2.6
Masasi District Council	22.2	23.1	21.3	1.8	18.7	2.7
Tandahimba District Council	22.5	24.3	20.9	3.3	18.8	2.2
Mtwara Municipal Council	24.5	26.0	23.3	2.6	21.7	1.6
Nanyumbu District Council	22.0	23.2	21.0	2.2	18.2	2.8
Masasi Town Council	22.8	23.8	21.9	1.9	20.2	1.7
Ruvuma	**22.9**	**24.4**	**21.6**	**2.8**	**19.4**	**2.1**
Tunduru District Council	22.5	24.0	21.2	2.8	18.9	2.3
Songea District Council	23.7	25.5	22.0	3.4	19.4	2.6
Mbinga District Council	22.3	23.6	21.1	2.5	19.6	1.5
Songea Municipal Council	24.4	25.7	23.2	2.5	20.8	2.4
Namtumbo District Council	23.5	25.1	22.0	3.1	19.0	3.0
Nyasa District Council	22.4	23.6	21.2	2.5	18.6	2.5
Iringa	**24.0**	**25.5**	**22.7**	**2.8**	**21.3**	**1.4**
Iringa District Council	23.9	25.5	22.3	3.2	20.5	1.8
Mufindi District Council	23.6	25.0	22.4	2.6	21.0	1.4
Iringa Municipal Council	25.6	26.8	24.5	2.3	22.8	1.7
Kilolo District Council	23.7	25.3	22.2	3.0	20.6	1.6
Mafinga Town Council	24.3	25.5	23.4	2.1	22.4	1.0
Mbeya	**22.8**	**24.5**	**21.3**	**3.3**	**20.1**	**1.1**
Chunya District Council	22.8	24.9	20.8	4.1	18.0	2.9
Mbeya District Council	22.6	24.2	21.2	3.0	20.4	0.9
Kyela District Council	23.1	24.8	21.6	3.2	20.1	1.5
Rungwe District Council	23.7	25.2	22.4	2.8	20.7	1.7
Ileje District Council	22.3	23.9	20.9	3.0	20.7	0.2
Mbozi District Council	22.1	23.6	20.6	3.0	20.0	0.6
Mbarali District Council	23.0	24.8	21.4	3.3	19.6	1.8
Mbeya City Council	24.4	25.8	23.2	2.6	22.7	0.4

Momba District Council	20.3	22.5	18.2	4.3	18.0	0.3
Tunduma Town Council	22.4	24.1	21.4	2.7	21.0	0.4

Table . Average Age at First Marriage and First Birth, Tanzania: 2012 -- continued

Region	Average Age at First Marriage				Ave Age First Birth	
District	Total	Males	Females	Age difference	Age	FB - Mar diff
Singida	**23.8**	**25.8**	**22.0**	**3.8**	**19.6**	**2.4**
Iramba District Council	24.1	26.0	22.2	3.8	18.9	3.4
Singida District Council	23.5	25.5	21.5	3.9	19.7	1.8
Manyoni District Council	23.3	25.3	21.5	3.8	18.8	2.6
Singida Municipal Council	24.4	26.2	22.7	3.4	21.9	0.9
Ikungi District Council	24.2	26.3	22.2	4.0	19.9	2.3
Mkalama District Council	23.7	25.4	22.1	3.3	19.3	2.8
Tabora	**23.8**	**25.6**	**22.3**	**3.3**	**19.0**	**3.3**
Nzega District Council	24.1	25.7	22.8	2.8	19.6	3.2
Igunga District Council	24.5	26.3	22.9	3.4	19.3	3.7
Uyui District Council	24.0	25.6	22.6	3.0	18.4	4.2
Urambo District Council	23.8	25.6	22.0	3.5	19.0	3.0
Sikonge District Council	23.4	25.1	21.8	3.3	18.4	3.4
Tabora Municipal Council	24.5	26.1	23.0	3.1	21.1	1.9
Kaliua District Council	22.8	24.8	21.0	3.8	18.0	3.0
Rukwa	**21.7**	**23.2**	**20.3**	**2.9**	**18.9**	**1.4**
Kalambo District Council	20.8	22.2	19.5	2.6	18.2	1.4
Sumbawanga District Council	21.1	22.8	19.6	3.3	18.4	1.1
Nkasi District Council	22.0	23.6	20.6	2.9	18.8	1.9
Sumbawanga Municipal Council	22.7	24.1	21.5	2.6	20.5	1.0
Kigoma	**23.3**	**24.6**	**22.0**	**2.6**	**20.2**	**1.8**
Kibondo District Council	21.7	23.0	20.5	2.4	19.6	0.9
Kasulu District Council	22.7	23.8	21.8	2.0	19.3	2.4
Kigoma District Council	24.6	26.1	23.4	2.7	20.7	2.7
Kigoma-Ujiji Municipal Council	25.3	27.0	23.7	3.3	21.9	1.8
Uvinza District Council	23.4	25.1	21.8	3.2	19.3	2.5
Buhigwe District Council	23.4	24.8	22.3	2.5	21.1	1.2
Kakonko District Council	21.9	23.2	20.7	2.5	19.8	0.9
Kasulu Town Council	23.9	25.3	22.7	2.6	21.0	1.7
Shinyanga	**24.3**	**26.0**	**22.7**	**3.3**	**19.5**	**3.2**
Shinyanga Municipal Council	24.9	26.6	23.3	3.2	21.5	1.8
Kishapu District Council	25.1	26.9	23.4	3.5	19.5	3.9
Shinyanga District Council	24.4	26.1	22.9	3.2	18.7	4.2
Kahama District Council	23.7	25.4	22.1	3.3	18.7	3.5
Kahama Town Council	23.5	25.3	21.9	3.4	20.1	1.8
Kagera	**22.6**	**24.2**	**21.1**	**3.1**	**20.3**	**0.8**
Karagwe District Council	22.5	24.1	20.9	3.2	20.8	0.1
Bukoba District Council	23.6	25.1	22.1	3.0	20.4	1.7
Muleba District Council	23.2	25.1	21.5	3.6	20.6	0.9
Biharamulo District Council	22.1	23.7	20.7	3.0	19.4	1.3
Ngara District Council	21.8	23.1	20.7	2.4	20.2	0.4
Bukoba Municipal Council	24.0	26.0	22.2	3.7	21.7	0.6
Missenyi District Council	23.4	25.2	21.7	3.5	20.5	1.2
Kyerwa District Council	21.8	23.4	20.3	3.1	19.4	0.9
Mwanza	**24.6**	**26.1**	**23.1**	**3.0**	**20.1**	**3.0**
Ukerewe District Council	24.6	25.9	23.4	2.5	19.5	3.9
Magu District Council	24.5	26.2	22.9	3.2	19.8	3.1
Nyamagana Municipal Council	24.1	25.8	22.5	3.3	21.6	1.0

