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TANZANIA REGIONS

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FOREWORD

In the 2002 Population and Housing Census we continue with the tradition, evolved over the last four decades, of producing a national analytical report but with some innovation. As it was with the 1988 Population Census, the primary purpose of this volume is to analyze the census data and make the results of the analysis accessible to those engaged in development planning. As much as possible, the analysis has been made in a simpler way than it was done in the previous censuses.

The National Bureau of Statistics wishes to extend its sincere gratitude to JICA and Country Support Team (CST) from UNFPA-Addis Ababa, for structure editing of this volume. Our thanks should also go to our friends at the International Programs Centre (IPC), U.S. Census Bureau for providing technical assistance in the area of evaluating age structure, fertility and mortality chapters.

With the completion of this volume, we would like to extend our thanks to all leaders at national, regional, district, ward/shehia, village/"Mtaa" and 'vitongoji' levels for ensuring that the 2002 Population and Housing Census was a success. This success also depended on the generous material, financial and moral support provided by our development partners. We would therefore like to take this opportunity to express our appreciation to the following development partners: the United Nations Population Fund (UNFPA), the Swedish International Development Agency (SIDA), the United Nations Development Programme (UNDP), the Government of Japan, JICA, the United States Agency for International Development (USAID), the Department for International Development (DFID), the World Bank, the United Nations Children's Fund (UNICEF), the Norwegian Agency for Development (NORAD) and the Finnish International Development Agency (FINNIDA).

We would like to thank in a special way all members from the 2002 National Analysis Team, higher learning institutions, Regional Census Coordinators, Regional Statistical Officers, District Census Executive Officers, primary school teachers engaged as enumerators and supervisors and other government staff members at all levels, for the role they played in the 2002 Population and Housing Census, specifically for their commitment and diligence. It was only through their hard work that we have been able to produce indicators and census reports of the quality anticipated.

We welcome any comments regarding this and other publications on the 2002 Population and Housing Census. These should be channeled to the Director General, National Bureau of Statistics, P.O. Box 796, Dar es Salaam, e-mail: dg@nbs.go.tz or to the Chief Government Statistician, P.O. Box 2321, Zanzibar, e-mail: zanstat@zanlink.com.

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Like in previous censuses, the census results have to be analyzed and made available for development planning at all levels. In this respect, this volume aims at examining critically the 2002 Census data and presents the analysis to the public. It also aims at providing the findings in such a way that they would be easily understood by planners who are expected to be the main users of this volume. The topics covered in various chapters have been chosen on the basis of their relevance to development planning.

This volume consists of 11 chapters. Chapter 1 gives population growth and distribution in Tanzania. This chapter reveals that the total population of Tanzania enumerated in the 2002 Population and Housing Census was 34.4 million, of which 33.5 million or 97.1 percent were on Tanzania Mainland and 982,000 or 2.9 percent were in Tanzania Zanzibar. The total population almost tripled during the 35 year period between 1967 and 2002. The average annual rate of growth during the 14 years intercensal period (1988-2002) was 2.9 percent. It was further found that population density in 2002 was 39 persons per square kilometre for the whole Tanzania, 38 persons per square kilometre for Tanzania Mainland and 400 persons per square kilometre for Tanzania Zanzibar.

Chapter 2 looks at the age and sex distribution of the population, digital preference, age in five year age groups, population and sex ratio, young and old population, trends in growth rate and dependency ratio. A look at the age distribution by single years shows a tendency of age heaping and digital preference. With regard to population and sex ratio, Tanzania had a population pyramid with a broad base indicating high birth and death rates. The sex ratio for Tanzania was 96 males for 100 females and with age dependency ratio of 93. Looking at the rural/urban differentials, the rural areas had a higher age dependency ratio than urban areas at national level.

In chapter 3, the estimated average age at first marriage was 25.9 years for males and 21.1 years for females in 2002. The difference was 4.8 years. The average age at first marriage increased over time for both males and females. This in couple with an increase in the proportion never married suggests a tendency of late marriage.

There was a substantial difference in the average age at first marriage and the proportion of never married between rural and urban areas. The average age at first marriage was 24.9 years for males and 20.3 percent for females in the rural areas as compared with 28.0 years for males and 23.3 years for females in the urban areas.

Chapter 4 looks at people with disability in Tanzania. The incidence of disability in Tanzania stood at 2 percent. However, the proportion of persons with disability was higher among males (2.2 percent) than females (1.7 percent). The common disabilities were leprosy/physically handicapped (47.9 percent), mentally handicapped (16.3 percent), multiple handicapped (13.3 percent) and dumb/hearing impaired (13.1 percent).

In chapter 5, it was observed that, the Literacy rates of population aged 10 years and above increased significantly from about 50 percent in 1978 to about 70 percent in 2002. Improvement in literacy of population was more remarkable in Tanzania Zanzibar.

Tanzania Zanzibar that had a lower literacy rate in 1978 than Tanzania Mainland recorded a faster increase in literacy rate such that by the year 2002 its rate surpassed that of Tanzania Mainland.

In Tanzania, education registered a net enrolment rate of 69 percent. The rate was higher among the urban population (84 percent) than the rural population (65 percent). The rate was also higher among females (70 percent) than among males (68 percent). However, there has been a remarkable improvement in the net school enrolment rate since 1988 when 48 percent was registered.

Chapter 6 discusses economic activity in Tanzania. Usually economically active population aged 10 years old and over in the United Republic of Tanzania was 14,841,000, larger by 683,000 (4.4 percent) than currently economically active population. The number of employed persons measured in terms of usual activity was larger than that measured in terms of current activity. On the contrary, numbers of unemployed persons and the economically inactive persons measured in terms of usual activity were smaller than those measured in terms of current activity. The pattern is the same for both males and females. The difference between usual status and current status is larger in females than in males for economically active population, while, it is smaller in females than in males for unemployed persons and economically inactive population.

In United Republic of Tanzania, 420,000 long-term unemployed persons were counted. On the other hand, the rate of unemployment was not so high even when measured in terms of current status of activity. However, it indicated remarkably high rate in urban areas.

Chapter 7 looks at the fertility levels, patterns and differentials during the inter-censal period of 1988-2002. It was revealed that, Tanzanian fertility has been high and continues to be high with TFR of 6.3 children per woman. Examination of rural–urban differentials reveals that rural women have higher fertility compared to urban women.

Chapter 8 shows that there has been a slow decline in infant and child mortality in Tanzania. Infant and child mortality rates declined from 115 and 191 to 95 and 153 respectively. Tanzania Zanzibar seems to have recorded a remarkable decline of mortality. Infant and child mortality rates have declined from 120 and 202 in 1988 to 89 and 141 in 2002 respectively. Life expectancy for Tanzania rose slightly from 50 years to 51. This slow increase in life expectancy may be attributed to a number of factors including the spread of HIV/AIDS.

It is further observed in chapter 8 that, Tanzania Rural recorded higher mortality than urban areas. Tanzania Zanzibar recorded lower mortality levels than Tanzania Mainland. At the regional level, Arusha Region has the highest life expectancy (68 years) while Lindi and Mtwara recorded the lowest life expectancy at birth of 45 and 42 years respectively. Tanzania Zanzibar regions have the highest levels of life expectancy at birth lying between 53 and 62 years.

Chapter 9 shows intensive interregional migration with most of the people moving to major urban centers such as Dar es Salaam and Zanzibar in Urban West. Out migration was high in regions which had high population pressure and poverty. A few changes were observed in current migration where some of the regions with better settlements had positive net migration. Most of the immigrants in the country were from the African countries especially from countries of the Great Lakes Region due to the influx of refugees.

The study of urbanization in chapter 10 shows that, among African countries, United Republic of Tanzania has a relatively low level of urbanization. Among regions of Tanzania, Dar es Salaam on Mainland and Urban West in Zanzibar had rates of urbanization of more than 80 percent. Other twenty four regions, except for Arusha where rate of urbanization was 31.3 percent, had rates under 30 percent.

Chapter 11 analyzes households and housing in Tanzania. In this chapter it was found that, rural areas had a larger average household size (4.3 persons per household) than the urban areas (4.2 persons per household). With regard to household headship, there were more male-headed households (67 percent) than female-headed households (33 percent). It has also been revealed that, the average household size has declined from 5.2 persons per household in 1988 to 4.7 persons in 2002.

Data on building materials show that, slightly more than 34 percent of the households had walls built of poles and mud followed by sun-dried bricks (33 percent), cement bricks (15 percent) and backed bricks

(14 percent). Most of the households used mud as flooring material (73 percent). However, in urban areas, cement was the most common flooring material (71 percent). On roofing, 46 percent of the households thatched with iron sheets followed by grass (41 percent) and grass/mud (11 percent). However, the majority of the urban households (86 percent) used iron sheets as roofing material.

Concerning main source of energy for lighting, 64 percent of the total private households used wick lamp. However, while 77 percent of the rural households used wick lamp, 35 percent of the urban households used electricity for lighting. The main source of energy for cooking in the country was firewood (77 percent) followed by charcoal (17 percent) and kerosene/paraffin (4 percent). While 96 percent of the rural households used firewood, 53 percent of the urban households used charcoal for cooking.

As for the main source of drinking water, 33 percent of the rural households used unprotected wells followed by piped water (21 percent). In urban areas, piped water was the main source accounting for 71 percent followed by protected wells (13 percent).

With regard to toilet facilities, most of the private households (86 percent) used traditional pit latrine while 9 percent of the households had no toilet facilities. Concerning ownership of assets, 77 percent of the households owned a hand hoe with a slightly higher percentage among female-headed households (80 percent) than male-headed households (76 percent), while 34 percent owned a bicycle.

CHAPTER 1: POPULATION GROWTH AND DISTRIBUTION

1.1 Introduction

The population is an important resource for development. It is a resource for labour supply for production as well as consumption of various products. Hence the size of a population is one of the important parameters for economic development. At the same time the growth of population increases demands for food, water, energy and other natural resources, and increases consumption of natural resources. It thus leads to a danger of destruction of environment. The growth and distribution of the population also determines the demand for essential social services, such as education, health, water, transport and housing. To maintain sustainable economic development, improve well being of people and reduce poverty in a society as well as to maintain environment, population growth should be kept at an appropriate level.

It is important to assess the size and distribution of population and trends in the population growth. This chapter will analyse the trends and distribution of population in Tanzania based on the 2002 population and housing census and the previous censuses.

1.2 Size and Growth of the Total Population

The total population of Tanzania enumerated in the 2002 Population and Housing Census was 34.4 million, of which 33.5 million or 97.1 percent were in Tanzania Mainland and 982,000 or 2.9 percent in Tanzania Zanzibar.

The total population almost tripled during 35 years between 1967 and 2002. During the most recent inter-censal period of 14 years from 1988 to 2002, the total population increased from 23.1 million in 1988 to 34.4 million in 2002, an increase of 11.3 million or 49.1 percent. The average annual rate of growth during this period was 2.9 percent.

By area, the trend was the same in Tanzania Mainland as All Tanzania, namely a decline from 3.2 percent for the period 1967-1978 to 2.8 percent for the period 1978-1988, then a slight increase to 2.9 percent for the period 1988-2002. But in Tanzania Zanzibar a different trend in the growth rate was observed. The growth rate continued to increase from 2.7 percent for the period 1967-1978 to 3.0 percent for the period 1978-1988 and further to 3.1 percent for the period 1988-2002.

A reason for a slight rise in the average annual increase rate of the total population is the influx of over 370 thousands refugees from the neighbouring countries during the period 1988-2002. Due to lack of reliable vital statistics in this country, it is difficult to assess the impact of changes in fertility and mortality on the population growth rate during the period.

Table 1.1 Total Populations at the Censuses of 1967, 1978, 1988 and 2002

	Tanzania Total	Tanzania Mainland	Tanzania Zanzibar
Total population			
1967	12,313,469	11,958,654	354,815
1978	17,512,610	17,036,499	476,111
1988	23,095,882	22,455,207	640,675
2002	34,443,603	33,461,849	981,754
Increase			
1967-1978	5,199,141	5,077,845	121,296
1978-1988	5,583,272	5,418,708	164,564
1988-2002	11,347,721	11,006,642	341,079
Average annual rate of increase (%)			
1967-1978	3.20	3.22	2.67
1978-1988	2.77	2.76	2.97
1988-2002	2.85	2.85	3.05

Source: The United Republic of Tanzania Population and Housing Censuses, 1967, 1978, 1988 and 2002.

1.3 Geographical Distribution

1.3.1 Regional Population

Table 1.2 gives regional populations at the censuses of 1988 and 2002 and their changes during the inter-censal period 1988-2002.

Of 26 regions (21 in Mainland and 5 in Zanzibar), there are 5 regions with population of over 2 million in 2002. The region with the largest population is Mwanza (2.9 million), followed by Shinyanga (2.8 million), Dar es Salaam (2.5 million), Mbeya (2.1 million) and Kagera (2.0 million). Populations of these 5 regions in total accounted for 36 percent of the total population. The next group of regions with population of 1.5 to 2 million includes 5 regions: Morogoro (1.8 million), Tabora (1.7 million), Dodoma (1.7 million), Kigoma (1.7 million) and Tanga (1.6 million). There are 9 regions with population of 1 to 1.5 million. All of these 19 regions with population over one million are located in Tanzania Mainland.

During the 14-year period from 1988 to 2002, the population of Tanzania increased by 11.3 million from 23.1 million to 34.4million, an increase of 49 percent over the period. By region, the population increase over the period ranged from 24,000 persons in South Unguja Region, an increase of 34 percent, to 1.1 million persons in Dar es Salaam Region, an increase of 83 percent. Populations of Mwanza and Shinyanga also have increased by more than one million persons.

Regions whose population change was between a half million and one million persons include 6 regions: Kigoma, Kagera, Tabora, Mbeya, Arusha and Morogoro. Arusha and Mbeya.

Table 1.2 Population by Region: 1988 and 2002

Region	Population		Increase 1988 - 2002		
	1988	2002	Increase	Rate (%)	Average annual rate (%)
Tanzania	23,095,882	34,446,603	11,350,721	49.1	2.9
Tanzania Mainland	22,455,207	33,461,849	11,006,642	49.0	2.8
Dodoma	1,235,327	1,692,025	456,698	37.0	2.2
Arusha	(a) 744,135	1,288,088	(a)	(a) 73.1	(a) 3.9
Kilimanjaro	1,104,673	1,376,702	272,029	24.6	1.6
Tanga	1,280,212	1,636,280	356,068	27.8	1.8
Morogoro	1,220,564	1,753,362	532,798	43.7	2.6
Pwani	636,103	885,017	248,914	39.1	2.4
Dar es salaam	1,360,865	2,487,288	1,126,423	82.8	4.3
Lindi	646,494	787,624	141,130	21.8	1.4
Mtwara	889,100	1,124,481	235,381	26.5	1.7
Ruvuma	779,875	1,113,715	333,840	42.8	2.5
Iringa	1,193,074	1,490,892	297,818	25.0	1.6
Mbeya	1,476,278	2,063,328	587,050	39.8	2.4
Singida	792,387	1,086,748	294,361	37.1	2.3
Tabora	1,036,150	1,710,465	674,315	65.1	3.6
Rukwa	698,718	1,136,354	437,636	62.6	3.5
Kigoma	856,770	1,674,047	817,277	95.4	4.8
Shinyanga	1,763,800	2,796,630	1,032,830	58.6	3.3
Kagera	1,313,594	2,028,157	714,563	54.4	3.1
Mwanza	1,876,635	2,929,644	1,053,009	56.1	3.2
Mara	946,418	1,363,397	416,979	44.1	2.6
Manyara	(b) 604,035	1,037,605	(b)	(b) 71.8	(b) 3.9
Tanzania Zanzibar	640,675	981,754	344,079	53.7	3.1
North Unguja	96,989	136,639	39,650	40.9	2.5
South Unguja	70,313	94,244	23,931	34.0	2.1
Urban West	208,571	390,074	181,503	87.0	4.5
North Pemba	137,179	185,326	48,147	35.1	2.1
South Pemba	127,623	175,471	47,848	37.5	2.3

Source: The United Republic of Tanzania Population and Housing Censuses, 1988 and 2002.
Note: Manyara Region was a part of Arusha Region at the time of the 1988 census.

(a) The 1988 population of Arusha is the 1988 population within the 2002 boundary of Arusha. The population increase in 1988-2002 is the increase in the period within the 2002 boundary of Arusha.

(b) The 1988 population of Manyara Region is the 1988 population within the 2002 boundary of Manyara. The population increase in 1988-2002 is the increase in the period within the 2002 boundary of Manyara.

For the inter-censal period 1988-2002, there were substantial variations in the rates of population increase between regions. Kigoma had the highest inter-censal growth rate. Its population almost doubled during the 14 years, an increase of 95 percent or 4.8 percent per annum. The regions with the next highest growth rates are Urban West (an increase of 87 percent or 4.5 percent per annum) and Dar es Salaam (an increase of 83 percent or 4.3 percent per annum). Arusha and Manyara also had very high growth rates: 73 percent or 3.9 percent per annum and 72 percent or 3.9 percent per annum.

Table 1.3 shows a list of regions by level of average annual growth rates for the period 1988-2002. Map 1.1 presents a map showing average annual growth rates by region for the period 1988-2002.

Table 1.3 List of Regions by Level of Average Annual Growth Rates for the Period 1988-2002

Annual growth rate	Number of regions	Region
4.0% and above	3	Kigoma (4.8%), Urban West (4.5%), Dar es Salaam (4.3%)
3.5-3.9%	4	Arusha (3.9%), Manyara (3.9%), Tabora (3.6%), Rukwa (3.5%)
3.0-3.4%	3	Shinyanga (3.3%), Mwanza (3.2%), Kagera (3.1%)
2.5-2.9%	4	Mara (2.6%), Morogoro (2.6%), North Unguja (2.5%), Ruvuma (2.5%)
2.0-2.4%	7	Mbeya (2.4%), Pwani (2.4%), Singida (2.4%), South Pemba (2.3%), Dodoma (2.2%), North Pemba (2.1%), South Unguja (2.1%)
Below 2.0%	5	Tanga (1.8%), Mtwara (1.7%), Iringa (1.6%), Kilimanjaro (1.6%), Lindi (1.4%)

Source: The United Republic of Tanzania Population and Housing Censuses, 1988 and 2002.

As seen from Table 1.3 and Map1.1, average annual rates of population increase by region for the period 1988-2002 reveal a perceivable growth pattern, which divides Tanzania into roughly three zones, namely western, central and eastern zones stretching north to south. Regions with annual growth rate above national growth rate of 2.9 percent, with the exception of Dar es Salaam, Urban West, Arusha and Manyara, are located in the western part of the country. These regions include Kigoma, Tabora, Rukwa, Shinyanga, Mwanza and Kagera all of which population grew at more than 3.0 percent per annum. The regional growth rates tend to get lower as one moves east. The regions with annual growth rates ranging from 2.2 percent to 2.6 include Mara, Ruvuma, Mbeya, Singida, Pwani and Dodoma. Apart from Mara and Pwani the other four regions are in central zone. With the exception of Dar es Salaam and Urban West regions which experienced growth rates above 3.0 percent, the remaining regions located in the eastern part of the country had annual growth rates below 2.0 percent. These regions are Tanga, Mtwara and Lindi. Other regions in this category are Iringa and Kilimanjaro regions.

High population growth rates in the regions in the western part of the country are due to inflow of refugees from neighbouring countries. A very high growth rate of Kigoma Region is mainly due to inflow of refugees from Burundi and the Republic of Congo. According to Kigoma Regional Planning Officer's records there were a total of about 371,000 refugees in the region. The United Nation High Commission for Refugees (UNHCR) also estimated the number of refugees in Kigoma region at the time of the census at about 376,000.

Other regions with significant contribution of refugee flows in their population are Kagera and Rukwa. The share of refugees in the growth rate of the population of Kagera region was estimated at 14 percent. The population growth rate of Rukwa Region is significantly influenced by refugee flows from Burundi, DRC, and Rwanda. However, for quite sometime refugees have dominated the population of Rukwa Region, especially the population of Mpanda district, where – according to the Rukwa regional administration – their proportion in the population at the time of the 1988 census was more than 50 percent. In 2002 this proportion declined to 24 percent. Since most of the refugees were

counted in the 1988 census refugee flow had minimal influence on the growth of the region's population. Given their share in the region's population the refugees' contribution to population growth, during the 1988-2002, was through fertility which, would not have been realised if there were no refugees in the region. At the same time the Rukwa Region administration recognizes the existence of undocumented refugees living outside official refugee residences at Katumba and Mishamo in Mpanda district, and the number of such refugees is yet to be known until special count of refugees planned by the region is undertaken in the near future. Most of the undocumented refugees live along Lake Tanganyika coast mingled among citizens and many of them have either given themselves up to authority or been apprehended.

Tabora and Shinyanga Regions being close to Kigoma region may be experiencing the same phenomenon whereby refugees run away from camps and live among citizens. This is due to the difficult of explaining the high population growth rate of the region by natural increase and inter-regional migration alone.

There are number of regions with very high population growth rates of over 3.0 percent that do not experience significant refugee flows. These regions include Urban West, Dar es Salaam, Arusha, Manyara, Tabora, Rukwa, Shinyanga, and Mwanza. The factors behind the phenomenal growth rates are related to inter-regional migration and natural increase in the population. With regard to inter-regional migration, factors which can be considered to have influenced positively population growth rates in these regions include new economic opportunities related to growth of non-agricultural activities, especially the expansion of mining activities with the opening of large and small scale gold mining in Shinyanga, Mwanza, and Tabora Regions, and expansion of germ-stone mining and the growth of tourist activities in Arusha and Manyara Regions; and the attraction of prime urban area including the City of Dar es Salaam and Urban West in Zanzibar.

Table 1.4 compares the average annual rate of population increase by region for the inter-censal periods of 1967-1978, 1978-1988 and 1988-2002.

Ten regions out of 26 regions experienced an increase in their growth rates. These regions recorded increase in their growth rates ranging from 0.1 percent point to 2.0 percent points. The population growth rate of Kigoma increased from 2.8% to 4.8%, an increase of 2.0 percent points, and the growth rate of Tabora from 2.4% to 3.6%, by an increase of 1.2 percent points.

The average annual population growth rates for the period 1988-2002 were lower than growth rates for the period 1978-1988 in 15 regions. These regions recorded reduction in their growth rates ranging from 0.1 percent point to 1.0 percent point. Iringa experienced a reduction in its population growth rate from 2.6% to 3.6% by 1.0 percent point, South Unguja from 3.1% to 2.1%, a reduction of 1.0 percent point, Rukwa from 4.4% to 3.5%, a reduction of 0.9 percent point.

Table 1.4 Average Annual Rates of Population Increase for the Inter-censal Periods 1967-1978, 1978-1988 and 1988-2002, by Region

Region	Average annual rate of increase (%)			Difference in annual rates	
	1967-1978	1978-1988	1988-2002	(1)	(2)
Tanzania	3.2	2.8	2.9	-0.4	0.1
Tanzania Mainland	3.2	2.8	2.8	-0.5	0.1
Dodoma	2.9	2.4	2.2	-0.5	-0.2
Arusha	3.8	3.8	3.9	0.0	0.2
Kilimanjaro	2.9	2.0	1.6	-0.9	-0.4
Tanga	2.7	2.1	1.8	-0.6	-0.3
Morogoro	2.9	2.6	2.6	-0.3	0.0
Pwani	1.7	2.1	2.4	0.4	0.3
Dar es Salaam	7.8	4.8	4.3	-3.0	-0.5
Lindi	2.1	2.0	1.4	0.0	-0.6
Mtwara	2.0	1.4	1.7	-0.6	0.3
Ruvuma	3.2	3.3	2.5	0.1	-0.7
Iringa	2.7	2.5	1.6	-0.1	-1.0
Mbeya	3.3	3.1	2.4	-0.1	-0.7
Singida	2.7	2.6	2.3	-0.1	-0.3
Tabora	4.4	2.4	3.6	-2.1	1.2
Rukwa	4.5	4.4	3.5	-0.1	-0.9
Kigoma	2.9	2.8	4.8	-0.1	2.0
Shinyanga	3.5	2.9	3.3	-0.6	0.4
Kagera	3.9	2.6	3.1	-1.3	0.5
Mwanza	2.8	2.6	3.2	-0.2	0.6
Mara	2.6	2.7	2.6	0.1	-0.1
Manyara	-	-	3.9		
Tanzania Zanzibar	2.7	3.0	3.1	0.3	0.1
North Unguja	2.8	2.3	2.5	-0.5	0.1
South Unguja	2.6	3.1	2.1	0.5	-1.0
Urban West	3.7	3.8	4.5	0.2	0.6
North Pemba	3.5	2.6	2.1	-1.0	-0.4
South Pemba	0.6	2.5	2.3	1.9	-0.3

Source: Computed from the census data in the United Republic of Tanzania Population and Housing Censuses, 1967, 1988 and 2002.

Note: Difference (1) is differences in growth rates for the period 1978-1988 and the growth rates for the period 1967-1978.

Difference (2) is differences in growth rates for the period 1988-2002 and the growth rates for the period 1978-1988.

1.3.2 District Population

Dealing with district population growth is complicated by the creation of new districts at various times since 1967 when the first post independence population and housing census was taken. The number of districts has increased from 85 in 1967 to 129 in 2002.

During the inter-censual period 1988/2002 alone 34 districts changed their boundaries through the creation of 16 new districts.

In order to avail all districts with information on district population growth, the inter-censual district annual growth rates for the period 1988-2002 were determined by using 2002 district boundaries to arrive at 1988 district population for districts which changed boundaries – with the assumption that wards change boundaries within the district.

Populations of 1988 and 2002 and average annual rates of population increase during the period 1988-2002 by district are shown in Annex Table 1.A at the end of Chapter 1.

There are considerable variations in the size of population of districts. In the 2002 census, the district with the largest population was Kinondoni District of Dar es Salaam Region with population of 1,083,913 and the smallest is South District of South Unguja Region with population of 31,853. Ten districts with largest population and 10 districts with smallest population are listed in Table 1.5.

Table 1.5 10: Largest Districts and 10 Smallest Districts in 2002

10 districts with largest population				10 districts with smallest population			
	District	Region	Population		District	Region	Population
1	Kinondoni	Dar es-Salaam	1,083,913	1	South	South Unguja	31,853
2	Temeke	Dar es-Salaam	768,451	2	Mafia	Pwani	40,557
3	Geita	Mwanza	709,078	3	Lindi Urban	Lindi	41,075
4	Ilala	Dar es-Salaam	634,924	4	Pangani	Tanga	43,920
5	Kasulu	Kigoma	626,742	5	North B	North Unguja	52,492
6	Bariadi	Shinyanga	603,604	6	Central	South Unguja	62,391
7	Kahama	Shinyanga	594,891	7	Liwale	Lindi	75,128
8	Arumeru	Arusha	514,651	8	Bukoba Urban	Kagera	80,868
9	Mbozi	Mbeya	513,600	9	Chakechake	South Pemba	82,998
10	Sengerema	Mwanza	498,993	10	Micheweni	North Pemba	83,266

Source: Annex Table 1.

Table 1.6 below gives distribution of districts by size class of population in 1988 and 2002. From this table it will be observed that there was a considerable increase in the number of districts with large populations.

Table 1.6 Number of Districts by Population Size Class: 1988 and 2002

Population	1998	2002
Less than 100,000	33	14
100,000-199,999	50	33
200,000-299,999	26	40
300,000-399,999	17	15
400,000-499,999	3	18
500,000 and more	0	9
Total	129	129

Source: Compiled from Annex Table 1.A.
Note: Based on districts with boundaries in 2002.
Average annual rates of population increase during the period 1988-2002 by district had a wide range from the growth rate of minus 0.1 percent for Lindi Urban District of Lindi Region to 9.2 percent for

West District of Urban/West Region. Table 1.7 below gives distribution of districts according to the magnitude of average annual rate of population increase.

Table 1.7 Number of Districts by Magnitude of Average Annual Rate of Population Growth in the Period 1988-2002

Annual growth rate (%)	Number of districts
Below 1.0%	6
1.0% to 1.9%	38
2.0% to 2.9%	37
3.0% to 3.9%	28
4.0% to 4.9%	11
5.0% and up	9
Total	129

Source: Compiled from Annex Table 1.A.
Note: Based on districts with boundaries in 2002.

Districts whose average annual growth rates during the period 1988-2002 were higher than 5 percent are listed in Table 1.8.

Table 1.8 Districts with Annual Growth Rates Higher than 5 Percent

District	Region	Annual growth rate (%)
West	Urban West	9.2
Bukombe	Shinyanga	7.4
Simanjiro	Manyara	7.0
Ilemela	Mwanza	6.2
Kibondo	Kigoma	6.1
Uyui	Tabora	5.7
Arusha	Arusha	5.4
Ngara	Kagera	5.3
Kiteto	Manyara	5.1

Source: Annex Table 1.A.

District population growth rates within each of the regions that have high annual rates of population increase of 3.5 percent and above will be discussed below.

In the case of Kigoma Region that has the highest annual rate of population increase during the period 1988-2002, all 4 districts recorded high population growth rates ranging from 3.8 percent to 6.1 percent. These districts have been affected by the inflow of refugees during the inter-censual period, with the exception of Kigoma Rural District which could have experienced inter-regional migratory in-flows as well attracted by fishing activities in Lake Tanganyika in addition to the presence of undocumented refugees as shown by experience in Rukwa Region.

Urban West Region that recorded the second highest population growth rate in 1988-2002 has only two districts with big difference in district growth rates (West District 9.2 percent and Urban District 1.9 percent). West District attracted in-migration.

Dar es Salaam Region with its City of Dar es Salaam is prime urban region the seat of commercial and industrial activities which attract migratory inflows from all over Tanzania. This status of the region is enjoyed by its three districts: Ilala, Temeke and Kinondoni.

Arusha Region is known for its tourist attraction and agricultural activities and both of them to a large extent attract business and labour. These attributes are spread in all districts in varying degrees. Manyara Region that was separated from Arusha Region has five districts with population growth rates ranging from 7.0 percent for Simanjiro District to 2.7 percent for Babati District

Tabora Region has six districts with population growth rates ranging from 5.7 percent for Uyui District to 1.9 percent for Tabora Urban District. This situation indicates the presence of intra-regional migration, people moving from one district with less resource endowment to other district with better resource endowment in the same region, in addition to the possible inter-regional migration to the high growth rates districts.

Rukwa Region has a combination of factors which induce its high population growth rate. These include existence of resident refugees in Mpanda District with their documented high fertility; existence of undocumented refugees spread in other districts, especially along Lake Tanganyika coast; existence of high agricultural potential in Nkansi and Sumbawanga Districts and fishing activities in Lake Rukwa.

1.3.3 Rural-Urban Distribution

In order to get the distinction of rural and urban populations for the 2002 Population and Housing Census, the wards were grouped into three categories i.e. rural, urban, and mixed. Based on this grouping, the rural and urban populations were classified in data processing.

Table 1.9 gives a summary of the population distribution by type of residence for the 1967, 1978, 1988 and 2002 censuses.

Table 1.9 Rural-Urban Distribution of Population, by Area: 1966, 1978, 1988 and 2002

(%)

	Tanzania		Tanzania Mainland		Tanzania Zanzibar	
Year	Rural	Urban	Rural	Urban	Rural	Urban
1967	93.6	6.4	94.3	5.7	71.4	28.6
1978	86.2	13.8	86.7	13.3	67.4	32.6
1988	81.6	18.4	82.0	18.0	68.2	31.8
2002	76.9	23.1	77.4	22.6	60.4	39.6

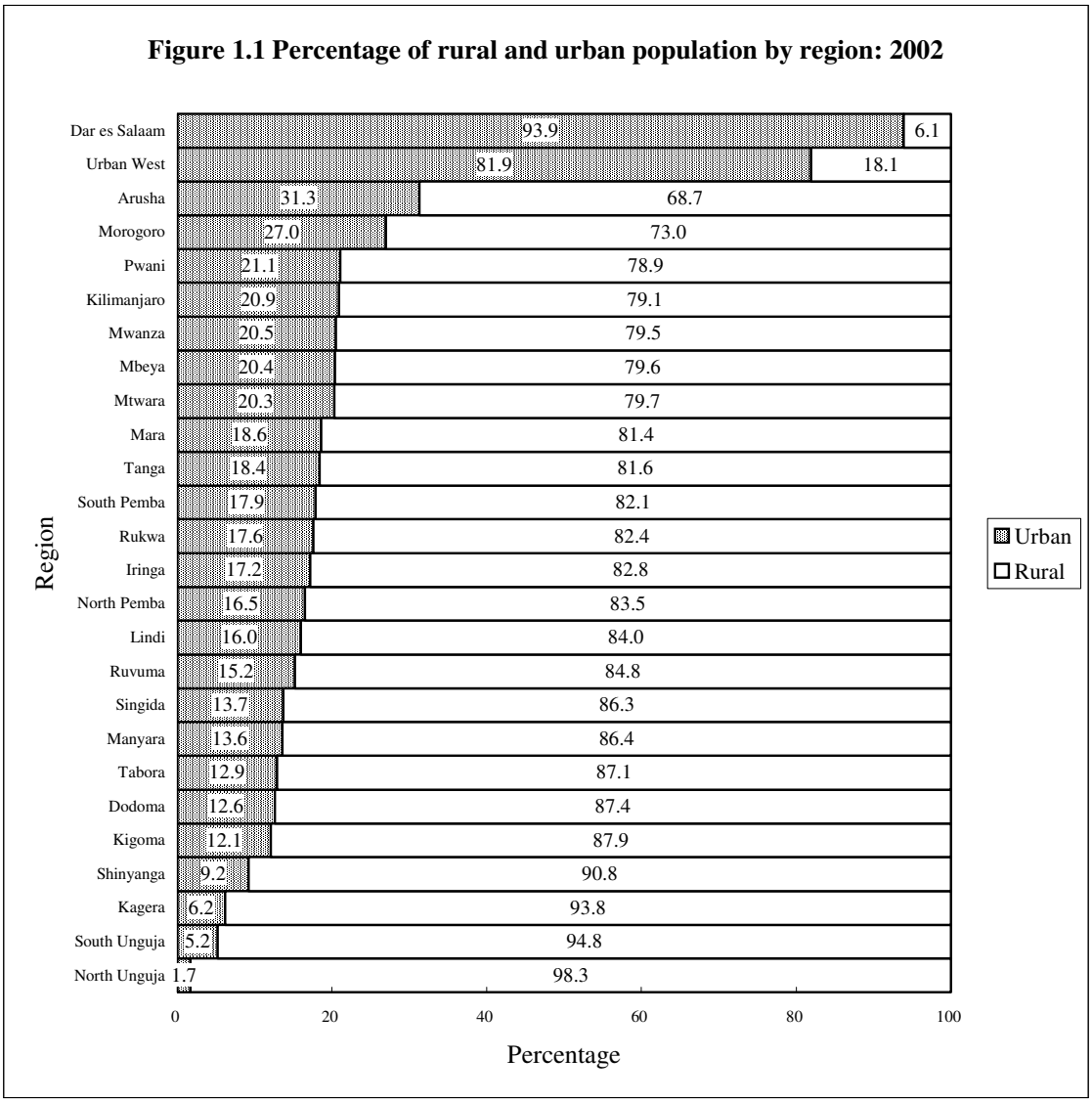
Source: The United Republic of Tanzania Population and Housing Censuses, 1967, 1978, 1988 and 2002.

Table 1.10 Rural-Urban Distribution of Population, by Region: 2002

Region	Population			Percentage (%)	
	Total	Rural	Urban	Rural	Urban
Tanzania	34,443,603	26,500,042	7,943,561	76.9	23.1
Tanzania Mainland	33,461,849	25,907,011	7,554,838	77.4	22.6
Dodoma	1,692,025	1,478,782	213,243	87.4	12.6
Arusha	1,288,088	884,491	403,597	68.7	31.3
Kilimanjaro	1,376,702	1,088,611	288,091	79.1	20.9
Tanga	1,636,280	1,335,084	301,196	81.6	18.4
Morogoro	1,753,362	1,279,513	473,849	73.0	27.0
Pwani	885,017	698,156	186,861	78.9	21.1
Dar es salaam	2,487,288	151,233	2,336,055	6.1	93.9
Lindi	787,624	661,228	126,396	84.0	16.0
Mtwara	1,124,481	895,942	228,539	79.7	20.3
Ruvuma	1,113,715	944,045	169,670	84.8	15.2
Iringa	1,490,892	1,234,560	256,332	82.8	17.2
Mbeya	2,063,328	1,642,183	421,145	79.6	20.4
Singida	1,086,748	938,081	148,667	86.3	13.7
Tabora	1,710,465	1,490,581	219,884	87.1	12.9
Rukwa	1,136,354	936,232	200,122	82.4	17.6
Kigoma	1,674,047	1,471,240	202,807	87.9	12.1
Shinyanga	2,796,630	2,540,578	256,052	90.8	9.2
Kagera	2,028,157	1,901,407	126,750	93.8	6.2
Mwanza	2,929,644	2,328,387	601,257	79.5	20.5
Mara	1,363,397	1,109,791	253,606	81.4	18.6
Manyara	1,037,605	896,886	140,719	86.4	13.6
Tanzania Zanzibar	981,754	593,031	388,723	60.4	39.6
North Unguja	136,639	134,299	2,340	98.3	1.7
South Unguja	94,244	89,379	4,865	94.8	5.2
Urban West	390,074	70,593	319,481	18.1	81.9
North Pemba	185,326	154,747	30,579	83.5	16.5
South Pemba	175,471	144,013	31,458	82.1	17.9

Source: The United Republic of Tanzania Population and Housing Censuses, 1988 and 2002.

The data shows that about 77 percent of the total Tanzanian population were resident in rural areas in 2002 and 23 percent were living in urban areas. The proportions living in urban areas were 23 percent for Tanzania Mainland and 40 percent in Tanzania Zanzibar. It can be observed from the data that the proportion of population living in urban areas has been increasing between 1967 and 2002. For the Figure 1.1 compares the percent of rural and urban population for all the regions in Tanzania.