Kwimba District Council	24.8	26.5	23.3	3.2	19.1	4.3
Sengerema District Council	24.3	25.9	22.7	3.2	19.4	3.3
Ilemela Municipal Council	24.6	26.2	23.3	2.9	21.8	1.5
Misungwi District Council	24.9	26.4	23.5	2.9	19.5	4.0

Table . Average Age at First Marriage and First Birth, Tanzania: 2012 -- continued

Region	Average Age at First Marriage				Ave Age First Birth	
District	Total	Males	Females	Age difference	Age	FB - Mar diff
Mara	**23.6**	**25.5**	**21.9**	**3.7**	**19.0**	**2.8**
Tarime District Council	21.9	24.1	20.1	4.0	18.6	1.5
Serengeti District Council	23.2	25.4	21.2	4.2	19.1	2.1
Musoma District Council	24.8	26.5	23.3	3.2	19.3	4.1
Bunda District Council	24.3	26.0	22.8	3.3	19.3	3.5
Musoma Municipal Council	24.6	26.3	23.1	3.2	20.3	2.8
Rorya District Council	22.9	24.9	21.2	3.7	18.4	2.8
Butiama District Council	24.4	26.3	22.7	3.6	18.8	3.9
Manyara	**24.0**	**26.0**	**22.2**	**3.7**	**20.9**	**1.3**
Babati District Council	24.3	26.0	22.7	3.2	20.9	1.8
Hanang District Council	24.2	26.0	22.3	3.6	21.3	1.0
Mbulu District Council	25.0	26.3	23.7	2.5	21.9	1.8
Simanjiro District Council	22.7	25.8	20.0	5.8	19.6	0.4
Kiteto District Council	22.6	24.9	20.6	4.4	19.3	1.3
Babati Town Council	24.6	26.5	22.7	3.9	21.7	1.0
Njombe	**23.6**	**25.1**	**22.5**	**2.6**	**21.5**	**1.0**
Njombe Town Council	24.6	25.9	23.5	2.5	22.4	1.1
Wang'ing'ombe District Council	23.8	25.3	22.5	2.7	21.3	1.2
Makete District Council	23.7	25.0	22.6	2.5	22.0	0.6
Njombe District Council	24.6	25.9	23.5	2.5	20.9	2.6
Ludewa District Council	23.5	25.0	22.2	2.8	20.1	2.0
Makambako Town Council	23.5	24.9	22.3	2.5	22.1	0.2
Katavi	**22.9**	**24.8**	**21.1**	**3.8**	**18.4**	**2.6**
Mpanda Town Council	23.3	25.2	21.8	3.4	19.9	1.8
Mpanda District Council	22.7	25.1	20.4	4.6	17.2	3.2
Mlele District Council	22.7	24.5	21.0	3.5	18.4	2.7
Simiyu	**24.9**	**26.8**	**23.4**	**3.4**	**19.4**	**4.0**
Bariadi District Council	24.5	26.5	22.7	3.8	19.5	3.2
Itilima District Council	25.2	27.1	23.7	3.3	19.4	4.4
Meatu District Council	25.4	27.0	24.0	3.0	19.3	4.7
Maswa District Council	25.0	26.7	23.6	3.1	19.7	3.9
Busega District Council	24.4	26.4	22.7	3.7	19.2	3.5
Geita	**23.3**	**25.0**	**21.7**	**3.4**	**18.9**	**2.8**
Geita District Council	23.4	25.0	21.8	3.2	18.8	3.0
Nyang'hwale District Council	24.1	25.7	22.6	3.1	18.1	4.5
Mbogwe District Council	23.5	25.2	21.9	3.3	19.0	3.0
Bukombe District Council	22.6	24.5	20.9	3.7	19.1	1.8
Chato District Council	23.0	24.8	21.3	3.5	19.2	2.1
Kaskazini Unguja	**24.1**	**25.7**	**22.6**	**3.1**	**22.9**	**-0.3**
Kaskazini A District	24.3	26.0	22.8	3.1	23.3	-0.5
Kaskazini B District	23.8	25.3	22.2	3.2	22.2	-0.1
Kusini Unguja	**23.7**	**25.4**	**22.0**	**3.4**	**21.9**	**0.1**
Kati District	23.7	25.5	22.0	3.4	22.0	0.0
Kusini District	23.6	25.4	22.0	3.4	21.7	0.3
Mjini Magharibi	**25.6**	**27.0**	**24.4**	**2.6**	**23.7**	**0.8**
Magharibi District	24.2	25.7	22.9	2.7	22.5	0.4
Mjini District	26.6	27.9	25.4	2.5	24.6	0.8