Source: The United Republic of Tanzania 2002 Population and Housing Census.

whole of Tanzania, the proportion of population in urban areas increased from 6 percent in 1967 to 23 percent in 2002. Rapid urbanization in Tanzania has largely been a result of rural to urban migration rather than natural increase. In recent years, there has been a notable wave of the younger generation migrating into urban areas to do petty business. This feature is common in all urban areas regardless of location and cultural background The consequences of such rapid urbanization include rapid expansion of squatters, poor social services, inadequate infrastructure, lack of housing, and increasing urban unemployment.

In Tanzania Mainland, the percentage of urban population increased from 6 percent in 1967 to 23 percent in 2002. In Tanzania Zanzibar, the percentage urban increased from 29 percent to 40 percent between 1967 and 2002.

Table 1.10 gives rural-urban distribution of population in 2002 by region. In Tanzania Mainland regions, Dar es Salaam Region had the highest proportion of population living in urban areas (94%). Arusha Region has the second highest proportion of urban population (31%), followed by Morogoro Region (27%). Kagera Region has the lowest proportion of urban population (6%). In Tanzania

Zanzibar regions, the Urban West Region has the highest (82%) and the lowest level of urbanization is found in North Unguja (2%).

1.3.4 Population Density

Table 1.11 gives population density by region for 2002. The total land area of Tanzania is 881,749 km^2, of which 881,289 km^2 are Tanzania Mainland and 2,460 km^2 Tanzania Zanzibar. Population density in 2002 was 39 persons per km^2 for the whole Tanzania, 38 persons per km^2 for Tanzania Mainland and 399 persons per km^2 for Tanzania Zanzibar. Being in the limited land area, Tanzania Zanzibar's population density is 10 times that of Tanzania Mainland.

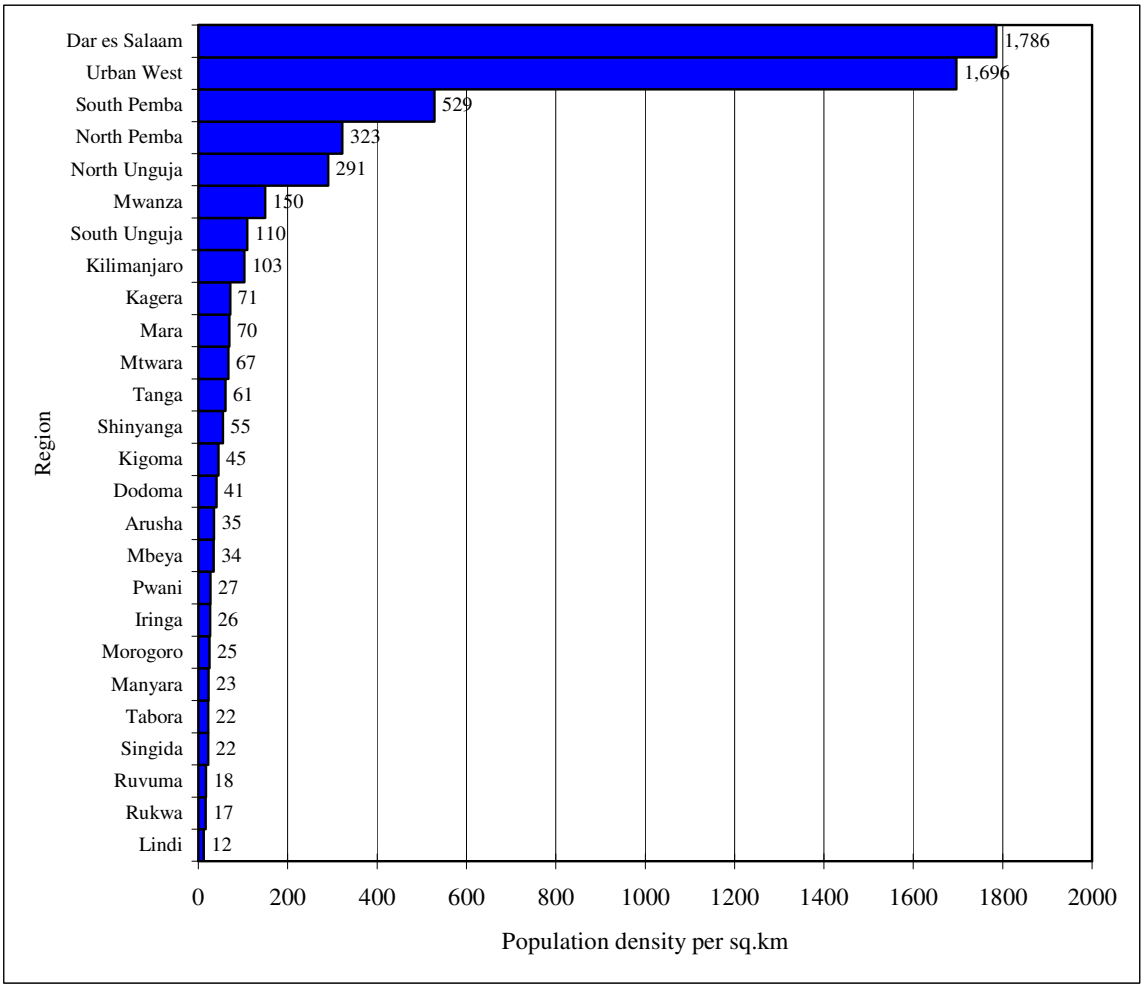
By region, there are great differences in population density. Population density ranges from 1,786 persons per km^2 to 12 persons per km^2. The most densely inhabited region is Dar es Salaam with density of 1,786 persons per km^2, followed by Urban West with 1,696 persons per km^2.

Table 1.11 Population Density by Region: 2002

Region	Land area (sq. km)	Population 2002	Population density (per sq. km)
Tanzania	883,749	34,443,603	39
Tanzania Mainland	881,289	33,461,849	38
Dodoma	41,311	1,692,025	41
Arusha	36,486	1,288,088	35
Kilimanjaro	13,309	1,376,702	103
Tanga	26,808	1,636,280	61
Morogoro	70,799	1,753,362	25
Pwani	32,407	885,017	27
Dar es Salaam	1,393	2,487,288	1,786
Lindi	66,046	787,624	12
Mtwara	16,707	1,124,481	67
Ruvuma	63,498	1,113,715	18
Iringa	56,864	1,490,892	26
Mbeya	60,350	2,063,328	34
Singida	49,341	1,086,748	22
Tabora	76,151	1,710,465	22
Rukwa	68,635	1,136,354	17
Kigoma	37,037	1,674,047	45
Shinyanga	50,781	2,796,630	55
Kagera	28,388	2,028,157	71
Mwanza	19,592	2,929,644	150
Mara	19,566	1,363,397	70
Manyara	45,820	1,037,605	23
Tanzania Zanzibar	2,460	981,754	399
North Unguja	470	136,639	291
South Unguja	854	94,244	110
Urban West	230	390,074	1,696
North Pemba	574	185,326	323
South Pemba	332	175,471	529

Source: The United Republic of Tanzania 2002 Population and Housing Census.

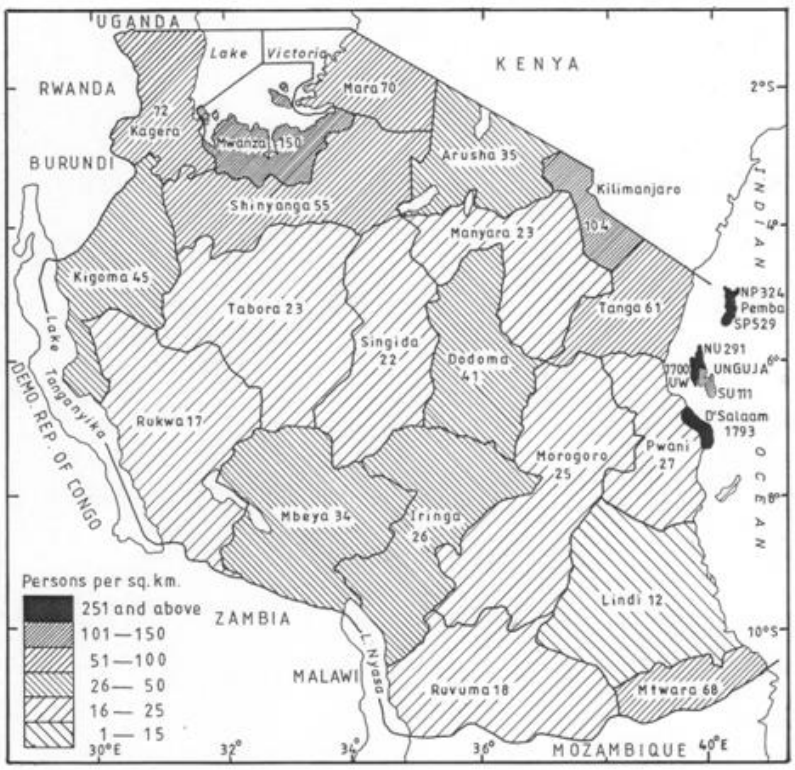
Figure 1.2 Population density by region: 2002



The high density in these regions can be explained by high rural-urban migration. Among other regions in Tanzania Mainland, there are 2 regions with density 100 or more persons per km^2. These are Mwanga (150 persons per km^2) and Kilimanjaro (103 persons per km^2). There are 5 regions with density between 50 and 100 persons per km^2: Kagera (71 persons per km^2), Mara (70 persons per km^2), Mtwara (67 per km^2), Tanga (61 per km^2) and Shinyanga (55 per km^2). Regions with lowest density are Lindi (12 persons per per km^2), Rukwa (17 persons per km^2) and Ruvuma (18 persons per km^2).

Compared to Tanzania Mainland, all regions in Tanzania Zanzibar have higher population density. Apart from Urban West, population densities of 4 regions: South Pemba, North Pemba, North Unguja and South Unguja are 529, 323, 291 and 110 persons per km^2, respectively.

Fig. 3.3. Spatial Distribution of Population Density by Regions in Tanzania, 2002



1.4 Summary

The total population of Tanzania in 2002 was 34.4 millions. Of the total population 33.5 millions or 37.1 percent resided in Tanzania Mainland and 982 thousands or 2.9 percent resided in Tanzania Zanzibar.

During the 14 years from 1988 to 2002 the total population increased by 11.3 millions or 49.1 percent. The average annual population growth rate was 2.9 percent. By area the annual rate of population growth during the period in Tanzania Zanzibar (3.1 percent) was slightly higher than that in Tanzania Mainland (2.9 percent). The average annual growth rate of the total population declined from 3.2 percent during the period 1967-1978 to 2.8 percent during the period 1978-1988, but recorded a slight rise to 2.9 percent in 1988-2002. This change in the trend in population growth is considered to be due to the influx of a large number of refugees from the neighbouring countries.

All regions recorded population increases during the period 1988-2002, but the average annual population growth rate varies between regions ranging from 1.4 percent to 4.8 percent. Affected by the inflow of refugees Kigoma recorded the highest population growth rate (average annual rate of 4.8 percent). Two most urbanized regions followed this: Urban West (4.5 percent) and Dar es Salaam (4.3 percent).

By rural-urban areas 76.9 percent of the total population lived in the rural areas and 23.1 percent in the urban areas. A trend of urbanizarion continued. The percentage of urban population increased from 6.2 percent in 1967, 13.8 percent in 1978, 13.8 percent in 1988 to 23.1 percent in 2002.

Annex Table 1.A Population by district: 1988 and 2002

	Region	District	1988 population	2002 population	Average annual growth rate (%)
	Tanzania		23,095,882	34,443,603	2.9
	Tanzania Mainland		22,455,207	33,461,849	2.8
1	Dodoma		1,235,327	1,692,025	2.2
		Dodoma Urban	202,665	322,811	3.3
		Kongwa	163,446	248,656	3
		Mpwapwa	176,051	253,602	2.6
		Kondoa	340,267	428,090	1.6
		Dodoma Rural	352,898	438,866	1.6
2	Arusha		744,135	1,288,088	3.9
		Arusha	132,861	281,608	5.4
		Ngorongoro	69,101	129,362	4.5
		Monduli	108,964	184,516	3.8
		Arumeru	321,604	514,651	3.4
		Karatu	111,605	177,951	3.3
3	Kilimanjaro		1,104,673	1,376,702	1.6
		Moshi Urban	96,631	143,799	2.8
		Hai	197,518	258,935	1.9
		Same	169,718	211,738	1.6
		Rombo	200,912	245,716	1.4
		Mwanga	97,003	115,145	1.2
		Moshi Rural	342,891	401,369	1.1
4	Tanga		1,280,212	1,636,280	1.8
		Kilindi	88,666	143,792	3.5
		Handeni	161,578	248,633	3.1
		Tanga	186,818	242,640	1.9
		Mheza	229,139	278,405	1.4
		Kongwe	218,849	260,238	1.2
		Lushoto	357,492	418,652	1.1
		Pangani	37,670	43,920	1.1
5	Morogoro		1,220,564	1,753,362	2.6
		Morogoro Urban	117,601	227,921	4.7
		Kilombero	187,593	321,611	3.9
		Kilosa	346,526	488,191	2.4
		Ulanga	138,642	193,280	2.4
		Mvomero	204,345	259,347	1.7
		Morogoro Rural	225,857	263,012	1.1
6	Pwani		636,103	885,017	2.4
		Mkuranga	114,973	186,927	3.5
		Kibaha	81,952	131,242	3.4
		Bagamoyo	173,871	228,967	2
		Rufiji	153,938	202,001	1.9
		Mafia	33,079	40,557	1.5

	Region	District	1988 population	2002 population	Average annual growth rate (%)
		Kisarawe	78,290	95,323	1.4
7	Dar es salaam		1,360,865	2,487,288	4.3
		Ilala	331,663	634,924	4.6
		Temeke	401,786	768,451	4.6
		Kinondoni	627,416	1,083,913	3.9
8	Lindi		646,494	787,624	1.4
		Liwale	52,240	75,128	2.6
		Ruangwa	86,449	124,009	2.6
		Nachingwea	117,473	161,473	2.3
		Kilwa	150,419	171,057	0.9
		Lind Rural	198,212	214,882	0.6
		Lindi Urban	41,701	41,075	-0.1
9	Mtwara		889,100	1,124,481	1.7
		Tandahimba	146,506	203,837	2.4
		Masasi	335,448	440,987	2
		Mtwara Rural	169,304	204,157	1.3
		Mtwara Urban	76,686	92,156	1.3
		Newala	161,156	183,344	0.9
10	Ruvuma		779,875	1,113,715	2.5
		Songea Urban	86,491	130,860	3
		Mbinga	270,392	403,819	2.9
		Tunduru	170,320	247,055	2.7
		Songea Rural	115,634	156,930	2.2
		Namtumbo	137,038	175,051	1.7
11	Iringa		1,193,074	1,490,892	1.6
		Njombe	313,987	419,115	2.1
		Kilolo	156,989	204,372	1.9
		Ludewa	100,206	128,155	1.8
		Iringa Urban	84,501	106,371	1.6
		Mufindi	229,270	282,071	1.5
		Iringa Rural	205,504	245,033	1.3
		Makete	102,617	105,775	0.2
12	Mbeya		1,476,278	2,063,328	2.4
		Mbeya Urban	151,881	265,586	4
		Mbozi	331,653	513,600	3.1
		Mbarali	153,182	234,101	3
		Mbeya Rural	179,900	254,069	2.5
		Kyela	135,091	173,830	1.8
		Chunya	164,493	205,915	1.6
		Ileje	88,562	109,847	1.5
		Rungwe	271,516	306,380	0.9

	Region	District	1988 population	2002 population	Average annual growth rate (%)
13	Singida		792,387	1,086,748	2.3
		Manyoni	135,390	204,482	2.9
		Singida Urban	81,528	114,853	2.4
		Singida Rural	285,135	400,377	2.4
		Iramba	290,334	367,036	1.7
14	Tabora		1,036,150	1,710,465	3.6
		Uyui	126,836	281,101	5.7
		Urambo	188,081	369,329	4.8
		Sikonge	78,633	132,733	3.7
		Igunga	203,367	324,094	3.3
		Nzega	296,085	415,203	2.4
		Tabora Urban	143,148	188,005	1.9
15	Rukwa		698,718	1,136,354	3.5
		Nkasi	107,239	207,311	4.7
		Sumbwanga Urban	90,703	146,842	3.4
		Mpanda	261,823	410,452	3.2
		Sumbawanga Rural	238,953	371,749	3.2
16	Kigoma		856,770	1,674,047	4.8
		Kibondo	175,585	413,777	6.1
		Kasulu	319,711	626,742	4.8
		Kigoma Rural	276,770	489,271	4.1
		Kigoma Urban	84,704	144,257	3.8
17	Shinyanga		1,763,800	2,796,630	3.3
		Bukombe	140,362	395,298	7.4
		Kahama	359,076	594,891	3.6
		Bariadi	380,580	603,604	3.3
		Meatu	159,272	248,214	3.2
		Maswa	220,432	304,402	2.3
		Shinyanga Urban	98,682	134,523	2.2
		Shinyanga Rural	212,847	276,393	1.9
		Kishapu	192,549	239,305	1.6
18	Kagera		1,313,594	2,028,157	3.1
		Ngara	159,546	334,409	5.3
		Biharamulo	209,279	409,389	4.8
		Bukoba Urban	46,503	80,868	4
		Karagwe	284,137	424,287	2.9
		Muleba	273,329	385,184	2.5
		Bukoba Rural	340,800	394,020	1

	Region	District	1988 population	2002 population	Average annual growth rate (%)
19	Mwanza		1,876,635	2,929,644	3.2
		Ilemela	111,224	264,873	6.2
		Nyamagana	109,985	209,806	4.6
		Sengerema	303,897	498,993	3.5
		Geita	439,022	709,078	3.4
		Ukerewe	172,946	260,831	2.9
		Misungwi	191,283	256,133	2.1
		Kwimba	236,443	314,925	2
		Magu	311,835	415,005	2
20	Mara		946,418	1,363,397	2.6
		Serengeti	111,689	176,057	3.3
		Musoma Urban	68,437	107,855	3.2
		Tarime	331,790	490,731	2.8
		Musoma Rural	233,338	329,824	2.5
		Bunda	201,164	258,930	1.8
21	Manyara		604,035	1,037,605	3.9
		Simanjiro	52,895	141,136	7
		Kiteto	74,460	152,296	5.1
		Hanang	113,270	204,640	4.2
		Mbulu	156,058	237,280	3
		Babati	207,352	302,253	2.7
	Tanzania Zanzibar		640,675	981,754	3
22	North Unguja		96,989	139,639	2.6
		North B	36,999	52,492	2.5
		North A	59,990	84,147	2.4
23	South Unguja		70,313	94,244	2.1
		Central	45,252	62,391	2.3
		South	25,061	31,853	1.7
24	Urban West		208,571	390,074	4.5
		West	50,945	184,204	9.2
		Urban	157,626	205,870	1.9
25	North Pemba		137,179	185,326	2.1
		Micheweni	61,064	83,266	2.2
		Wete	76,115	102,060	2.1
26	South Pemba		127,623	175,471	2.3
		Chakechake	60,051	82,998	2.3
		Mkoani	67,572	92,473	2.2

CHAPTER 2: AGE AND SEX

2.1 Introduction

Age and sex are the most fundamental characteristics of a population. Age and sex structure of a population is a reflection of population dynamics in the past. It reflects the accumulation of fertility, mortality and migration experienced by the population. At the same time age and sex structure of a population will be one of the most important determinants for fertility, mortality and migration of the population. It will affect the future growth of the population and its structural changes in the future.