Kaskazini Pemba	**23.5**	**25.2**	**22.1**	**3.1**	**21.8**	**0.3**
Wete District	24.1	25.8	22.7	3.1	22.6	0.1
Micheweni District	23.0	24.7	21.6	3.0	20.9	0.8
Kusini Pemba	**23.8**	**25.3**	**22.7**	**2.5**	**22.7**	**0.0**
Chake Chake District	24.0	25.3	23.0	2.3	23.2	-0.2
Mkoani District	23.7	25.2	22.5	2.7	22.3	0.2

Annex: Questionnaires

Annex 1: Short Questionnaire

THE UNITED REPUBLIC OF TANZANIA

2012 POPULATION AND HOUSING CENSUS

SHORT QUESTIONNAIRE

STRICTLY CONFIDENTIAL **PHCF 2**

FORM NO. ☐☐ **OF** ☐☐

A: IDENTIFICATION

Region …… District…….. Ward/Shehia……..... Village/Street ……..... **EA** ☐☐☐ **HOUSEHOLD NO.** ☐☐☐

B: ALL PERSONS

No.	HOUSEHOLD MEMBERS	RELATIONSHIP TO THE HEAD OF HOUSEHOLD	SEX	AGE	DISABILITY					
					ALBINISM	SEEING	HEARING	WALKING	REMEMBERING	SELF-CARE
	Please state the names of all persons who spent the census night, that is Sunday 26th August, 2012 in your household, starting with the name of the head of household	What is the relationship of [NAME] to the head of the household? Head = 1 Spouse = 2 Son/Daughter = 3 Parent = 4 Grand Child = 5 Other Relative = 6 Not Related = 7	Is [NAME] a male or a female? MALE = 1 FEMALE = 2	How old is [NAME]? WRITE AND SHADE AGE IN COMPLETE YEARS. IF UNDER ONE YEAR WRITE "00" FOR 97 YEARS AND ABOVE WRITE '97'	Is [NAME] an albino? Yes = 1 No = 2	Does (NAME) have difficulty seeing, even if wearing glasses? No Difficulty = 1 Some Difficulty = 2 A lot of Difficulty = 3 Unable to See = 4 Not Applicable = 5	Does (NAME) have difficulty hearing, even if using a hearing aid? No Difficulty = 1 Some Difficulty = 2 A lot of Difficulty = 3 Unable to Hear = 4 Not Applicable = 5	Does [NAME] have difficulty walking or climbing steps? No Difficulty = 1 Some Difficulty = 2 A lot of Difficulty = 3 Unable to Walk = 4 Not Applicable = 5	Does (NAME) have difficulty remembering or concentrating? No Difficulty = 1 Some Difficulty = 2 A lot of Difficulty = 3 Unable to Remember = 4 Not Applicable = 5	Does (NAME) have difficulty with self-care, such as washing all over or dressing? No Difficulty = 1 Some Difficulty = 2 A lot of Difficulty = 3 Unable to Care = 4 Not Applicable = 5
(01)	(02)	(03)	(04)	(05)	06	(07)	(08)	(09)	(10)	(11)
1		☐	☐	☐☐	☐	☐	☐	☐	☐	☐
2		☐	☐	☐☐	☐	☐	☐	☐	☐	☐

If an extra Questionnaire has been used put an "X" in the box ☐

B: ALL PERSONS

No.	DISABILITY OTHER DISABILITIES								MARITAL STATUS	CITIZENSHIP	PLACE OF RESIDENCE	WHERE RESPONDENT SPENDS MOST OF THE DAY TIME	BIRTH CERTIFICATE
	11A) Does, [NAME] have other type of disabilities/difficulties among the following? READ ALL TYPES OF DISABILITIES/DIFFICULTIES TO RESPONDENT.								What is current marital status of [NAME]? READ ALL RESPONSES TO RESPONDENT Never Married = 1 Married = 2 Living together = 3 Divorced = 4 Separated = 5 Widowed = 6 Not Stated = 7	[NAME] is a citizen of which country? IF TANZANIAN, WRITE CODE 1 IN THE BOX ON THE LEFT WRITE CODE OF THE COUNTRY IN THE TWO BOXES ON THE RIGHT. FOR DUAL CITIZENSHIP, WRITE CODE "98" CODES ARE ON A SEPARATE SHEET	Which region/country does [NAME] usually live? WRITE AND SHADE CODE FOR THE REGION AND DISTRICT IF LIVING IN TANZANIA, OR THE COUNTRY CODE FOLLOWED BY "44" IF LIVING OUTSIDE TANZANIA.	Where do you spend most of your time during a day? WRITE AND SHADE REGION AND DISTRICT CODES IF SPENDS MOST OF THE DAY TIME IN TANZANIA OR THE COUNTRY CODE FOLLOWED BY "444" IF OUTSIDE TANZANIA CODES FOR THE 5th BOX Rural =1 Regional /District Headquarters =2 Other Urban= 3	Does (NAME) has birth certificate/notification? Yes birth certificate= 1 Yes birth notification= 2 No = 3 Don't Know = 4
(01)	IF ANSWER IS NO, GO TO QUESTION 12		MULTIPLE RESPONSE IS ALLOWED						(12)	(13)	(14)	(15)	(16)
	Yes	No	Cleft Palate	Spinal befida	Spinal cord injuries	Mental health	Psoriasis						
1	1	2	1	2	3	4	5						
2	1	2	1	2	3	4	5						
3	1	2	1	2	3	4	5						
4	1	2	1	2	3	4	5						
5	1	2	1	2	3	4	5						
6	1	2	1	2	3	4	5						
7	1	2	1	2	3	4	5						