Data on age and sex of population are essential for policy-making and planning as well as for administration in various fields. They are indispensable for making future projection of the population. In the countries where good vital statistics is not available, the age and sex data may be used to estimate indirectly fertility and mortality levels.

Actual numbers of persons in various age spans are important. The number of children will be needed for education plans and administration, for determining need for schools and teachers and for determining need for childcare. The number of people in working-ages is an important factor for the labour force. The number of older people is essential for social security.

Hence analysis of age and sex structure of a population is essential, but unfortunately in many developing countries census age data suffers from errors of age reporting, and this should be borne in mind when analyzing and interpreting age data.

2.2 Quality of Age Data

Reported age data in the censuses of Tanzania were affected by errors due to misreporting of ages, as in the case in the censuses of many developing countries. Errors of age data may have occurred from various causes. One of the causes is age misreporting by respondents. Some people particularly older people do not know their actual ages. They might have reported approximate ages, or the enumerators might have recorded approximate ages by estimation or a guess. Such approximation and guessing of ages tend to give ages ending in specific digits, often 0 and 5. Another source of errors is the enumerators' mistakes that might have occurred when they recorded the marks of answers in the optical mark sensing census questionnaires. Errors might have occurred also in scanning of questionnaires by the optical mark sensing machines.

From a glance at an age pyramid of the total population by single years of age shown in Figure 2.1, it will be noted that there were serious age heaping or digit preferences in the 2002 census data. In younger ages there was heaping at ages 10 and 12 years, and dents at ages around 10 and 12 years. In ages higher than 15 years, there were very strong preferences for terminal digits 0 and 5, and moderate but strong preferences for terminal digits 2 and 8.

A number of indices have been developed to detect digit preference in age reporting. In this section, the following three indices were computed and compared with those for 1988: Whipple's index, Myers' index and Bachi' index[1]. The results of the computation for 2002 as compared with those for 1988 are shown in Table 2.1a and Table 2.1b.

[1] See for details H.S. Shryock, J.S. Siegel and Associates, *The Methods and Materials of Demography*, Academic Press, 1976, pp.115-119.

Table 2.1a Whipple's Index of Digit Preference: 1988 and 2002

Area	Male		Female	
	1988	2002	1988	2002
Tanzania	175	153	202	164
Tanzania Mainland	173	153	200	164
Tanzania Zanzibar	231	170	265	179

Source: Computed from data on population by single years of age in the 1988 and 2002 censuses.

Table 2.1b Myer's Index and Bachi's Index of Digit Preference: 1988 and 2002

Areas and terminal digits	Myers' index				Bachi's index			
	Male		Female		Male		Female	
	1988	2002	1988	2002	1988	2002	1988	2002
Tanzania								
0	7.2	5.8	10.8	7.8	10.0	7.8	14.8	10.2
1	-4.1	-3.7	-4.7	-3.9	-4.6	-4.1	-5.9	-4.6
2	-0.6	2.0	-0.9	1.5	-1.0	2.3	-1.9	1.0
3	-2.9	-2.2	-3.5	-2.5	-3.6	-2.7	-4.3	-3.0
4	-1.6	-1.3	-2.2	-1.8	-2.9	-1.9	-3.5	-2.4
5	4.7	2.9	5.1	2.8	6.1	3.4	7.2	3.8
6	-0.1	-1.0	-1.2	-1.3	-0.5	-1.4	-1.8	-1.6
7	-2.0	-1.3	-3.1	-2.0	-2.9	-1.9	-3.9	-2.3
8	2.6	1.5	2.7	1.8	2.3	1.4	2.4	1.9
9	-2.9	-2.7	-3.0	-2.5	-2.8	-2.8	-3.5	-2.8
Summary index	14.4	12.2	18.6	14.0	9.2	7.4	12.3	8.4
Tanzania Mainland								
0	7.0	5.7	10.6	7.8	9.8	7.7	14.5	10.1
1	-4.1	-3.7	-4.7	-3.9	-4.6	-4.1	-5.9	-4.6
2	-0.6	2.0	-0.8	1.5	-1.0	2.3	-1.8	1.0
3	-2.9	-2.2	-3.4	-2.5	-3.6	-2.7	-4.2	-3.0
4	-1.6	-1.3	-2.1	-1.8	-2.9	-1.8	-3.5	-2.3
5	4.6	2.8	5.0	2.8	5.9	3.3	7.1	3.8
6	-0.1	-1.0	-1.2	-1.3	-0.5	-1.4	-1.7	-1.6
7	-2.0	-1.3	-3.1	-2.1	-2.9	-1.9	-3.9	-2.3
8	2.6	1.6	2.8	1.8	2.3	1.4	2.5	1.9
9	-2.9	-2.7	-3.0	-2.5	-2.8	-2.8	-3.4	-2.8
Summary index	14.2	12.2	12.2	14.0	9.1	7.4	12.4	8.4
Tanzania Zanzibar								
0	12.4	7.1	17.1	8.7	17.0	9.4	24.3	12.0
1	-5.1	-3.8	-5.9	-3.9	-5.7	-4.3	-6.9	-4.6
2	-1.4	1.7	-1.9	1.0	-2.5	1.7	-3.9	0.7
3	-3.8	-2.0	-4.5	-2.2	-4.9	-2.8	-5.6	-2.9
4	-2.9	-2.1	-3.7	-2.4	-4.5	-3.1	-5.1	-3.4
5	8.5	4.0	8.1	3.5	10.8	5.3	11.4	5.0
6	-1.4	-1.4	-2.1	-1.5	-2.1	-1.7	-3.1	-1.9
7	-2.7	-1.4	-3.6	-1.5	-3.1	-1.6	-4.6	-1.9
8	0.6	1.0	0.3	0.8	-0.7	0.7	-1.3	0.4
9	-4.2	-3.1	-4.0	-2.5	-4.7	-3.6	-5.2	-3.4
Summary index	21.5	13.8	25.9	14.1	14.0	8.5	17.9	9.1

Source: Computed from data on population by single years of age in the 1988 and 2002 censuses.

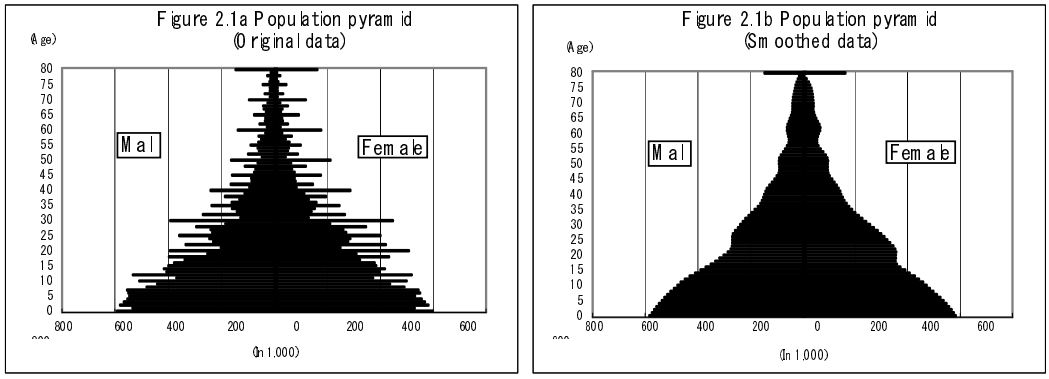
Whipple's index assumes rectangularity of the population in a 10-year age range and measures heaping on terminal digit "0" by comparing the sum of the population at ages ending in "0" in the age range excluding very young and very old ages with one-tenth of the total population. It varies between 100 and 500. The Whiple's index of 100 indicates no preference for "0", and the index of 500 indicates that all ages reported end in "0".

Myers' blended method was developed to avoid the bias in Whipple's index that is due to the fact that numbers of persons at ages ending in "0" would normally be larger than the following numbers ending in "1" to "9" because of the effect of mortality. The method yields an index of preference for each ending digit, representing the deviation of the proportion of the total population reporting on the given ending digit from 10.0 percent. A summary index of preference for all terminal digits is derived as one-half of the sum of the absolute values of the deviations. Theoretically Myers' index varies between 0 and 90. The index of 0 indicates no heaping and the index of 90 indicates that all ages reported end in at a certain single digit.

Bachi's index is obtained basically by applying the Whiple method repeatedly. It measures the preference for each ending digit. A summary index is calculated as one-half of the sum of the absolute values of deviations from 10 percent. Theoretically the index ranges between 0 and 90.

It will be seen from Table 2.1a and Table 2.1b that any of the three indices indicated that age reporting was slightly better in the 2002 census than in the 1988 census. It will also be seen from Table 2.1b that in the 2002 census there was very strong preference for digit 0 particularly for females and also digit 5. However, digits 1, 3, 4, 6, 7 and 9 seem to have been quite unpopular as shown by the negative values. This compares well with the situation in the 1988 census as shown in the table.

There are a number of methods developed for smoothing the age data with age heaping. Here the Sprague formula[2] was used for smoothing the data on the total population by single yeas of age. The Sprague formula is a six-term fifth difference osculatory formula. The age pyramid of the resulting smoothed population by single years of age is shown in Figure 2.1b together with the age pyramid based on the original data in Figure 2.1a. Even after smoothing one can see some irregularities in age data. These might have reflected actual situations such as migration and



under-enumeration of persons in particular age spans. Or there might be some other reasons to explain.

2.3 Age and Sex Composition of the Total Population

Table 2.2 presents data on age and sex structure and sex-ratios of the population by 5-year age groups in 2002 for Tanzania Mainland and Tanzania Zanzibar as well as for the whole Tanzania. Table 2.3

[2] See for details H.S. Shryock, J.S. Siegel and Associates, *The Methods and Materials of Demography*, Academic Press, 1976, pp.531-559.

gives a comparison of age distribution and sex-ratio of the total population in 2002 with those in 1978 and 1988.

Of the total population of 34,444 thousands in Tanzania in 2002, there were 16,830 thousands males and 17,614 thousands females, or 95.5 males per 100 females. By area the sex-ratio of the population in Tanzania Mainland was slightly lower than that in Tanzania Zanzibar (95.5 males per 100 females and 96.0 males 100 females respectively). It will be noted from Table 2.2 that the sex-ratio was considerably low in young age groups. There were 80.3 males per 100 females in age group 20-24 years and 87.8 males per 100 females in age group 25-29 females. Similar trends of low sex-ratios in these age groups were observed in the previous censuses of 1978 and 1988. Such trends may be due to migration and partly due to possible under-enumeration of young males.

It will be seen from Table 2.3 that there was a slightly decreasing trend in the proportions of children and youth below 20 years of age from 1988 to 2002. In particular, the proportion of children below 10 years of age decreased continuously from 1978 to 1988, then to 2002. On the contrary the proportions of persons in working ages slightly increased from 1988 to 2002. There was a decrease in the proportion of older people during the period 1988 to 2002.
Table 2.4 compares the age structure of population of Tanzania in 2002 by broad age groups with that of selected countries. As Table 2.4 suggests Tanzania has a young age structure: broad at the base with 44.2% of its total population below 15 years of age, and 51.8% of the population between 15 and 64 years, traditionally referred to as working-age population. The old age population (aged 65 years and over) constitutes only 3.9% of the total population. This structure is very much similar to the age structure of populations of Malawi in 1998, Swaziland in 1997, Nigeria in 2000, and to some extent to that of South Africa in 1996. Young age structures of population in Tanzania and other African countries are the consequence of high fertility in long past periods. In contrast, as the results of fertility decline for long past years and extension of life expectancy, the developed countries have typical old age structures. In the case of Japan the population aged 65 and over already surpassed the population below 15 years of age. While only 14.6 percent of the total population is below 15 years of age, 17.3 percent is the population 65 years of age and over. In Sweden the proportions of population in age groups 0-14 years, 15-64 years and 65 years and over are 18.3 percent, 64.5 percent and 17.2 percent respectively. The population of the United States has an old age structure too but to a lesser extent compared with Japan and Sweden. These features are better illustrated in the population pyramids given in Figures 2.2a to 2.2d.

Age structure of a population has an implication of burdens of dependency of working-age population. Table 2.4 also shows dependency ratios, which indicate the number of people supported by 100 persons in the working-age group 15-64 years. These are rough measures of degrees of dependency burdens. Total dependency ratio is the ratio of populations aged 0-14 years and 65 years and above to the population aged 15-64 years. Youth dependency ratio is the ratio of the number of persons below 15 years of age to the number of persons aged 15-64 years, multiplied by 100. It implies a degree of burden of children on a working-age population. Old-age dependency ratio is the ratio of the number of older persons aged 65 years and over to the number of persons aged 15-64 years, multiplied by 100. It implies a degree of burdens of older people on a working-age population in the whole population.

Table 2.2 Population by Age and Sex: 2002

Area and age	Number			Percentage			Sex-ratio
	Both sexes	Male	Female	Both sexes	Male	Female	
Tanzania							
All ages	34,443,603	16,829,861	17,613,742	100.0	100.0	100.0	95.5
0 - 4	5,664,907	2,830,545	2,834,362	16.4	16.8	16.1	99.9
5 - 9	5,130,448	2,573,993	2,556,455	14.9	15.3	14.5	100.7
10 - 14	4,443,257	2,233,401	2,209,856	12.9	13.3	12.5	101.1
15 - 19	3,595,735	1,761,329	1,834,406	10.4	10.5	10.4	96.0
20 - 24	3,148,513	1,402,077	1,746,436	9.1	8.3	9.9	80.3
25 - 29	2,801,965	1,309,661	1,492,304	8.1	7.8	8.5	87.8
30 - 34	2,229,046	1,087,599	1,141,447	6.5	6.5	6.5	95.3
35 - 39	1,669,873	824,338	845,535	4.8	4.9	4.8	97.5
40 - 44	1,348,508	669,549	678,959	3.9	4.0	3.9	98.6
45 - 49	984,823	478,522	506,301	2.9	2.8	2.9	94.5
50 - 54	883,820	428,501	455,319	2.6	2.5	2.6	94.1
55 - 59	590,667	290,117	300,550	1.7	1.7	1.7	96.5
60 - 64	604,956	287,502	317,454	1.8	1.7	1.8	90.6
65 and over	1,347,085	652,727	694,358	3.9	3.9	3.9	94.0
0 - 14	15,238,612	7,637,939	7,600,673	44.2	45.4	43.2	100.5
15 - 64	17,857,906	8,539,195	9,318,711	51.8	50.7	52.9	91.6
65 and over	1,347,085	652,727	694,358	3.9	3.9	3.9	94.0
Tanzania Mainland							
All ages	33,461,849	16,349,015	17,112,834	100.0	100.0	100.0	95.5
0 - 4	5,511,065	2,753,048	2,758,017	16.5	16.8	16.1	99.8
5 - 9	4,983,212	2,500,282	2,482,930	14.9	15.3	14.5	100.7
10 - 14	4,309,446	2,165,812	2,143,634	12.9	13.2	12.5	101.0
15 - 19	3,489,233	1,710,012	1,779,221	10.4	10.5	10.4	96.1
20 - 24	3,058,372	1,360,255	1,698,117	9.1	8.3	9.9	80.1
25 - 29	2,721,861	1,272,126	1,449,735	8.1	7.8	8.5	87.7
30 - 34	2,165,480	1,057,887	1,107,593	6.5	6.5	6.5	95.5
35 - 39	1,617,594	799,302	818,292	4.8	4.9	4.8	97.7
40 - 44	1,308,013	649,640	658,373	3.9	4.0	3.8	98.7
45 - 49	956,673	464,097	492,576	2.9	2.8	2.9	94.2
50 - 54	858,625	416,216	442,409	2.6	2.5	2.6	94.1
55 - 59	575,671	282,251	293,420	1.7	1.7	1.7	96.2
60 - 64	588,667	279,477	309,190	1.8	1.7	1.8	90.4
65 and over	1,317,937	638,610	679,327	3.9	3.9	4.0	94.0
0 - 14	14,803,723	7,419,142	7,384,581	44.2	45.4	43.2	100.5
15 - 64	17,340,189	8,291,263	9,048,926	51.8	50.7	52.9	91.6
65 and over	1,317,937	638,610	679,327	3.9	3.9	4.0	94.0
Tanzania Zanzibar							
Total	981,754	480,846	500,908	100.0	100.0	100.0	96.0
0 - 4	153,842	77,497	76,345	15.7	16.1	15.2	101.5
5 - 9	147,236	73,711	73,525	15.0	15.3	14.7	100.3
10 - 14	133,811	67,589	66,222	13.6	14.1	13.2	102.1
15 - 19	106,502	51,317	55,185	10.8	10.7	11.0	93.0
20 - 24	90,141	41,822	48,319	9.2	8.7	9.6	86.6

Area and age	Number			Percentage			Sex-ratio
	Both sexes	Male	Female	Both sexes	Male	Female	
25 - 29	80,104	37,535	42,569	8.2	7.8	8.5	88.2
30 - 34	63,566	29,712	33,854	6.5	6.2	6.8	87.8
35 - 39	52,279	25,036	27,243	5.3	5.2	5.4	91.9
40 - 44	40,495	19,909	20,586	4.1	4.1	4.1	96.7
45 - 49	28,150	14,425	13,725	2.9	3.0	2.7	105.1
50 - 54	25,195	12,285	12,910	2.6	2.6	2.6	95.2
55 - 59	14,996	7,866	7,130	1.5	1.6	1.4	110.3
60 - 64	16,289	8,025	8,264	1.7	1.7	1.6	97.1
65 and over	29,148	14,117	15,031	3.0	2.9	3.0	93.9
0 - 14	434,889	218,797	216,092	44.3	45.5	43.1	101.3
15 - 64	517,717	247,932	269,785	52.7	51.6	53.9	91.9
65 and over	29,148	14,117	15,031	3.0	2.9	3.0	93.9

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Note: *Sex-ratio* is males per 100 females, i.e. a ratio of the number of males to the number of females multiplied by 100.