C: EDUCATION: ALL PERSONS AGED 4 YEARS AND ABOVE			
No.	**LITERACY**	**EDUCATION ATTAINMENT**	**LEVEL OF EDUCATION**
	Can [NAME] read and write a short sentence in Kiswahili, English, Kiswahili and English or any other language? Kiswahili = 1 English = 2 Kiswahili and English = 3 Other Languages = 4 Illiterate = 5	Are you/Is [NAME] currently attending, partially attended, completed or never attended school? Now attending =1 Partially attended =2 Completed =3 Never attended =4 IF THE ANSWER IS 'NEVER ATTENDED' SKIP TO SECTION D	What level of education has [NAME] completed or is currently attending? WRITE AND SHADE THE APPROPRIATE CODE. CODES ARE IN SEPARATE HANDBOOK
(01)	(17)	(18)	(19)
1			
2			
3			
4			
5			
6			
7			
8			

D: GENERAL AND MATERNAL DEATHS

PLEASE RECORD INFORMATION ON DEATHS THAT OCCURRED IN THE HOUSEHOLD DURING THE LAST 12 MONTHS.
DO NOT FORGET CHILDHOOD MORTALITY

(20) Was there any death which occurred in this household during the last 12 months?

Yes = 1
No = 2 ☐ IF THE ANSWER IS NO, SKIP TO SECTION E

IF THE ANSWER IS YES, RECORD THE NUMBER OF DEATHS ☐☐

Death Serial Number	Was the deceased a male or a female? Male =1 Female =2	How old was the deceased at the time of death? WRITE AGE IN COMPLETED YEARS. IF UNDER ONE YEAR WRITE "00" IF IS 97 YEARS OR ABOVE WRITE '97'	What was the cause of death? Road Accident = 1 Other Injuries = 2 Suicide = 3 Violence = 4 Sickness/Disease = 5 Martenal Death = 6 Other = 7	IF DEATH IS OF WOMAN AGED BETWEEN 12 AND 49 YEARS		
				Did the death occur during pregnancy? Yes = 1 No = 2 IF THE ANSWER IS YES, SKIP TO SECTION E	Did the death occur during childbirth Yes = 1 No = 2 IF THE ANSWER IS YES SKIP TO SECTION E	Did the death occur during the 6 weeks period following the end of pregnancy, irrespective of the way the pregnancy ended? Yes = 1 No = 2
(21)	(22)	(23)	(24)	(25)	(26)	(27)
1	☐	☐☐	☐	☐	☐	☐
2	☐	☐☐	☐	☐	☐	☐
3	☐	☐☐	☐	☐	☐	☐
4	☐	☐☐	☐	☐	☐	☐
5	☐	☐☐	☐	☐	☐	☐
6	☐	☐☐	☐	☐	☐	☐

If number of death is more than 8, use an extra questionnaire ☐

E: AGRICULTURE AND LIVESTOCK

AGRICULTURE

Has/is any member of this household operated/operating any land for agricultural purposes during 2011/12 agricultural year?

Yes = 1
No = 2

IF THE ANSWER IS NO, SKIP TO QUESTION 30

(28)

☐

Which of the following crops did the household grow?

(29)

	Yes	No
Maize	1	2
Paddy	1	2
Cassava	1	2
Banana	1	2
Other Crops	1	2

LIVESTOCK

Was any member of this household engaged in raising cattle, goats, sheep or poultry up to the census night?

Yes = 1
No = 2

IF THE ANSWER IS NO, SKIP TO QUESTION 32

(30)

☐

How many cattle, goats or sheep were available during the Census night?
IF NO, WRITE AND SHADE CODE "00000"

(31)

Cattle					
Goats					
Sheeps					
Poultry					

FISH FARMING

Is there any member of this household who is currently engaged in fish farming?

Yes = 1
No = 2

(32)

☐

F: CITIZENS IN DIASPORA

33) Is there any person who was a member of this household currently living outside Tanzania?

Yes = 1
No = 2 ☐ IF THE ANSWER IS NO, SKIP TO SECTION G

	M	F
34) Write the number of males and females living outside Tanzania?	☐☐	☐☐

35) In which country are they living?

CODES ARE IN SEPARATE HANDBOOK

1st HH Member	☐☐	6th HH Member	☐☐
2nd HH Member	☐☐	7th HH Member	☐☐
3rd HH Member	☐☐	8th HH Member	☐☐
4th HH Member	☐☐	9th HH Member	☐☐
5th HH Member	☐☐	10th HH Member	☐☐

IF THE NUMBER OF DIASPORA IS MORE THAN 10, USE EXTRA QUESTIONNAIRE ☐

36) Have you or anyone in this household received remitance in the form of cash or in kind from them during the last 12 months? Yes =1, No =2

1st HH Member	☐	6th HH Member	☐
2nd HH Member	☐	7th HH Member	☐
3rd HH Member	☐	8th HH Member	☐
4th HH Member	☐	9th HH Member	☐
5th HH Member	☐	10th HH Member	☐

G: SOCIAL SECURITY FUNDS

37) Is there a person in this household who is a member of the following social security funds?

Yes = 1
No = 2 ☐☐

IF THE ANSWER IS NO, GO TO SECTION H, MULTIPLE RESPONSE IS ALLOWED

		Fund
National Social Security Fund (NSSF)	=1	
Zanzibar Social Security Fund (ZSSF)	=2	
Parastatal Pension Fund (PPF)	=3	
Public Service Pension Fund (PSPF)	=4	
Government Employee Provident Fund (GEPF)	=5	
Local Authority Pension Fund (LAPF)	=6	
National Health Insurance Fund/Community Health Fund (NHIF/CHF)	=7	
Other Funds	=8	

H: TOTAL NUMBER OF PERSONS IN THE HOUSEHOLD

Males	
Females	
Total	

DATE HOUSEHOLD ENUMERATED	**Day**	**Month**

NAME OF SUPERVISOR _____

DATE OF EDITING QUESTIONNAIRE	**Day**	**Month**

Annex 2: Long Questionnaire

PHCF 3

THE UNITED REPUBLIC OF TANZANIA

2012 POPULATION AND HOUSING CENSUS

STRICTLY CONFIDENTIAL

LONG QUESTIONNAIRE

FORM NO. ☐☐ OF ☐☐

A: IDENTIFICATION

Region …… District…… Ward/Shehia…… Village/Street …… EA ……

HOUSEHOLD NO. ☐☐☐

B: ALL PERSONS

No.	HOUSEHOLD MEMBERS	RELATIONSHIP TO THE HEAD OF HOUSEHOLD	SEX	AGE	DISABILITY					
					ALBINISM	SEEING	HEARING	WALKING	REMEMBERING	SELFCARE
	Please state the names of all persons who spent the census night, that is Sunday 26th August, 2012 in your household, starting with the name of the head of household	What is the relationship of [NAME] to the head of the household? Head = 1 Spouse = 2 Son/Daughter = 3 Parent = 4 Grand Child = 5 Other Relative = 6 Not Related = 7	Is [NAME] a male or a female? Male = 1 Female = 2	How old is [NAME]? WRITE AND SHADE AGE IN COMPLETE YEARS. IF UNDER ONE YEAR WRITE "00" FOR 97 YEARS AND ABOVE WRITE '97'	Is [NAME] an albino? Yes = 1 No = 2	Does (NAME) have difficulty seeing, even if wearing glasses? No Difficulty = 1 Some Difficulty = 2 A lot of Difficulty = 3 Unable to See = 4 Not Applicable = 5	Does (NAME) have difficulty hearing, even if using a hearing aid? No Difficulty = 1 Some Difficulty = 2 A lot of Difficulty = 3 Unable to Hear = 4 Not Applicable = 5	Does [NAME] have difficulty walking or climbing steps? No Difficulty = 1 Some Difficulty = 2 A lot of Difficulty = 3 Unable to Walk = 4 Not Applicable = 5	Does (NAME) have difficulty remembering or concentrating? No Difficulty = 1 Some Difficulty = 2 A lot of Difficulty = 3 Unable to Remember = 4 Not Applicable = 5	Does (NAME) have difficulty with self-care, such as washing all over or dressing? No Difficulty = 1 Some Difficulty = 2 A lot of Difficulty = 3 Unable to Care = 4 Not Applicable = 5
(01)	(02)	(03)	(04)	(05)	'(06)	(07)	(08)	(09)	(10)	(11)
1		☐	☐	☐☐	☐	☐	☐	☐	☐	☐
2		☐	☐	☐☐	☐	☐	☐	☐	☐	☐

If an extra Questionnaire has been used put an "X" in the box ☐

B: ALL PERSONS

No.	DISABILITY OTHER DISABILITIES		MARITAL STATUS	CITIZENSHIP
	11A) Does, [NAME] have other type of disabilities/difficulties among the following? READ ALL TYPES OF DISABILITIES/DIFFICULTIES TO RESPONDENT.		What is current marital status of [NAME]? READ ALL RESPONSES TO RESPONDENT Never Married = 1 Married = 2 Living together = 3 Divorced = 4 Separated = 5 Widowed = 6 Not Stated = 7	[NAME] is a citizen of which country? IF TANZANIAN, WRITE CODE 1 IN THE BOX ON THE LEFT WRITE CODE OF THE COUNTRY IN THE TWO BOXES ON THE RIGHT. FOR DUAL CITIZENSHIP, WRITE CODE "98" CODES ARE ON A SEPARATE SHEET
(01)	IF ANSWER IS NO, GO TO QUESTION 12	MULTIPLE RESPONSE IS ALLOWED	(12)	(13)
	Yes / No	Cleft Palate / Spinal befida / Spinal cord injuries / Mental health / Psoriasis		
1	1 2	1 2 3 4 5		
2	1 2	1 2 3 4 5		
3	1 2	1 2 3 4 5		
4	1 2	1 2 3 4 5		
5	1 2	1 2 3 4 5		
6	1 2	1 2 3 4 5		
7	1 2	1 2 3 4 5		
8	1 2	1 2 3 4 5		