Table 2.3 Percentage Distribution and Sex-ratio of Population by 5-year Age Groups: 1978, 1988 and 2002

Age	Percentage distribution			Sex-ratios (Males per 100 females)		
	1978	1988	2002	1978	1988	2002
All ages	100.0	100.0	100.0	96.2	94.2	95.5
0 - 4	18.1	16.8	16.4	96.1	98.5	99.9
5 - 9	16.0	15.6	14.9	98.5	100.2	100.7
10 - 14	12.0	13.3	12.9	103.1	100.5	101.1
15 - 19	9.8	10.9	10.4	95.8	94.4	96.0
20 - 24	7.6	8.1	9.1	79.0	78.6	80.3
25 - 29	7.5	7.6	8.1	86.7	84.1	87.8
30 - 34	6.6	5.3	6.5	130.3	88.9	95.3
35 - 39	5.1	4.7	4.8	98.4	92.2	97.5
40 - 44	3.8	3.4	3.9	92.2	87.3	98.6
45 - 49	3.6	3.1	2.9	102.7	97.0	94.5
50 - 54	2.7	2.7	2.6	98.5	87.2	94.1
55 - 59	2.2	2.0	1.7	117.2	106.3	96.5
60 - 64	2.0	1.9	1.8	98.3	88.0	90.6
65 and over	4.1	4.3	3.9	114.5	106.3	94.0
0-14	46.2	45.7	44.2	98.7	99.7	100.5
15-64	50.9	49.8	51.8	97.0	88.8	91.6
65 and over	4.1	4.3	3.9	114.5	106.3	94.0

Source: The United Republic of Tanzania Population and Housing Censuses of 1978, 1988 and 2002.

Clearly the dependency ratio for Tanzania is rather high since 100 persons in working-ages are supporting about 93 people. Dependency ratios for Malawi, Swaziland and Nigeria are somewhat similar to that of Tanzania where 100 persons in working-ages are supporting about 90 people. Whereas a youth dependency ratio was very high, an old-age dependency ratio was still very low in these countries. In contrast old-age dependency ratios are high in Japan, the United States and Sweden, though total dependency ratios are in a range of 45 to 55 and youth dependency ratios in these developed countries However, it should be borne in mind that the burden of old age population per head is normally much greater than the burden of children per head and that in developing countries

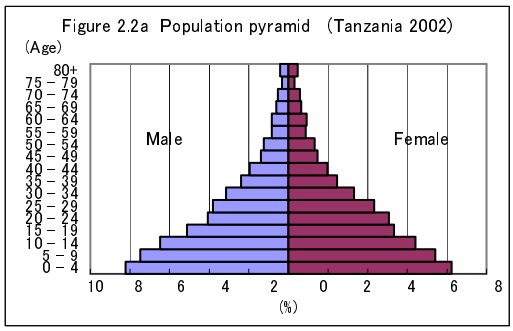
like Tanzania children cannot entirely be regarded as dependants since their contribution to economic and domestic activities cannot be ignored.

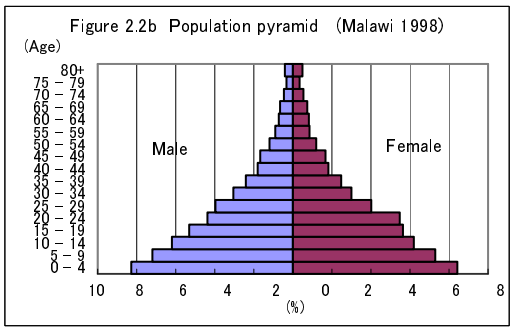
Table 2.4 Percentage of Population by Broad Age Groups in Selected Countries

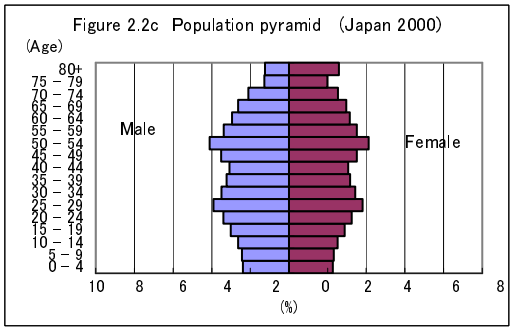
	Tanzania 2002	Malawi 1998	Swaziland 1997	South Africa 1996	Nigeria 2000	Japan 2000	U.S.A. 2000	Sweden 2001
All ages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0-4 years	44.2	43.6	44.6	33.9	44.2	14.6	21.3	18.3
5-64 years	51.8	52.4	52.3	60.1	53.0	67.9	66.1	64.5
65 years +	3.9	4.0	3.2	4.7	2.8	17.3	12.7	17.2
Total depend. ratio	92.9	90.8	91.3	64.3	88.9	46.9	51.3	55.0
Youth depend. ratio	85.3	83.2	85.3	56.4	83.5	21.4	32.2	28.3
Old-age depend. ratio	7.5	7.6	6.0	7.8	5.3	25.5	19.2	26.7

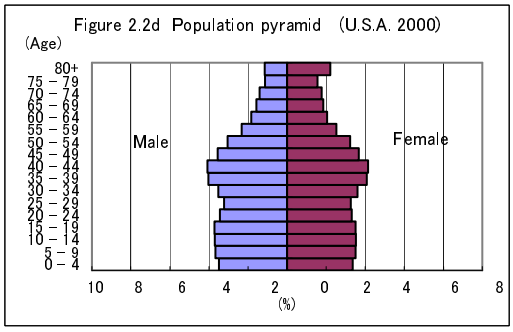
Source: United Nations, *Demographic Yearbook 2001*.

Note: *Total dependency ratio* is the number of persons under 15 years of age plus 65 years of age and over per 100 persons aged 15-64 years. *Youth dependency ratio* is the number of persons under 15 years of age per 100 persons aged 15-64. *Old-age dependency ratio* is the number of persons aged 65 years and over per 100 persons aged 15-64 years.









2.4 Differentials in Age Structure

Percentage distribution of population and sex-ratios by 5-year age groups are given in Table 2.5.

Table 2.5 Percentage Distribution of Population by 5-year Age Groups and Sex-ratios, by Rural-Urban Areas: 2002

Age	Rural areas				Urban areas			
	Percentage distribution			Sex-ratio	Percentage distribution			Sex-ratio
	Both sexes	Male	Female		Both sexes	Male	Female	
All Ages	100.0	100.0	100.0	95.3	100.0	100.0	100.0	96.3
0-4	17.4	17.8	17.0	99.7	13.4	13.7	13.1	100.5
5-9	15.7	16.2	15.2	101.5	12.3	12.4	12.2	97.5
10-14	13.3	13.8	12.8	103.4	11.6	11.4	11.8	92.7
15-19	10.1	10.3	9.8	100.3	11.7	10.9	12.4	84.6
20-24	8.3	7.5	9.0	79.1	12.1	11.2	13.0	83.1
25-29	7.4	7.0	7.8	84.8	10.5	10.5	10.6	95.0
30-34	6.0	5.9	6.2	91.5	7.9	8.3	7.6	105.6
35-39	4.6	4.6	4.7	93.7	5.6	5.9	5.2	108.7
40-44	3.8	3.8	3.8	93.8	4.2	4.6	3.9	114.5
45-49	2.8	2.7	2.9	88.5	2.9	3.2	2.7	116.6
50-54	2.6	2.5	2.7	88.2	2.4	2.6	2.1	119.5
55-59	1.8	1.8	1.8	91.8	1.4	1.6	1.3	119.6
60-64	1.9	1.8	2.0	88.5	1.3	1.4	1.3	100.9
65+	4.3	1.4	1.4	94.3	2.6	0.9	0.9	95.6

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 2.6 Population by Broad Age Groups, by Region: 2002

Region	Number				Percentage		
	All ages	0-14 yrs.	15-64 yrs.	65 yrs. +	0-14	15-64	65+
Tanzania	34,443,603	15,238,612	17,857,906	1,347,085	44.2	51.8	3.9
Tanzania Mainland	33,461,849	14,803,723	17,340,189	1,317,937	44.2	51.8	3.9
Dodoma	1,692,025	750,626	863,731	77,668	44.4	51.0	4.6
Arusha	1,288,088	565,026	682,501	40,561	43.9	53.0	3.1
Kilimanjaro	1,376,702	592,759	702,601	81,342	43.1	51.0	5.9
Tanga	1,636,280	720,475	839,394	76,411	44.0	51.3	4.7
Morogoro	1,753,362	729,786	951,405	72,171	41.6	54.3	4.1
Pwani	885,017	353,973	472,772	58,272	40.0	53.4	6.6
Dar es Salaam	2,487,288	816,739	1,618,544	52,005	32.8	65.1	2.1
Lindi	787,624	306,998	436,131	44,495	39.0	55.4	5.6
Mtwara	1,124,481	418,798	642,251	63,432	37.2	57.1	5.6
Ruvuma	1,113,715	472,904	598,840	41,971	42.5	53.8	3.8
Iringa	1,490,892	663,868	767,669	59,355	44.5	51.5	4.0
Mbeya	2,063,328	900,028	1,081,637	81,663	43.6	52.4	4.0
Singida	1086748	503,594	529,335	53819	46.3	48.7	5.0
Tabora	1,710,465	802,835	835,620	72,010	46.9	48.9	4.2
Rukwa	1,136,354	549,944	553,973	32,437	48.4	48.8	2.9
Kigoma	1,674,047	828,122	791,875	54,050	49.5	47.3	3.2
Shinyanga	2,796,630	1,365,339	1,339,813	91,478	48.8	47.9	3.3
Kagera	2,028,157	959,411	990,106	78,640	47.3	48.8	3.9
Mwanza	2,929,644	1,365,915	1,468,890	94,839	46.6	50.1	3.2
Mara	1,363,397	656,218	655,468	51,711	48.1	48.1	3.8
Manyara	1,037,605	480,365	517,633	39,607	46.3	49.9	3.8
Tanzania Zanzibar	981,754	434,889	517,717	29,148	44.3	52.7	3.0
North Unguja	136,639	61,875	69,470	5,294	45.3	50.8	3.9
South Unguja	94,244	40,213	50,296	3,735	42.7	53.4	4.0
Urban West	390,074	156,992	223,656	9,426	40.2	57.3	2.4
North Pemba	185,326	90,818	89,030	5,478	49.0	48.0	3.0
South Pemba	175,471	84,991	85,265	5,215	48.4	48.6	3.0

Source: The United Republic of Tanzania 2002 Population and Housing Census.

It will be seen in the table that the rural areas have relatively high proportions of population in younger ages and relatively low proportions in working ages as compared with the urban areas. This is due to movements of young people in working ages from the rural areas to the urban areas. It is also observed that sex-ratios are relatively high in younger ages 5-19 years and relatively low in ages 20 years and above in the rural areas as compared with the urban areas.

Table 2.6 gives distributions of population by broad age groups. Although the distribution of population by broad age groups was similar in Tanzania Mainland and Tanzania Zanzibar, there were differences in age structure of the population between regions. In Dar es Salaam the proportion of population in younger ages is low and the proportion in working ages is high. A similar age structure is observed in Urban West. To a less extent Mtwara recorded a similar pattern. On the other hand, populations of other regions have relatively young age structure. Kigoma, Shinyanga, Rukwa and Mara in Tanzania Mainland and North Pemba and South Pemba in Tanzania Zanzibar have relatively large proportions of persons below 15 years of age.

2.5 Ageing of Population

Ageing of a population is a process in which the proportion of the older people in the population increases. This is a structural change of the population, and it is distinguished from a biological process of ageing of individuals. Conventionally ageing of a population is considered to have started when the proportion of population 65 years of age and over exceeds 7 percent, and the population in a region is considered aged when the proportion of population 65 years of age and over has reached 14 percent. Ageing of population is primarily caused by falling fertility. A rapid decline in fertility and the following sustaining low fertility levels will increase relatively the proportion of older people. Ageing of a population occurs also due to increasing life expectancy. When older people live longer the number of older people will increase, and this will result in an increase of the proportion of the older people. Hence ageing of population should be viewed from two aspects: one from structuring ageing, namely an increase in the proportion of older people in the population, and the other from an absolute increase in the number of the aged.

Ageing of a population is in progress in many countries in the world, not only in the developed countries but also in some developing countries. It has a number of important consequences a serious concern of social and economic policies in many countries in the world, in particular in developed countries. These countries face many problems of social security systems caused by ageing of the population. Increase in the number of elderly people causes a rapid increase in the government expenditures on medical care and nursing care of the elderly who need help. In many developing countries the population is still relatively young and the ageing of the population has not started. Social security systems are as yet well developed. But in the years to come, not far from now, when fertility decline continues, ageing population will progress, then these countries may face similar problems, as the developed countries have faced. Even at present an absolute number of older people is increasing with a gradual increase in life expectancy and an increase in the number of people in a cohort entering older age groups.

In this section the cut off points for old age of both 60 years 65 years are used. In Tanzania age 60 years is the official Government retirement age at which old age benefits begin to be provided. Table 2.x gives a trend in the population aged 60 years and over as well as that aged 65 years and over. The proportions of population aged 60 years and over and that aged 65 years and over in 2002 were 5.7 percent and 3.9 percent respectively, a decline from 6.2 percent and 4.3 percent respectively in 1988. These proportions were lower than those in 1978. The average annual rates of increase in populations aged 60 years and over and 65 years and over during 1988 to 2002 were both 2.3 percent, which were lower than the annual growth rate of the total population.

However there was a considerable increase in actual numbers of older persons. The number of persons 60 years of age and over increased by about 532 thousands during 14 years from 1988 to 2002. The corresponding increase in the number of persons 65 years of age and over was about 365 thousands.

Table 2.7 Older Population: 1978, 1988 and 2002

Age	Number			Percentage			Annual increase rate (%)	
	1978	1988	2002	1978	1988	2002	1978-1988	1988-2002
All ages	17,512,611	23,057,922	34,403,603	100.0	100.0	100.0	2.8	2.9
60+	1,064,869	1,420,012	1,952,041	6.1	6.2	5.7	2.9	2.3
65+	717,098	981,839	1,347,085	4.1	4.3	3.9	3.2	2.3

Source: The United Republic of Tanzania Population and Housing Censuses, 1978, 1988 and 2002.

Proportions of older people in Tanzania in 2002 are compared with those in selected countries in Table 2.8. Proportions of persons aged 60 years and over and those aged 65 years and over in Tanzania were more or less at the same levels as in Malawi, South Africa and Nigeria. The proportions of the elderly in Tanzania were much lower compared with developed countries that already face ageing of the population. The proportion of persons aged 65 years and over exceeded 17 percent in both Japan and Sweden.

Table 2.8 Proportions of Older Population in Selected Countries

(%)

Age	Tanzania 2002	Malawi 1998	South Africa 1996	Nigeria 2000	Japan 2000	U.S.A. 2000	U. K. 1999	Sweden 2001
60 years +	5.7	5.5	6.9	4.3	23.4	16.5	20.4	22.3
65 years +	3.9	4.0	4.7	2.8	17.3	12.7	15.6	17.2

Source: United Nations, *Demographic Yearbook 2001*.

Table 2.9 shows the sex-ratio of older population as observed in the 1978, 1988 and 2002 censuses. Normally women survive longer than men, hence it is expected that there were more women than men in the older age groups. Data in the table does not suggest clear patterns and trends in sex-ratios of older population. This is probably due to miss reporting of ages among older persons.

Table 2.9 Sex-ratio of older population: 1978, 1988 and 2002

Age	1978	1988	2002
60 years and over	108.9	100.3	92.9
65 years and over	114.5	106.3	94.0
60-64 years	98.3	88.0	90.6
65-69 years	107.5	113.4	94.5
70-74 years	113.1	98.4	91.2
75 years and over	121.8	106.8	95.6

Source: The United Republic of Tanzania Population and Housing Censuses, 1978, 1988 and 2002.
Note: Sex-ratio is the number of males per 100 females.

With regard to disability there were about 105 thousands persons aged 65 years and over who were disabled. This accounted for 7.8 percent of the population 65 years of age and over. Of 105 thousands disabled persons aged 65 years and over about half (47.7 percent) were physically impaired and about one quarter (23.6 percent) were visually impaired (See Chapter 4).

Older people had fewer opportunities to receive formal education. According to the 2002 census, 59.3 percent of males aged 65 years and over and 86.3 percent of females aged 65 years and over have never attended school. If those either completed or dropped out in the first 4 years of the primary education are included, the percentage becomes 96 percent for both males and females. This means that 96 percent of males and females aged 65 years and over either never attended school or attended only lower level of primary education. This is reflected in relatively high illiteracy rates particularly among older women in the rural areas. In fact, about 90 percent of women aged 65 years and over in the rural areas were reported to be illiterate (See Chapter 5).

2.6 Summary

As in the censuses of many other developing countries, age data from the Tanzania census suffer from errors in age reporting. Strong preferences for terminal digits 0 and 5 are detected in the data on population by single years of age except for younger ages. However, indices calculated suggest some improvement in errors caused by digit preference compared with the 1988 census.

Age structure of population of Tanzania is still young and ageing population does not seem to have started. The proportion of people aged below 15 years of age in the total population declined from 46 percent in 1988 to 44 percent, the proportion of those aged 15-64 years increased from 50 percent to 52 percent in the period 1988 to 2002. The proportion of older population aged 65 years and over declined slightly to a little less than 4 percent in 2002. Although the rate of increase in the older population aged 65 years and over was lower than the total population growth rate during the period 1988-2002, the actual number of older people increased by about 365 thousands persons during the period.

CHAPTER 3: MARITAL STATUS

3.1 Introduction

Marital status is important in the study of fertility since women in different marital categories tend to have different fertility levels.

In the 2002 Tanzania Population and Housing Census, a question on current marital status was asked for all persons on a complete basis, but tables are tabulated for persons aged 10 years and over. Marital status categories asked in the question and presented in the tables are: never married, married, cohabiting (consensual union), divorced, separated and widowed. As 99 percent of persons aged 10 to 14 years reported as "never married", marital status of the population will be analysed in this chapter in reference to persons aged 15 years and over. Marital status will be analysed here in association with the demographic and socio-economic variables such as sex, age, education and employment.

Definitions of marital status categories in the 2002 census are as follows:

Never married:	Persons who have remained single all their lives excluding persons who have lived with another person and are now living alone.
Married:	Persons who were formally married irrespective of the type of marriage, which may have been customary, civil or religious marriage.
Living together:	Persons in consensual unions or socially recognized stable unions.
Separated:	Persons who were once married but are now living apart. Those who live apart because their spouses are employed far away from home or for similar reasons are considered married.
Divorced:	Persons who were once married but their marriages were permanently terminated and have not remarried since then. Note that in polygamous marriages the divorce of one or more wives does not classify the husband as divorced if he still lives with the other wife (wives).
Widowed:	Persons whose marriages were terminated by death and have not remarried since. Note that in polygamous marriages the death of one or more wives does not make the husband a widower if he still has other wife (wives).

3.2 General Trends

In the census of 2002, 39.2 percent of males aged 15 years and over had never married, 56.1 percent were currently married or cohabiting, 1.5 percent were widowed, 1.0 percent were divorced and 2.2 percent were separated. For females, 24.5 percent had never married, 60.1 percent were currently married or cohabiting, 8.6 percent were widowed, 2.0 percent were divorced and 4.8 percent were separated.

By area, trends in Tanzania Mainland are more or less the same as the whole Tanzania, but trends are somewhat different in Tanzania Zanzibar. The proportion never married is higher than that in Tanzania Mainland for both male and female. It is also observed that the proportion of females who were separated is higher than that for the whole Tanzania.