	B: ALL PERSONS						C: EDUCATION: ALL PERSONS AGED 4 YEARS AND ABOVE		
No.	**PLACE OF RESIDENCE**	**WHERE RESPONDENT SPENDS MOST OF**	**PLACE OF BIRTH**	**PLACE OF RESIDENCE IN 2011**	**BIRTH CERTIFICATE**	**SURVIVAL OF PARENTS**	**LITERACY**	**EDUCATION ATTAINMENT**	**LEVEL OF EDUCATION**
	Which region/country does [NAME] usually live? WRITE AND SHADE CODE FOR THE REGION AND DISTRICT IF LIVING IN TANZANIA, OR THE COUNTRY CODE FOLLOWED BY "44" IF LIVING OUTSIDE TANZANIA. CODES ARE IN SEPARATE HANDBOOK	Where do you spend most of your time during the day? WRITE AND SHADE REGION AND DISTRICT CODES IF SPENDS MOST OF THE DAY TIME IN TANZANIA OR THE COUNTRY CODE FOLLOWED BY "444" IF OUTSIDE TANZANIA. CODES ARE IN SEPARATE HANDBOOK CODES FOR THE 5th BOX Rural =1 Regional /District Headquarters =2 Other Urban= 3	In which region/country was [NAME] born? WRITE CODE FOR THE REGION AND DISTRICT IF BORN IN THE COUNTRY, OR THE COUNTRY CODE FOLLOWED BY "44" IF BORN OUTSIDE TANZANIA. CODES ARE IN SEPARATE HANDBOOK	Where was [NAME] living in 2011? WRITE AND SHADE CODE FOR THE REGION AND DISTRICT IF LIVING IN THE COUNTRY, OR THE COUNTRY CODE FOLLOWED BY "44" IF LIVING OUTSIDE TANZANIA. FOR CHILDREN AGED '00' IN QUESTION 05 WRITE CODE **'9798'**	Does (NAME) has birth certificate/notification? Yes birth certificate= 1 Yes birth notification= 2 No = 3 Don't Know = 4	Is [NAME]'s Father alive? Is [NAME]'s Mother alive? Yes = 1 No = 2 Don't Know = 3	Can [NAME] read and write a short sentence in Kiswahili, English, Kiswahili and English or any other language? Kiswahili = 1 English = 2 Kiswahili and English = 3 Other Languages = 4 Illiterate = 5	Are you/is [NAME] currently attending, partially attended, completed or never attended school? Now attending =1 Partially attended =2 Completed =3 Never attended =4 IF THE ANSWER IS 'NEVER ATTENDED' SKIP TO SECTION D	What level of education has [NAME] completed or is currently attending? WRITE AND SHADE THE APPROPRIATE CODE. CODES ARE IN SEPARATE HANDBOOK
	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
1						Father Mother			
2									
3									
4									
5									
6									

Annex 2

No.	D: ECONOMIC ACTIVITY: ALL PERSONS AGED 5 YEARS AND ABOVE					E: FEMALES AGED 12 YEARS AND ABOVE				
						CHILDREN EVER BORN			FERTILITY IN LAST 12 MONTHS FOR WOMEN AGED 12 TO 49 YEARS	
	ECONOMIC ACTIVITY		EMPLOYMENT STATUS	OCCUPATION	INDUSTRY	How many male/female children were born alive to [NAME] and are now living with you/her in this household? IF SHE IS NOT LIVING WITH ANY OF HER CHILDREN WRITE AND SHADE "00"	How many male/female children were born alive to [NAME] and are now living elsewhere? IF SHE HAS NO CHILDREN LIVING ELSEWHERE WRITE AND SHADE "00"	How many male/female children were born alive to [NAME] and are now unfortunately dead? IF NONE OF HER CHILDREN HAS DIED WRITE AND SHADE "00"	How many male/female children were born alive to [NAME] in the last 12 months (i.e. 26 August 2011 - 25 August 2012)? IF THERE IS NO CHILD BORN ALIVE IN THE LAST 12 MONTHS WRITE AND SHADE "0". DON'T ASK FEMALES AGED 50 YEARS AND ABOVE	How many of the male/female children who were born alive to [NAME] in the last 12 months are still alive? IF THERE IS NO CHILD SURVIVING WRITE AND SHADE "0"
	In the last 12 months, did [NAME] mainly…. Worked for payment, worked without payment, worked for own benefit, not worked but actively seeking for work, available for work but not actively seeking for work, household chores (e.g. cooking), full time student or unable to work/sick/too old/disable WRITE AND SHADE THE APPROPRIATE CODE. CODES ARE IN SEPARATE HANDBOOK	In the week preceding census' night, did [NAME] mainly…. Worked for payment, worked without payment, worked for own benefit, not worked but actively seeking for work, available for work but not actively seeking for work, household chores (e.g. cooking), full time student or unable to work/sick/too old/disable WRITE AND SHADE THE APPROPRIATE CODE. IF CODE GREATER THAN '3' SKIP TO SECTION E CODES ARE IN SEPARATE HANDBOOK	Was [NAME] an employer, employee, own account worker non-agriculture, own account worker agriculture, contributing family worker, or an apprentice in the week preceding the census' night? WRITE AND SHADE THE APPROPRIATE CODE. CODES ARE IN SEPARATE HANDBOOK	What type of work did [NAME] do in the week preceding the census' night? WRITE AND SHADE THE APPROPRIATE CODE. CODES ARE IN SEPARATE HANDBOOK	What is the main activity at [NAME'S] place of work for the week preceding the census' night? WRITE AND SHADE THE APPROPRIATE CODE. CODES ARE IN SEPARATE HANDBOOK					
	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
1						M F	M F	M F	M F	M F
2										
3										
4										
5										
6										
7										
8										

F: GENERAL AND MATERNAL DEATHS IN THE HOUSEHOLD

PLEASE RECORD INFORMATION ON DEATHS THAT OCCURRED IN THE HOUSEHOLD DURING THE LAST 12 MONTHS. DO NOT FORGET CHILDHOOD MORTALITY

(33) Was there any death which occurred in this household during the last 12 months? YES=1 NO=2 ☐ **IF THE ANSWER IS NO, SKIP TO SECTION G**

RECORD THE NUMBER OF DEATHS ☐☐

Death Serial Number	Was the deceased a male or a female? Male =1 Female =2	How old was the deceased at the time of death? WRITE AGE IN COMPLETED YEARS. IF UNDER ONE YEAR WRITE "00" IF 97 YEARS OR ABOVE WRITE '97'	What was the cause of death? Road Accident = 1 Other Injuries = 2 Suicide = 3 Domestic Violence = 4 Sickness/Disease = 5 Martenal Death = 6 Other = 7	**IF DEATH IS OF A WOMAN AGED 12 TO 49 YEARS**		
				Did the death occur during pregnancy? Yes = 1 No = 2 IF THE ANSWER IS YES SKIP TO SECTION G	Did the death occur during childbirth? Yes = 1 No = 2 IF THE ANSWER IS YES SKIP TO SECTION G	Did the death occur during the 6 weeks period following the end of pregnancy, irrespective of the way the pregnancy ended? Yes = 1 No = 2
(34)	(35)	(36)	(37)	(38)	(39)	(40)
1	☐	☐☐	☐	☐	☐	☐
2	☐	☐☐	☐	☐	☐	☐
3	☐	☐☐	☐	☐	☐	☐
4	☐	☐☐	☐	☐	☐	☐
5	☐	☐☐	☐	☐	☐	☐
6	☐	☐☐	☐	☐	☐	☐
7	☐	☐☐	☐	☐	☐	☐
8	☐	☐☐	☐	☐	☐	☐

If number of death is more than 8, use an extra questionnaire ☐

G: HOUSING CONDITIONS AND OWNERSHIP OF ASSETS										
What is the ownership status of the main dwelling used by the household? IF THE ANSWER IS CODE 2 OR ABOVE, SKIP TO QUESTION 43		What legal right do you have over the ownership of this land where your house is built?		What are the main roofing materials used for the main building of this household?		What are the main flooring materials used for the main building of this household?		What are the main wall materials used for the main building of this household?	
(41)		(42)		(43)		(44)		(45)	
Owned by household	=1	Title deed	= 1	Iron sheets	=1	Cement	=1	Stones	=1
Lived in without paying any rent	=2	Residential Licence	= 2	Tiles	=2	Ceramic tiles	=2	Cement bricks	=2
Rented privately	=3	Offer	= 3	Concrete	=3	Parquet or Polished wood	=3	Sundried bricks	=3
Rented by employer	=4	Customary ownership	= 4	Asbestos	=4	Terazzo	=4	Baked bricks	=4
Rented by government at a subsidized rent	=5	Contract	= 5	Grass/Leaves	=5	Vinyl or Asphalt strips	=5	Timber	=5
Owned by Employer - Free of charge	=6	Registration (Zanzibar)	= 6	Mud and Leaves	=6	Wood Planks	=6	Timber ana Sheets	=6
Owned by Employer - With rent	=7	No legal right	= 7	Plastics/Box	=7	Palm/Bamboo	=7	Poles and Mud	=7
				Tent	=8	Earth/Sand	=8	Grass	=8
						Dung	=9	Tent	=9
							1-Modern floor		
							0-Non modern floor		
☐		☐		☐		☐		☐	

G: HOUSING CONDITIONS AND OWNERSHIP OF ASSETS

How many rooms are available for sleeping in this household?	What is the main source of drinking water for this household?		What is the main source of energy used by this household for cooking?		What is the main source of energy used by this household for lighting?	
(46)	(47)		(48)		(49)	
RECORD NUMBER OF ROOMS FOR SLEEPING	Piped water into dwelling	=01	Electricity (TANESCO/ZECO)	=01	Electricity (TANESCO/ZECO)	=01
	Piped water in the yard/plot	=02	Solar	=02	Solar	=02
	Public tap/standpipe	=03	Generator/private sources	=03	Generator (private source)	=03
	Tubewell/borehole	=04	Cooking Gas	=04	Gas (Industrial)	=04
	Protected dug well	=05	Gas (Biogas)	=05	Gas (Biogas)	=05
	Unprotected dug well	=06	Electricity (Wind)	=06	Electricity (Wind)	=06
	Protected spring	=07	Paraffin	=07	Acetylene lamp	=07
	Unprotected spring	=08	Coal	=08	Kerosene (lantern/chimney)	=08
	Rainwater collection	=09	Charcoal	=09	Kerosene (Wick lamps)	=09
	Bottled water	=10	Firewood	=10	Candles	=10
	Cart with small tank/drum	=11	Wood/ residuals	=11	Firewood	=11
	Tanker truck	=12	Animal residuals	=12	Torch/Rechargeable lamps	=12
	Surface water (river, dam, lake, pond, stream,charco, canal, irrigation channels)	=13	Not Applicable	=13		
			Improved cooking fuel		Have electricity	
			Non improved cooking fuel		Have no electricity	
	Improved source					
	Non improved source					