Table 3.1 Marital Status of Persons Aged 15 Years and Over, by Area: 2002 (%)

Marital status	Tanzania		Tanzania Mainland		Tanzania Zanzibar	
	Male	Female	Male	Female	Male	Female
Total	100.0	100.0	100.0	100.0	100.0	100.0
Never married	39.2	24.5	39.0	24.5	44.4	27.1
Married	52.0	55.8	52.1	55.8	51.1	54.7
Cohabiting	4.1	4.3	4.2	4.4	0.4	0.4
Divorced	1.0	2.0	1.0	2.0	0.2	0.4
Separated	2.2	4.8	2.2	4.6	3.2	11.3
Widowed	1.5	8.6	1.5	8.7	0.6	5.9

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 3.2 compares the percentage distribution of population aged 15 years and over by marital status in 1978, 1988 and 2002. As the trends in the proportion of marital status are affected by changes in age distribution, standardized proportions were calculated by using the age and sex distribution of the population in 2002 as standard population.

It will be observed in the table that the proportion of those who had never married has increased, while proportion married has decreased for both male and female. A decline in the proportion never married was more notable for females than for males.

Table 3.2 Percentages of Population Aged 15 and Over by Marital Status, by Sex: 1978, 1988 and 2002 (%)

	Male				Female			
	Never married	Married	Divorced	Widowed	Never married	Married	Divorced	Widowed
Percentage								
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
Standardized [a]								
1978	35.7	59.7	3.3	1.2	16.0	69.8	5.7	8.6
1988	38.2	57.3	3.0	1.4	20.9	64.9	6.2	8.0
2002	39.2	56.1	3.2	1.5	24.5	60.1	6.7	8.6

Source: Calculated from the United Republic of Tanzania Housing and Population Censuses: 1978, 1988 and 2002.

(a) Standardized percentages were computed by using the 2002 population of Whole Tanzania by age and sex as standard population.

3.3 Marital Status by Age

Table 3.2 presents percentage of population aged 15 year and over by marital status, by age and sex in the census of 2002. The proportion of the population never married usually decreases with increasing age. Both male and female populations in 2002 followed this pattern. The proportion never married for females aged 60 years and over was higher than females aged 55-59 years, but this might be due to errors in reporting the marital status in the census rather than a reflection of an actual change in the marriage pattern. Widowed and divorced women may have claimed to have had never married. About 4 or 5 percent of persons at higher ages remained unmarried both for males and for females.

A distinction was made between married and cohabiting in reporting marital status in the 2002 census. These two categories were combined in the previous censuses. Cohabiting or consensual unions were

about 8 percent of the married both for males and for females. The proportion married increased with increasing age up to about 50 years for males and 40 years for females. Then it declined as widowhood increased substantially for both sexes. The decline was greater for females than for males. The proportion married including cohabiting in ages 60 years and over was 80 percent for males and 36 percent for females.

In the 2002 census, divorce and separation were reported separately. These were combined in the previous censuses. The proportion separated was higher than the proportion divorced in all ages both for males and for females. In ages 50 years and over, about 2 percent were divorced and 5 percent were separated for males. For females, the proportions divorced and separated were about 3 percent and 9 percent, respectively. The higher proportion divorced or separated for females than for males is a reflection of the culture where women after child bearing ages, once divorced or separated, may have less chance of getting remarried than men.

At all ages, the proportion of widowhood for females was substantially higher than that for males. For males in age groups 50-54 years, 55-59 years and 60 years and over, the proportion widowed was 2.7 percent, 3.5 percent and 8.3 percent, respectively. The proportion widowed for females in corresponding ages was 18.3 percent, 23.6 percent and 46.7 percent, respectively. There are three factors that explain big gaps between two sexes. Firstly, women in general are younger than their husbands. Secondly, women on the average tend to live longer than men. Thirdly, widowed men have a greater chance of remarriage than widowed women.

Table 3.2 Percentage of Population Aged 15 Years and Over, by Age and Sex: 2002

Age (years)	Total	Never married	Married	Cohabiting	Divorced	Separated	Widowed
Male							
Total, 15 and over	100.0	39.2	52.0	4.1	1.0	2.2	1.5
15-19	100.0	96.5	2.9	0.4	0.0	0.1	0.0
20-24	100.0	69.3	26.4	3.3	0.3	0.6	0.1
25-29	100.0	36.2	55.1	6.3	0.7	1.5	0.3
30-34	100.0	18.4	71.0	6.7	1.1	2.3	0.6
35-39	100.0	11.4	77.5	6.1	1.3	2.8	0.9
40-44	100.0	8.0	80.3	5.4	1.5	3.3	1.4
45-49	100.0	6.5	81.4	4.8	1.6	3.7	2.0
50-54	100.0	5.5	81.1	4.4	1.8	4.4	2.7
55-59	100.0	4.8	80.9	4.0	2.0	4.7	3.5
60 and over	100.0	4.3	76.6	3.1	2.2	5.5	8.3
Female							
Total, 15 and over	100.0	24.5	55.8	4.3	2.0	4.8	8.6
15-19	100.0	74.8	21.6	2.5	0.4	0.6	0.1
20-24	100.0	30.0	59.3	6.3	1.3	2.6	0.6
25-29	100.0	15.8	70.5	6.3	1.8	4.0	1.6
30-34	100.0	10.0	73.7	5.5	2.3	5.2	3.2
35-39	100.0	7.3	74.3	4.9	2.5	5.9	5.2
40-44	100.0	5.9	71.2	4.2	2.9	7.2	8.6
45-49	100.0	4.7	68.6	3.6	3.1	7.8	12.2
50-54	100.0	4.3	62.2	2.9	3.4	8.9	18.3
55-59	100.0	4.2	56.8	2.4	3.5	9.6	23.6
60 and over	100.0	5.2	34.2	1.3	3.1	9.5	46.7

Source: The United Republic of Tanzania 2002 Population and Housing Census.

The following tables compare the proportion never-married, the proportion married, the proportion divorced and the proportion widowed, by age and sex, in the 2002 census with the previous censuses of 1978 and 1988.

There was a continuous increasing tendency of the proportion never married between 1978 and 2002 both for males and for females in all age groups. This tendency was more noticeable for females than for males. In 1978, the proportion never-married for females was 62.4 percent at ages 15-19 years, 16.1 percent at ages 20-24 years, 5.4 percent at 25-29 years and 2.9 percent at 30-34 years. The proportion never-married for females in these age groups rose to 74.8 percent, 30.0 percent, 15.8 percent and 10.0 percent respectively in 2002. At older ages, only 2 percent of females in age groups above 50 years remained unmarried in 1978. In 2002 about 5 percent of females in these age groups remained unmarried. This is a reflection of rising age at marriage.

In contrast, the proportion married showed a declining tendency in all age groups both for males and for females from 1978 to 2002. A decline in the proportion married was substantial particularly for females in childbearing ages. At ages 20-24 years, the proportion married declined from 78.7 percent in 1978 to 65.5 percent in 2002. In age groups 25-29, 30-34, 35-39 and 40-44 years, it dropped from 87.9, 89.1, 87.3 and 84.0 percent to 76.8, 79.3, 79.2 and 75.4 percent respectively during the period 1978-2002.

Table 3.4 Percentage of Population Never Married, by Age and Sex: 1978-2002 (%)

Age	Male			Female		
(years)	1978	1988	2002	1978	1988	2002
Total, 15 and over	33.2	38.3	39.2	15.5	21.5	24.5
15-19	96.5	95.9	96.5	62.4	70.6	74.8
20-24	65.4	69.2	69.3	16.1	25.9	30.0
25-29	28.6	36.0	36.2	5.4	11.6	15.8
30-34	11.8	17.0	18.4	2.9	6.3	10.0
35-39	7.5	9.3	11.4	1.9	3.8	7.3
40-44	5.1	6.5	8.0	1.6	2.7	5.9
45-49	4.4	4.8	6.5	1.4	2.4	4.7
50-54	3.7	4.2	5.5	1.6	2.0	4.3
55-59	3.3	3.5	4.8	1.7	1.9	4.2
60 and over	2.2	3.1	4.3	1.7	2.4	5.2

Source: The United Republic of Tanzania Population and Housing Censuses, 1978, 1988 and 2002.

Table 3.5 Percentage of Population Married, by Age and Sex: 1978-2002 (%)

Age	Male			Female		
(years)	1978	1988	2002	1978	1988	2002
Total, 15 and over	61.4	57.0	56.1	69.5	63.8	60.1
15-19	3.4	3.9	3.3	35.7	28.3	24.1
20-24	33.0	29.9	29.6	78.7	69.9	65.5
25-29	68.2	61.8	61.3	87.9	81.6	76.8
30-34	83.1	79.3	77.7	89.1	84.0	79.3
35-39	86.7	85.7	83.6	87.3	84.6	79.2
40-44	88.4	87.0	85.7	84.0	81.3	75.4
45-49	88.1	87.7	86.2	78.2	77.2	72.2
50-54	87.4	87.0	85.5	70.3	70.0	65.2
55-59	87.7	87.2	85.0	63.1	63.1	59.2
60 and over	86.6	81.9	79.7	40.8	41.0	35.5

Source: The United Republic of Tanzania Population and Housing Censuses, 1978, 1988 and 2002.
Note: "Married" in this table includes cohabiting or consensual unions.

Table 3.6 Percentage of Population Divorced, by Age and Sex: 1978-2002 (%)

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

Source: The United Republic of Tanzania Population and Housing Censuses, 1978, 1988 and 2002.
Note: "Divorced" in this table includes "separated".

Table 3.7 Percentage of Population Widowed, by Age and Sex: 1978-2002 (%)

Age (years)	Male			Female		
	1978	1988	2002	1978	1988	2002
30-34	0.7	0.6	0.6	2.5	2.4	3.2
35-39	0.9	0.8	0.9	4.4	4.0	5.2
40-44	1.5	1.4	1.4	7.1	7.3	8.6
45-49	1.6	1.7	2.0	11.9	10.5	12.2
50-54	2.5	2.7	2.7	18.6	17.2	18.3
55-59	3.2	3.1	3.5	25.4	23.1	23.6
60 and over	5.8	8.0	8.3	47.8	45.4	46.7

Source: The United Republic of Tanzania Population and Housing Censuses, 1978, 1988 and 2002.

With regard to divorce at ages 30 years and above, the data in Table 3.6 shows an increasing tendency for females from 1978 to 2002. The proportion divorced of females in age groups 50-54, 55-59 and 60 years and over increased about 10 percent in 1978 to about 13 percent in 2002. An increasing tendency of proportion divorced will be observed for males in age groups 55-59 years and 60 years and over.

As will be seen in Table 3.7, there were big differences in the proportion widowed between males and females. The change in the proportion widowed from 1978 to 2002 was relatively small both for males and females, except for males at ages 60 years and over.

3.4 Age at Marriage

If a woman gets married at younger ages, she will be exposed to child-bearing for a longer period. So the age at marriage of females will affect a fertility level. Therefore the analysis of age at marriage is of great importance in the fertility analysis.

For countries with complete and reliable vital registration system, data on average age at first marriage is available from vital statistics. In Tanzania such complete and reliable vital statistics is non-existent. However, the mean age at first marriage can be estimated from census data on marital status by using the method of singulate mean age at marriage (SMAM). The singulate mean age at marriage is calculated from data on the proportion never married by age and sex by using the following formula:

$$\text{SMAM}=\frac{\sum_{x=0}^{50} x(s_x - s_{x+1})}{\sum_{x=0}^{50} (s_x - s_{x+1})} = \frac{\sum_{x=0}^{50} s_x - 50 s_x}{1 - s_{50}}$$

where s_x: proportion never married at age x (exact age)

$s_x - s_{x+1}$: proportion of persons who get married at age x

The mean age at first marriage by sex in 2002 for the whole Tanzania, Tanzania Mainland and Tanzania Zanzibar as well as for rural and urban areas are presented in Table 3.8

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Table 3.8 Average Age at First Marriage, by Area: 2002 (in years)

	Male	Female	Difference
Tanzania Total	25.9	21.1	4.8
Tanzania Mainland	25.8	21.1	4.7
Tanzania Zanzibar	27.9	22.2	5.7

Source:Estimated from marital status data of the United Republic of Tanzania 2002 Population and Housing Census by using the method of singulate mean age at marriage.

As observed in the table, the mean age at marriage is estimated at 25.9 years for males and 21.1 years for females. The difference in mean age at marriage between males and females is 4.8 years. The age at marriage in Tanzania Mainland is almost identical to that for the country as a whole. However, it will be noted that the age at marriage in Tanzania Zanzibar is higher than Tanzania Mainland by 3.1 years both for males and for females.

The average age at first marriage was estimated for 1978 and 1988, and the results are shown in Table 3.9. A rise in the average age at first marriage is observed both for males and for females during the period of 1978 to 2002. The average age at marriage for males increased from 24.9 years in 1978 to 25.9 years in 2002, an increase of one year. For females, it increased from 19.1 years to 21.1 years, an increase of two years, during the same period. A rising tendency of the average age at marriage is consistent with increasing trends in the proportion persons who have never married as discussed in the preceding section 3.3.

Table 3.9 Average Age at First Marriage for the Whole Tanzania: 1978, 1988 and 2002 (in years)

Year	Male	Female	Difference
1978	24.9	19.1	5.8
1988	25.8	20.5	5.3
2002	25.9	21.1	4.8

Source: Estimated from marital status data of the United Republic of Tanzania Population and Housing Censuses, 1978, 1988 and 2002 by the using method of singulate mean age at marriage.

3.5 Geographical Variations of Marital Status

3.4.1 Rural-Urban Differentials

Table 3.10 gives the proportion of population aged 15 years and over by marital status for males and females, by rural and urban areas. Since the composition of the population by marital status for rural and urban areas is affected by the age composition of the population in rural and urban areas, both the crude and the standardized figures are shown in the table. The age and sex composition of the population aged 15 years and over for the whole Tanzania was used as standard population. The standardized percentage for rural and urban areas shows what would be the percentage if the age and sex composition of rural and urban populations was held same as that of the total population of Tanzania. It is therefore not affected by the difference in age composition.

It will be observed from the table that the proportion never married is higher in urban areas than in rural areas, and the proportion married and cohabiting is lower in urban areas than in rural areas. The proportion divorced and separated is slightly lower in urban areas than rural areas for males, but the

reverse is the case for females. There is no significant difference in the proportion widowed between rural and urban areas both for male and for female.

Table 3.10 Percentage of Population Aged 15 Years and Over by Marital Status and by Rural-Urban Areas: 2002 **(%)**

Sex and marital status	Percentage			Standardized [a]		
	Tanzania	Rural	Urban	Tanzania	Rural	Urban
Male						
Never married	39.2	36.5	46.8	39.2	36.8	44.8
Married and cohabiting	56.1	58.5	49.5	56.1	58.4	50.7
Divorced and separated	3.2	3.4	2.5	3.2	3.3	2.9
Widowed	1.5	1.6	1.2	1.5	1.5	1.6
Female						
Never married	24.5	20.8	35.6	24.5	21.4	32.8
Married and cohabiting	60.1	63.2	51.0	60.1	63.5	50.7
Divorced and separated	6.8	6.7	6.8	6.8	6.6	7.7
Widowed	8.6	9.3	6.6	8.6	8.6	8.9

Source: The United Republic of Tanzania 2002 Population and Housing Census.

(a) Standardized percentages were computed by using the 2002 population of Whole Tanzania by age and sex as standard population.

Table 3.11 compares the proportion of population aged 15 years and over who had never married by age for rural and urban areas. The proportion of males in age groups between 20 years to 40 years who reported that they had never married was higher in urban areas than in rural areas. It was 25.7 percent at ages 30-34 years in urban areas and 15.3 percent in rural areas. It was 14.7 percent at ages 35-39 years in urban areas and 10.1 percent in rural areas. For females, the proportion never-married was higher in urban areas than in rural areas in all age groups. Whereas the proportion never-married was 46.1 percent at ages 20-24 years, 27.2 percent at ages 25-29 years and 17.5 percent at ages 30-34 years in urban areas, the corresponding proportion in rural areas was 23.1 percent, 11.2 percent and 7.3 percent respectively. Substantial differences between rural and urban areas in the proportion of females who had never-married at most fertile ages will have influence on rural and urban fertility levels.

Table 3.11 Percentage of Population Never-married, by Age and Sex and by Rural and Urban Areas: 2002 **(%)**

Age	Rural		Urban	
	Male	Female	Male	Female
Total, 15 and over	36.5	20.8	46.8	35.6
15-19	96.1	71.3	98.0	84.0
20-24	63.3	23.1	82.5	46.1
25-29	29.8	11.2	50.2	27.2
30-34	15.3	7.3	25.7	17.5
35-39	10.1	5.5	14.7	12.4
40-44	7.7	4.8	8.9	9.6
45-49	6.4	3.9	6.7	7.6
50-54	5.5	3.8	5.5	6.7
55-59	4.8	3.7	4.9	6.3
60 and over	4.1	4.9	5.5	6.9

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 3.12 compares the proportion of population aged 15 years and over who reported that they are currently married or cohabiting by age for rural and urban areas. For males in their 20's and 30's, the proportion married including cohabiting was lower in urban areas than in rural areas. For females, the proportion married including cohabiting in urban areas was lower than in rural areas in all age groups.

Table 3.12 Percentage of Population Married or Cohabiting, by Age and Sex and by Rural and Urban Areas: 2002 (%)

Age	Rural		Urban	
	Male	Female	Male	Female
Total, 15 and over	58.5	63.2	49.5	51.0
15-19	3.7	27.4	1.9	15.3
20-24	35.4	71.9	16.9	50.5
25-29	67.3	81.2	48.0	65.7
30-34	80.5	82.3	71.1	71.0
35-39	84.7	81.5	80.9	72.2
40-44	85.8	77.4	85.3	68.8
45-49	86.1	74.1	86.5	65.2
50-54	85.4	66.8	85.8	58.2
55-59	85.0	60.8	84.8	51.4
60 and over	80.2	36.8	76.6	28.9

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Percentages of population aged 30 years and over who were divorced or separated and who were widowed, by age and sex and by rural-urban areas are presented in Table 3.13 and Table 3.14. As will be seen in these tables, percentages divorced or separated and those widowed were significantly high for females as compared with males in both rural and urban areas. While the percentage of females divorced or separated was relatively low in the rural areas as compared with the urban areas, that for males was slightly higher in the rural areas than in the urban areas. With regard to widowhood, there was a big difference between the percentage of widows and widowers. By rural and urban areas the percentages of both widows and widowers were slightly

Table 3.13 Percentage of Population Divorced or Separated, by Age and Sex and by Rural and Urban Areas: 2002 (%)

Age	Rural		Urban	
	Male	Female	Male	Female
30-34	3.6	7.3	2.6	8.1
35-39	4.3	7.9	3.4	9.8
40-44	5.1	9.4	4.3	12.5
45-49	5.6	10.0	4.7	14.1
50-54	6.4	11.4	5.8	15.9
55-59	6.8	12.2	6.5	17.1
60 and over	7.5	11.8	8.9	16.4

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 3.14 Percentage of Population Widowed, by Age and Sex and by Rural and Urban Areas: 2002 (%)

Age	Rural		Urban	
	Male	Female	Male	Female
30-34	0.6	3.2	0.5	3.3
35-39	0.9	5.0	1.0	5.6
40-44	1.4	8.5	1.6	9.1
45-49	1.9	12.0	2.1	13.0
50-54	2.7	18.0	2.9	19.3
55-59	3.4	23.3	3.8	25.2
60 and over	8.1	46.5	9.0	47.8

Source: The United Republic of Tanzania 2002 Population and Housing Census.

low in the rural areas as compared with the urban areas.