G: HOUSING CONDITIONS

What is the main type of toilet facility used by this household?		How is the household refuse disposed of?		Does your household have/own the following assets? FOR "YES" ANSWER, THESE ASSETS SHOULD BE IN WORKING CONDITION. SHADE THE APPROPRIATE ANSWER FOR EACH ITEM		
(50)		(51)		(52)		
					YES	NO
Flush/pour flush to piped sewer system	=01	Regularly collected	=1	Radio	1	2
Flush/pour flush to septic tank	=02	Irregularly collected	=2	Telephone (Land Line)	1	2
Flush/pour flush to covered pit	=03	Burnt	=3	Mobile Phone	1	2
Flush/pour flush to somewhere else	=04	Roadside dumping	=4	Bicycle	1	2
Ventilated improved pit (VIP) latrine	=05	Burying/pit	=5	Motor vehicle	1	2
Pit latrine with washable slab and with lid	=06	Other dumping	=6	Motorcycle/Vespa	1	2
Pit latrine with washable slab without lid	=07			Tricycle (Guta)	1	2
Pit latrine with not-washable/ soil slab	=08			Tri motorcycle (Bajaj)	1	2
Pit latrine without slab/ open pit	=09			Television	1	2
Composting/ ecosan latrine	=10			Electric Iron	1	2
Bucket	=11			Charcoal Iron	1	2
No facility/bush/field/ beach	=12			Cooker (Electric or Gas)	1	2
				Refrigerator/Freezer	1	2
Improved 1				Computer /Laptop	1	2
Non improved 0				Internet Facility	1	2
				Plough	1	2
Regarded as sanitation				Power tiller	1	2
				Hand hoe	1	2
				Wheelbarrow	1	2
				Oxen	1	2
				Donkey/Camel	1	2
				House	1	2
				Land/Farm	1	2
				1 At least two items out of the listed assets		
				0 Less than two items from the listed assets		

H: AGRICULTURE AND LIVESTOCK

AGRICULTURE		LIVESTOCK		FISH FARMING
Has/is any member of this household operated/operating any land for agricultural purposes during 2011/12 agricultural year? Yes = 1 No = 2 IF THE ANSWER IS NO, SKIP TO QUESTION 55	Which of the following crops did the household grow?	Was any member of this household engaged in raising cattle, goats, sheep or poultry up to the census night? Yes = 1 No = 2 IF THE ANSWER IS NO, SKIP TO QUESTION 57	How many cattle, goats or sheep were available during the Census night? IF NO, WRITE AND SHADE CODE "00000"	Is there any member of this household who is currently engaged in fish farming? Yes = 1 No = 2
(53)	(54)	(55)	(56)	(57)

	Yes		No
Maize	1		2
Paddy	1		2
Cassava	1		2
Banana	1		2
Other Crops	1		2

Cattle					
Goats					
Sheep					
Poultry					

I: CITIZENS IN DIASPORA

58) Is there any person who was a member of this household currently living outside Tanzania? Yes = 1 No = 2
IF THE ANSWER IS NO, SKIP TO SECTION J ☐

	M	F
59) Write the number of males and females living outside Tanzania?		

60) In which country are they living?

CODES ARE IN SEPARATE HANDBOOK

1st HH Member		6th HH Member	
2nd HH Member		7th HH Member	
3rd HH Member		8th HH Member	
4th HH Member		9th HH Member	
5th HH Member		10th HH Member	

IF THE NUMBER OF DIASPORA IS MORE THAN 10, USE EXTRA QUESTIONNAIRE ☐

61) Have you or anyone in this household received remitance in the form of cash or in kind from them during the last 12 months?
Yes =1, No =2

1st HH Member		6th HH Member	
2nd HH Member		7th HH Member	
3rd HH Member		8th HH Member	
4th HH Member		9th HH Member	
5th HH Member		10th HH Member	

J: SOCIAL SECURITY FUNDS

62) Is there a person in this household who is a member of the following social security funds?

Yes = 1 No = 2 ☐ IF THE ANSWER IS NO, GO TO SECTION H. MULTIPLE RESPONSE IS ALLOWED

		Fund
National Social Security Fund (NSSF)	=1	
Zanzibar Social Security Fund (ZSSF)	=2	
Parastatal Pension Fund (PPF)	=3	
Public Service Pension Fund (PSPF)	=4	
Government Employee Provident Fund (GEPF)	=5	
Local Authority Pension Fund (LAPF)	=6	
National Health Insurance Fund/Community Health Fund (NHIF/CHF)	=7	
Other Fund	=8	

K: TOTAL NUMBER OF PERSONS IN THE HOUSEHOLD

Males	
Females	
Total	

	Day	Month
DATE HOUSEHOLD ENUMERATED		

NAME OF SUPERVISOR _____

	Day	Month
DATE OF EDITING QUESTIONNAIRE		