While the average age at first marriage was estimated at 24.9 years and 20.2 years for male and female in the rural areas respectively, it was 28.0 years and 23.3 years for male and female in the urban areas. Hence the average age at first marriage was 3.1 years higher in the urban areas than in the rural areas. This indicates that men and women in the rural areas tend to get married early as compared with those in the urban areas, and this may contribute to the rural-urban differential in fertility behaviour.

Table 3.15 Average Age at First Marriage by Sex and Rural and Urban Areas: 2002 (in years)

	Male	Female	Difference
Tanzania	25.9	21.1	4.8
Rural	24.9	20.2	4.7
Urban	28.0	23.3	6.7

Source: Estimated from marital status data of the United Republic of Tanzania 2002 Population and Housing Census by using the method of singulate mean age at marriage.

3.4.2 Regional Differentials

Percentage of population aged 15 years and over by marital status and average age at first marriage, by sex for regions is given in Table 3.16. Percentages of population by marital status shown in the table were standardized by using the age and sex composition of total population for the whole country in 2002 as standard population in order to eliminate the influence of difference in age structure of regional populations on marital status structure at a regional level.

As will be seen from the table that the percentage of population never married was relatively high and the percentage of population married was relatively low for both male and female in Dar es Salaam and Urban West, while the percentage never married was relatively low and the percentage married was relatively high in 5 regions in the western part of the country: Tabora, Rukwa, Kigoma, Shinyanga and Mwanza. These were in conformity with the regional trends in average age at first marriage. Estimated average ages at first marriage were relatively high in Dar es Salaam and Urban West, and relatively low in regions in the western part of the country for both male and female.

Regional variations of percentages of persons aged 15 years and over who were divorced or separated were relatively large for female as compared with male. This was the case in regional variations of percentages widowed as well.

Table 3.16 Standardized Percentage of Population Aged 15 Years and Over by Marital Status Age Average Age at First Marriage, by Sex, by Region: 2002

Region	Standardized percentage by marital status								Age at first marriage	
	Male				Female					
	Never married	Married	Divorced	Widowed	Never married	Married	Divorced	Widowed	Male	Female
Tanzania Mainland										
Dodoma	37.0	58.7	2.7	1.5	23.3	60.9	6.6	9.3	25.2	20.9
Arusha	44.0	52.6	2.1	1.3	27.6	59.6	4.1	8.7	27.3	22.2
Kilimanjaro	44.6	51.4	2.5	1.6	33.9	54.2	4.2	7.6	27.7	23.5
Tanga	41.7	53.6	3.2	1.4	25.1	59.8	7.0	8.1	26.6	21.5
Morogoro	42.0	52.9	3.5	1.6	27.4	57.0	7.3	8.3	26.5	21.6
Pwani	42.1	52.5	4.3	1.2	24.6	59.5	9.1	6.8	26.9	21.3
Dar es Salaam	48.0	47.7	2.7	1.6	36.0	49.5	6.4	8.1	29.2	24.2
Lindi	40.1	55.8	3.4	0.8	26.2	60.4	8.5	5.0	26.0	20.7
Mtwara	36.5	58.0	4.7	0.8	22.7	61.2	11.3	4.8	24.9	20.0
Ruvuma	37.3	58.7	2.7	1.4	25.1	62.4	5.6	6.8	25.3	20.9
Iringa	40.7	55.2	1.6	2.6	29.1	55.5	3.4	12.0	26.3	22.8
Mbeya	36.3	58.9	2.7	2.1	21.2	61.4	4.6	12.7	24.8	20.6
Singida	38.3	57.6	2.7	1.4	24.2	60.5	6.0	9.3	25.5	21.0
Tabora	34.8	59.6	4.2	1.4	19.9	65.6	8.4	6.1	24.2	19.5
Rukwa	31.4	64.4	2.3	1.8	18.9	67.2	5.3	8.7	23.5	19.7
Kigoma	33.9	62.2	2.2	1.6	22.1	62.1	6.0	9.8	24.3	20.6
Shinyanga	33.9	61.1	3.7	1.3	17.6	67.2	7.3	7.9	24.2	19.2
Kagera	34.4	59.5	4.2	1.8	19.0	62.1	7.8	11.1	24.2	19.9
Mwanza	37.6	56.7	4.2	1.5	22.5	61.0	8.6	8.0	25.3	20.5
Mara	35.9	59.9	2.6	1.5	20.1	62.6	4.6	12.6	24.7	19.8
Manyara	42.6	52.3	3.6	1.5	24.0	62.2	5.5	8.3	26.5	21.1
Tanzania Zanzibar										
North Unguja	42.3	54.0	2.9	0.7	24.3	59.0	9.8	6.9	27.6	21.5
South Unguja	42.6	51.6	5.2	0.7	24.1	56.1	14.1	5.7	27.5	21.6
Urban West	45.8	48.7	4.6	0.9	29.4	49.2	14.9	6.6	28.7	23.0
North Pemba	39.8	57.4	2.1	0.7	22.5	60.5	9.4	7.7	26.8	21.0
South Pemba	40.8	55.9	2.6	0.6	24.6	57.5	11.3	6.5	27.1	21.8

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Notes: (1) Standardized percentages were computed by using the 2002 population of Whole Tanzania by age and sex as standard population. (2) Average ages at first marriage were estimated by using the method of singulate mean age at marriage. (3) In this table "married" includes "cohabiting" and "divorced" includes "separated".

3.6 Summary

Marital status of females affects the trend in fertility. There was a clear increasing trend in the proportion of population aged 15 years and above who have never married and a declining trend in the proportion married for both male and female during the period 1978-2002. These trends are observed in all age groups. Over one-third of females in age group 15-19 years were married in 1967, but in 2002 the proportion married in this age group declined to a little lower than one quarter. The proportion of females in age group 25-29 years and 30-34 years who have never married was 16 percent and 10 percent respectively in 2002, as compared with 5 percent and 3 percent respectively in 1967.

The estimated average age at first marriage was 25.9 years for male and 21.1 years for female in 2002. The difference was 4.8 years. The average age at first marriage increased over time for both male and

female. This in couple with an increase in the proportion never married suggests a tendency of late marriage.

There was a substantial difference in the average age at marriage and the proportion never married between rural and urban areas. The average age at marriage was 24.9 years for male and 20.3 percent for female in the rural areas as compared with 28.0 years for male and 23.3 years for female in the urban areas.

CHAPTER 4: DISABILITY

4.1 Introduction

Disability is increasingly becoming public health and social welfare issues worldwide. In Tanzania these issues are gaining increasing recognition following the activities resulting from international action particularly the International Year of Disabled Persons (1981) and the United Nations Decade of Disabled Persons (1983-1992) and the United Nations Standard Rules on Equalization of Opportunities for Persons with Disabilities. However, the government non-governmental organizations and the public in general have not given it the deserving attention probably due to deficiency of data in this area.

There is a general agreement among the public that given opportunity people with disabilities can play a constructive role and make a significant contribution to the development process of our country.

A disability question was included for the first time in the 2002 Population and Housing Census. However the manner in which the question was formulated lacked clarity and therefore may have resulted in missing out or including others.

This chapter provides the results of analysis of disability on the basis of the 2002 census.

4.2 Types of Disability

The word *disability* is subjected to a wide variety of interpretations. A study on the subject yields many definitions based on medical, legal, sociological, physiological or even subjective emphasis. Definition can influence the way in which people with disabilities are perceived by the society and by themselves.

A question asked in the 2002 census was “Is he/she:

Not disabled
Physically handicapped/leprosy
Visually impaired
Dumb
Hearing/Speech impaired
Albino
Mentally handicapped
Multiple handicapped”

Many people who were involved in the field did not properly understand this question. The question as it appears gives the onus of defining disability to both the enumerator and the respondent. Since disability means different things to different people in different backgrounds and given the stigma and prejudice attached to it, the probability of inadequate and wrongly conceived concepts is high.

The types of disability specified in the census tabulations are:

Physically impaired
Visually impaired
Hearing impaired
Intellectually impaired
Albinos
Multiple impaired, i.e., a combination of two or more disability categories.

The number of disabled persons recorded in the 2003 census was 676,502, or 2.0 percent of the total population. Corresponding prevalence rates in selected countries are Nigeria (0.5%), Sudan (1.6%), Uganda (1.2%), and Zambia (0.9%). However, some other African countries have recorded higher rates, for example, Namibia (5%), South Africa (5.9%), Ethiopia (3.8%), probably due to liberation wars and internal conflicts, which were common in the previous years in those countries.

According to Table 4.1, people with physical impairments have the largest proportion (47.9%), followed by the intellectually impaired (16.3%), and multiple impaired (13.3%). The albinos have the lowest proportion (1.0%).

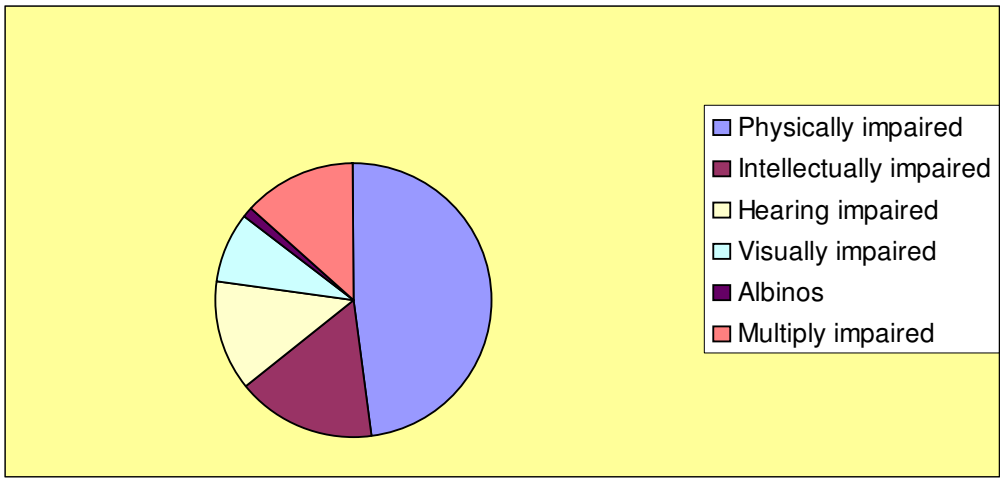
Table 4.1 Disabled Persons by Type of Disability: 2002

Type of Disability	Number	Percentage (1)	Percentage (2)
Total population	34,443,603	100.0	-
Disabled	676,502	2.0	100.0
Physically impaired	323,773	0.9	47.9
Visually impaired	56,227	0.2	8.3
Dumb/Hearing impaired	88,832	0.3	13.1
Albinos	6,924	0.02	1.0
Intellectually impaired	110,574	0.3	16.3
Multiple impaired	90,172	0.3	13.3
Not disabled	33,767,101	98.0	-

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Note: Percentage (1) is the percentage distribution of the total population by types of disability; Percentage (2) is the percentage distribution of persons disabled by types of disability.

Figure 4 1 Distribution of People with Disability by Type of Disability: 2002



Source: The United Republic of Tanzania 2002 Population and Housing Census.

4.3 Disability by Age and Sex

Table 4.2 presents the number of disabled persons and prevalence rates by age and sex. As will be seen in the table, disabled males outnumber disabled females. Of the total disabled, 54.9 percent are males, 40.1 percent females. The prevalence rate is 2.2 percent for male and 1.7 percent for female.

It is also observed that the higher the age, the higher the prevalence rate. For ages 65 years and over, the prevalence rate is 7.8 percent for both sexes, 8.4 percent for male and 7.3 percent for female.

Table 4.2 Disabled Persons by Age and Sex: 2002

Age	Both sexes		Male		Female	
	Number	% Disabled	Number	% Disabled	Number	% Disabled
All ages	676,502	2.0	371,400	2.2	305,102	1.7
0-4	30,129	0.5	16,843	0.6	13,286	0.5
5-9	55,320	1.1	30,876	1.2	24,444	1.0
10-14	61,515	1.4	33,619	1.5	27,896	1.3
15-24	105,347	1.6	57,631	1.8	47,716	1.3
25-34	100,195	2.0	56,264	2.3	43,931	1.7
35-44	84,624	2.8	48,513	3.2	36,111	2.4
45-54	71,587	3.8	39,488	4.4	32,099	3.3
55-64	62,156	5.2	33,386	5.8	28,770	4.7
65+	105,629	7.8	54,780	8.4	50,849	7.3

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Note: "% disabled" is the number of disabled persons in a given age and sex category expressed as percentage of population in that category.

Table 4.3 shows distribution of disabled persons by type of disability for broad age groups, and Table 4.4 presents, for broad age groups, disabled persons by type of disability as expressed in percentage of the total population in each age group.

Data in these two tables suggest that there are differences in the patterns of type of disability between age groups. While "physically impaired" accounted for the highest share in the disabled persons in all age groups, the type of disability that had the second highest share was "dumb/hearing impaired" in younger ages, "intellectually impaired" in working ages, and "visually impaired" in older ages.

Table 4.3 Distribution of Disabled Persons by Type of Disability, by Age: 2002 (%)

Type of disability	All ages	0-14	15-64	65 and over
Total, disabled	100.0	100.0	100.0	100.0
Physically impaired	47.9	39.8	50.7	47.7
Visually impaired	8.3	3.6	6.1	23.6
Dumb/Hearing impaired	13.1	20.8	11.2	10.2
Albinos	1.0	2.2	0.8	0.2
Intellectually impaired	16.3	18.0	18.6	5.1
Multiple impaired	13.3	15.7	12.5	13.3

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 4.4 Percentage of Disabled Population by Type of Disability, by Age Group: 2002 (%)

Type of disability	All ages	0-14	15-64	65 and over
Total, disabled	2.0	1.0	2.4	7.8
Physically impaired	0.9	0.4	1.2	3.7
Visually impaired	0.2	0.04	0.2	1.9
Dumb/Hearing impaired	0.3	0.2	0.3	0.8
Albinos	0.02	0.02	0.02	0.01
Intellectually impaired	0.3	0.2	0.4	0.4
Multiply impaired	0.3	0.2	0.3	1.0

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Note: Figures in this table refer to ratios of disabled persons by type of disability in a given age group to the total population in that age group as expressed in percentage.

4.4 Disability by Social and Economic Characteristics

4.4.1 Marital Status of Disabled Persons

Marital status is an important yardstick in the life of an adult individual particularly in African settings. The status of an adult individual in our communities is determined by among other things, his/her marital status. Unmarried adult men are often regarded as being less of men. Morality thus is determined by an individual's marital status. It is also a safety net in the event one falls sick or has some misfortune. Children's identity and cultural values are maintained through marriage or family.

Because of limitations imposed by disability very few disabled persons are married. Communities have negative attitude towards this affair. Disability is taken to be a barrier of not allowing the person with disability to get married.

Many people still believe that persons with disabilities once married will have offspring with disabilities. It is also believed that a husband as a leader of the household he cannot manage it effectively. On the other hand, a wife with disability is believed to be incapable to serve her children, husband and his relatives very effectively. People with disabilities have the right to get married and the society must realize that disability is not inability.

The extent to which this social formation influences fertility is gradually losing its power as many people with disability do have children out of wedlock or opt not to have children even through married. Table 4.5 shows percentage distribution of persons with disability aged 15 years and over by marital status.

Table 4.5 Persons Disabled Aged 15 Years and Over by Marital Status and Sex: 2002

Marital status	Number		Percentage distribution		Percentage disabled	
	Male	Female	Male	Female	Male	Female
Total	371,400	305,102	100.0	100.0	4.0	3.0
Never married	188,908	131,131	50.9	43.0	5.2	5.3
Married	138,586	85,782	37.3	28.1	2.9	1.5
Living together	9,945	8,307	2.7	2.7	2.6	1.9
Divorced	16,289	21,497	4.4	7.1	18.2	11.0
Separated	6,082	8,005	1.6	2.6	3.0	1.7
Widowed	11,590	50,389	3.1	16.5	8.4	5.8

Source: The United Republic of Tanzania 2002 Population and Housing Census.

It will be seen in Table 4.5 that a half (51 percent) of males with disability aged 15 years and over are never married, 40 percent married or cohabiting, and 6 percent divorced or separated. For females with disability aged 15 years and over, 43 percent are never married, 31 percent married or cohabiting, and 10 percent divorced or separated. The corresponding percentages for males and females aged 15 years and over including those without disability are 39 percent never married, 56 percent married or cohabiting, and 3 percent divorced or separated for males, 25 percent, 60 percent and 7 percent respectively for females. It is clear that the percentage never married and the percentage divorced or separated are higher, while percentage of married or cohabiting is lower among people with disability. Looking at the percentage disabled by marital status, it is observed that the percentage disabled is remarkably high among divorcees and those separated for both male and female.

4.4.2 Educational Status of Disabled Persons

Education is an important factor in personal and national development. A person with education is more capable of handling his or her life socially and economically than a person without or with little formal education. There is a close relationship between education and poverty reduction; employment creation; environmental protection; women empowerment and social integration.

The Government of United Republic of Tanzania and the Zanzibar Revolutionary Government both seek to provide all citizens with education, which is appropriate to their needs and abilities and meets the country's development aspirations. However, education sector faces the problem of insufficient resources, which makes implementation of the policy of universal access to education difficult.

This section will examine the current state of access to the formal education for people with disability on the basis of data on school attendance revealed by the 2002 Population and Housing Census. Table 4.6 gives the proportion of disabled persons among those attending school in age groups 5-6 years, 7-13 years, 14-17 years 18-19 years and 20-24 years.

Table 4.6 Disabled Persons Attending School in Age Groups 5-6, 7-13, 14-17, 18-19, 20-24 Years: 2002

Age (years)	Number			Percentage disabled		
	Both sexes	Male	Female	Both sexes	Male	Female
Total, 5-24	52,882	30,917	21,966	0.8	0.9	0.7
5 – 6	2,447	1,377	1,070	0.7	0.8	0.6
7 – 13	33,872	18,830	15,042	0.8	0.9	0.7
14 – 17	13,636	8,536	5,099	0.9	1.0	0.7
18 – 19	1,781	1,334	447	0.8	1.0	0.6
20 - 24	1,147	839	307	0.9	1.0	0.7

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Note: Percentage disabled is the number of disabled persons in a given age and sex category expressed as percentage of population in that category.

It will be seen from Table 4.6 that, of those attending school in age groups 5-6 years, 7-13 years, 14-17 years 18-19 years and 20-24 years, persons with disability account for about 1 percent in all age groups under consideration for both male and female.

Table 4.7 shows a comparison of the percentage attending school of persons with disability in age groups as in Table 4.6 with that of persons without disability.

It can be seen from Table 4.7 that the proportion attending school is considerably low among those with disability, compared to those without disability. In the age group 7-13 years, which is the normal, lower age group for 7 year primary course, the proportion attending school is 40 percent for the disabled, as compared to 70 percent for those without disability. In age groups 14-17 years corresponding to the normal lower age groups for 4 year lower secondary course and 2 year upper secondary course, respectively, the proportion attending school is 30 percent (34 percent for male and 25 percent for female) and 8 percent (12 percent for male and 5 percent for female) respectively for those with disability, as against 56 percent (60 percent for male and 52 percent for female) and 17 percent (22 percent for male and 12 percent for female) for those without disability.

Table 4.7 Comparison of School Attendance of Persons with Disability, with That of Those Without Disability, in Age Groups 5-6, 7-13, 14-17, 18-19, 20-24 Years: 2002 (%)

Age	Proportion attending, disabled			Proportion attending, without disability		
	Both sexes	Male	Female	Both sexes	Male	Female
Total, 5-24	23.8	25.3	22.0	43.4	45.7	41.1
5 – 6	11.9	11.8	11.9	17.4	16.9	17.9
7 – 13	40.1	40.5	39.6	69.5	68.7	70.2
14 – 17	30.2	34.3	25.3	56.1	60.0	52.2
18 – 19	8.4	11.5	4.6	16.5	22.3	11.6
20 - 24	2.3	3.1	1.3	4.1	6.2	2.5

Source: The United Republic of Tanzania 2002 Population and Housing Census.

4.4.3 Economic Activity of Disabled Persons

It is a well-known fact that disability limits functional ability and is highly related to the capacity of an individual to generate income and therefore own a property including a house. However you can only earn if you have the capability to produce. Production ability is related to education. The majority of persons with disability are dependants with little or no economic activity.

In this particular analysis we will show the distribution of people with disabilities by economic activity**.**

Income generation is an important variable as far as the life of a person with disability is concerned. All other variables are dependent on the ability of an individual to generate income.

To be able to generate income however a person with disability needs to have relevant skills and capital. In the majority of cases a person with disability needs to have a technical aid (assistive device) and also overcome stigma and prejudice that abounds in the society.

Table 4.8 Comparison of Participation Rates, Economically Inactive Rates and Unemployment Rates for Persons with Disability Aged 10 Years and Over, with Overall Average Rates for Those with and without Disability, by Age and Sex: 2002 (%)

Age and sex	Participation rates		Inactive rates		Unemployment rates	
	Total	Disabled	Total	Disabled	Total	Disabled
Male, 10 & over	71.5	57.6	28.2	41.7	3.4	2.4
10-14	14.2	13.9	85.3	84.4	6.3	4.4
15-19	53.5	39.7	46.2	59.1	7.8	6.3
20-24	89.1	63.4	10.7	35.9	6.3	4.7
25-44	97.3	73.9	2.5	25.4	2.3	2.6
45-64	96.1	73.6	3.8	26.0	1.0	1.1
65 & over	74.6	43.5	25.3	56.2	0.4	0.5
Female, 10 & over	64.6	47.8	35.2	51.6	2.0	1.4
10-14	13.6	13.7	86.0	84.7	4.3	3.9
15-19	53.7	38.7	46.0	60.0	4.7	3.4
20-24	78.0	56.7	21.9	42.8	3.5	3.6
25-44	85.4	66.6	14.5	33.0	1.1	1.0
45-64	85.2	60.6	14.7	39.2	0.4	0.6
65 & over	50.1	25.0	49.6	74.6	0.2	0.4

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Supportive attitude by the society is important. In the majority of cases negative attitudes on the part of the non-disabled create a barrier and thus limit meaningful participation of persons with disability in income generation.

Data from Table 4.8 shows that the participation rate for persons with disability is lower than the average rate including both with and without disability, in all age groups except the age group 10-14 years. The proportion of persons with disability who are not economically active is, on the contrary, significantly higher than the average, in all age groups but the age group 10-14 years. In the age group 10-14 years, the participation rate for those with disability is more or less at a same level as the average rates.

The level of unemployment rate for persons with disability is not much different from the average level. It is slightly lower in younger age groups and slightly higher or in the same level in higher age groups. This may be a reflection of trends that some of the persons with disability are unable to work due to handicap and therefore remain as not economically active.

4.4.4 Household Heads with Disability

Household headship is an important variable as far as distribution of resources to members of the household at family, community etc is concerned. This is usually influenced by age, economic status and educational level of the head of the household. Moreover, gender relations within communities affect the most disadvantaged groups such as children, women and disabled persons.

Table 4.9 below shows the number of household heads with disability and the proportion with disability.

There are 212,000 household heads aged 25 years and over with disability, of which 151,000 are male and 61,000 female. The proportion of household heads with disability is about 3 percent for both male and female. This proportion is higher in the older age groups. In the age group 65 years and over, the proportion disabled among household heads is 7 percent: 8 percent for male heads and 6 percent for female heads.

Table 4.9 Number and Proportion of Household Heads with Disability, by Age and Sex: 2002

Age (years)	Number of disabled heads			Proportion of disabled heads (%)		
	Both sexes	Male	Female	Both sexes	Male	Female
Total, 25 and over	211,625	151,080	60,545	3.4	3.5	3.0
25 - 34	31,695	24,066	7,629	1.6	1.7	1.3
35 - 44	40,981	30,323	10,658	2.6	2.7	2.2
45 - 54	40,685	28,746	11,939	3.7	3.9	3.2
55 - 64	37,624	25,975	11,649	5.0	5.3	4.3
65 +	60,640	41,970	18,670	7.1	7.8	5.9

Source: The United Republic of Tanzania 2002 Population and Housing Census.

4.5 Regional Differentials

Percentage of population with disability by sex was shown by region in Table 4.10 below. As differentials in percentage disabled between regions are influenced by different age and sex structure of the regional population, the standardized percentage disabled was shown in the table as well. The standardized percentage disabled for a given region was computed by applying percentage disabled by age and sex for that region to the age and sex structure of the same standard population. The 2002 population of Whole Tanzania by age and sex was used as standard population.

As observed in Table 4.10, there were substantial variations in the percentage disabled among regions. The percentage disabled (standardized) ranged from 2.7 percent in Kigoma Region as highest to 1.2 percent in Rukwa and Dar es Salaam Regions as lowest. By sex, variations were greater for males than for females. For males the percentage ranged from 3.0 percent in Kigoma and Mtwara Regions to 1.3 percent in Rukwa and Dar es Salaam Regions, while it ranged from 2.3 percent in Kigoma Region to 1.0 percent in Rukwa Region.

Table 4.10 Percentage of Population with Disability by Sex, by Region: 2002 (%)

Region	Percentage disabled			Standardized percentage disabled [a]		
	Total	Male	Female	Total	Male	Female
Tanzania	2.0	2.2	1.7	2.0	2.2	1.7
Tanzania Mainland	2.0	2.2	1.7	2.0	2.2	1.7
Dodoma	2.3	2.5	2.1	2.2	2.4	2.0
Arusha	1.3	1.5	1.1	1.4	1.6	1.2
Kilimanjaro	1.6	1.8	1.3	1.5	1.7	1.2
Tanga	1.5	1.8	1.3	1.5	1.7	1.3
Morogoro	2.5	2.8	2.2	2.4	2.7	2.2
Pwani	2.6	2.8	2.3	2.2	2.4	2.0
Dar es Salaam	1.1	1.2	1.0	1.2	1.3	1.1
Lindi	2.4	2.7	2.1	2.1	2.3	1.9
Mtwara	3.0	3.4	2.6	2.6	3.0	2.2
Ruvuma	2.4	2.8	2.1	2.4	2.8	2.1
Iringa	2.3	2.5	2.2	2.3	2.6	2.1
Mbeya	1.3	1.5	1.1	1.3	1.5	1.1
Singida	2.6	2.8	2.4	2.5	2.8	2.3
Tabora	1.6	1.9	1.4	1.7	1.9	1.5
Rukwa	1.1	1.3	1.0	1.2	1.3	1.0
Kigoma	2.5	2.8	2.2	2.7	3.0	2.3
Shinyanga	1.9	2.1	1.7	2.0	2.3	1.8
Kagera	2.4	2.9	2.0	2.5	3.0	2.1
Mwanza	2.0	2.3	1.8	2.1	2.4	1.9
Mara	2.4	2.7	2.0	2.5	2.9	2.1
Manyara	2.1	2.4	1.8	2.1	2.4	1.9
Tanzania Zanzibar	1.5	1.6	1.3	1.5	1.6	1.3
North Unguja	1.8	1.8	1.7	1.8	1.8	1.7
South Unguja	1.6	1.7	1.5	1.5	1.6	1.5
Urban West	1.4	1.6	1.3	1.5	1.6	1.3
North Pemba	1.3	1.4	1.1	1.3	1.5	1.2
South Pemba	1.5	1.7	1.3	1.5	1.7	1.3

Source: Computed from the United Republic of Tanzania 2002 Population and Housing Census.
(a) Standardized percentage was computed by using the 2002 population of the whole Tanzania by age and sex as standard population.

4.6 Summary

Of the total population of 34.4 millions, 677 thousands or 2.0 percent were reported to have disability. Nearly half of the total disabled persons were physically impaired (48 percent). The type of disability that accounted for the second largest share was ‘intellectually impaired” (16 percent). This was followed by “multiple impaired” (16 percent), “multiple impaired” (13 percent) and “dumb/hearing impaired” (13 percent).

There were differences in the patterns of type of disability between age groups. While “physically impaired” had the largest share in the disabled persons in all age groups, the type of disability that had the second largest share after “physically impaired” was “dumb/hearing impaired” in the younger ages, “intellectually impaired” in the working ages, and “visually impaired” in the older ages.

A question on disability was included in the census questionnaire for the first time in the 2002 population and housing census. Though with limitations, data on disability derived from the census will serve a purpose of social security planning for disabled persons who need assistance.

CHAPTER 5: LITERACY AND EDUCATION

5.1 Introduction

Provision of quality education is central to achieving socio-economic development in any country. It increases the productive capability of a nation by building capacity of its people to understand, manage and harness the environment through increased knowledge and adoption of science and technology in the process of production. Education is also a tool for achieving social change and modernization.

In the Tanzania Development Vision 2025 it is envisaged to have a well educated society sufficiently equipped with the knowledge needed to solve the development challenges, which face the nation. To achieve this goal emphasis must be put on offering quality formal education and training while literacy education must continue for those who cannot be taken on board.

So far considerable efforts have been made to eradicate illiteracy and to expand formal education at all levels. According to data available with the Ministry of Education and Culture (MOEC), the enrolment ratio has increased considerably in recent years, mostly as a result of the implementation of the Primary Education Development Plan (PEDP) launched in 2001 aiming at achieving universal primary education. Primary school age going children have also increased substantially. The primary school enrolment in Tanzania Mainland has grown from 3,379,000 pupils in 1990 to 6,562,772 in 2003, an increase of 94 percent. Likewise secondary school enrolment has increased from 180,899 in 1990 to 345,441 in 2003, an increase of 91 percent. There were 3 technical colleges and 2,223 were enrolled in 2003. The number of Universities also increased substantially from two in 1990 to 12 in 2002. The number of undergraduate students enrolled was 17,602 in 2002. In Tanzania Zanzibar, there were 195 primary schools and 35 secondary schools, and the number of pupils enrolled was 184,382 and 42,160, respectively in 2002.[3]

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Data from censuses provide vital information on literacy and educational achievements of the country at national and sub-national levels. The 2002 census provides detailed data on literacy levels by language type, school attendance status and education attainment. The data will enable us determine the current literacy and education levels and differentials in the country and also trends by comparing them with data from previous censuses. Data is analysed both on population aged 5 and above and 10 years and above. All data is based on census sample and therefore subject to sampling errors.

5.2 Literacy Level

5.2.1 General Trends

In censuses a person is recorded literate if he or she is able to read and write a simple statement. In the 2002 census respondents were asked to state whether they could read and write in Kiswahili, English, both Kiswahili and English and any other language. In the previous censuses respondents were only asked if they could read and write in Kiswahili. In this case those who could read and write in other languages (such as English) but could not do so in Kiswahili were recorded as illiterate. The consideration of all languages gives us a clearer picture of the level of literacy in the country.

Some weaknesses are, however, inherent in the method used in censuses to measure literacy. A respondent who declares to be literate is simply considered so without verification. Some institutions such as the Tanzania Mainland Ministry of Education and Culture do verify by testing the literacy of

[3] The Ministry of Education and Culture: *The United Republic of Tanzania Basic Statistics in Education, National Data*.

learners but in censuses it is not easy to do so because of the huge number of persons involved and the cost and time constraints.

All questions on literacy were asked to all persons aged 5 years and over, the analysis here has focused more on population aged 10 years and over partly because it is a more appropriate age group for literacy analysis and in order to allow comparison with data from the previous censuses which considered the same age range. Data on literacy rates for population aged 5 years and over has also been included for easy reference by interested users.

Table 5.1 shows that the literacy rate for Tanzania Mainland is 70.4 percent while that of Tanzania Zanzibar is 73.4 percent giving a rate of 70.5 percent for the whole of Tanzania. The level of literacy for Tanzania Zanzibar is a little higher (by 3 percent points) than that of Tanzania Mainland.

Table 5.1 Literacy Rates of Population Aged 10 Years and Over by Sex: 2002 (%)

Area	Both sexes	Male	Female
Total Tanzania	70.5	77.0	64.6
Tanzania Mainland	70.4	76.9	64.5
Tanzania Zanzibar	73.4	79.3	68.1

Source: The United Republic of Tanzania 2002 Population and Housing Census

When the population aged 5 years and above is considered the literacy level becomes 61.1 percent for Tanzania Total, 61.0 percent for Tanzania Mainland, and 63.6 percent for Tanzania Zanzibar.

There was a substantial gap in literacy rates between males and females. The female literacy rate is 12.4 percent points lower than the male rate for Tanzania as a whole and Tanzania Mainland. In Tanzania Zanzibar the difference is 11.3 percent points. In normal situations, especially in developing countries, literacy rates for females are normally lower than those of males but the gap can be minimized if efforts are made.

Table 5.2 Literacy Rates of Population Aged 10 Years and Over: 1978, 1988 and 2002 (%)

Area	Kiswahili			Different languages
	1978	1988	2002	2002
Total Tanzania			69.8	70.5
Tanzania Mainland	51.5	61.2	69.8	70.4
Tanzania Zanzibar	46.3	58.8	72.5	73.4

Source: The United Republic of Tanzania Population and Housing Censuses of 1978, 1988 and 2002.

Table 5.2 presents a comparison of literacy rates of persons aged 10 years and over for 2002 with 1978 and 1988. It is clearly seen that the literacy levels of both Tanzania Mainland and Tanzania Zanzibar have been increasing substantially. Literacy rate for Tanzania Mainland has increased from 51.5 percent in 1978 to 70.4 percent in 2002, an increase of 18.9 percent points, and that of Tanzania Zanzibar from 46.3 percent to 73.4 percent, an increase of 27.1 percent points. A range of improvements in literacy level was bigger in Tanzania Zanzibar than in Tanzania Mainland. As a result, the literacy rate for Tanzania Zanzibar, which in 1978 was lower than that of Tanzania Mainland (46.3 and 51.5 percent respectively), has experienced a more rapid increase and has, in 2002, surpassed that of Tanzania Mainland by three percent points (73.4 against 70.4 percent respectively).

5.2.2 Literacy Level by Age and Sex

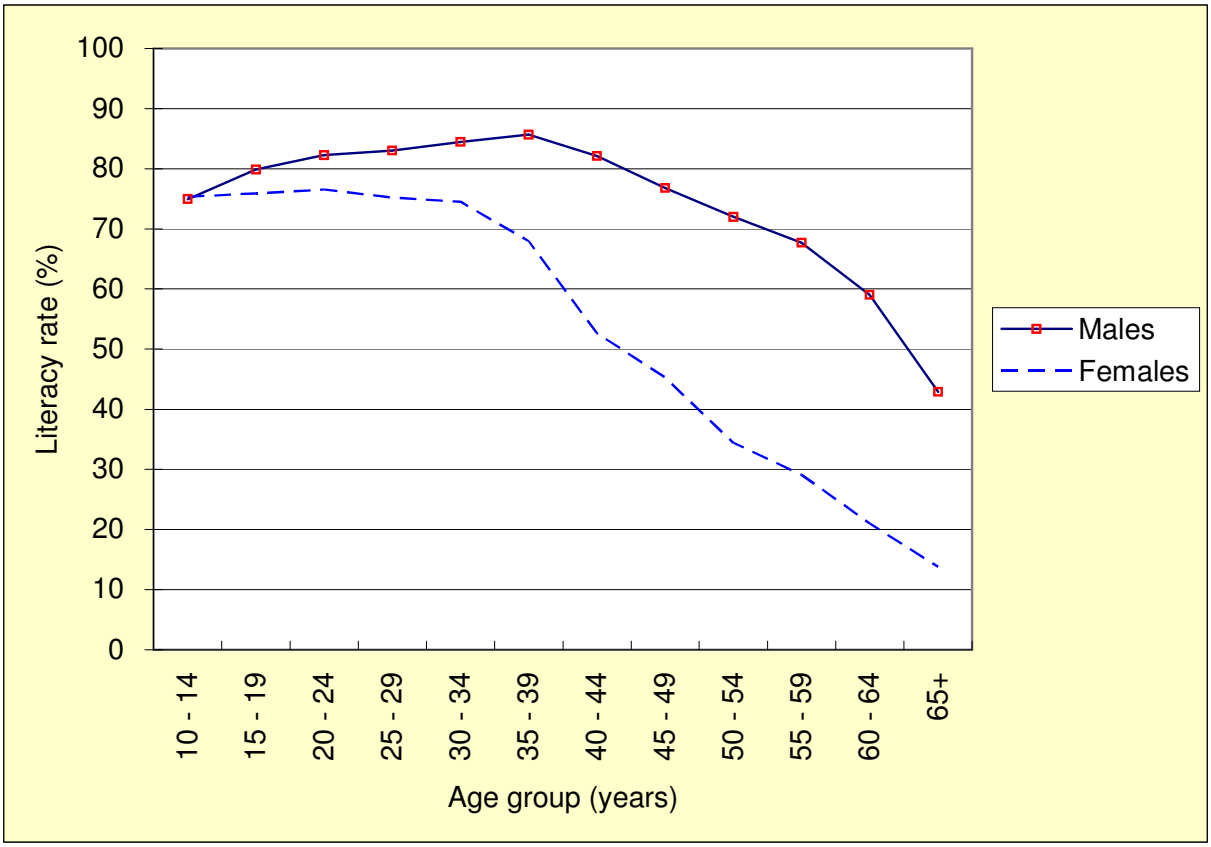
Table 5.3 shows literacy rates by five-year age groups and sex for Tanzania, Tanzania Mainland and Tanzania Zanzibar. Literacy rates by sex for Tanzania in 2002 are shown in Figure 5.1.

Table 5.3 Literacy Rates of Population Aged 10 Years and Over, by Age and Sex: 2002 (%)

Age	Tanzania Total			Tanzania Mainland			Tanzania Zanzibar		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Total, 10+	70.5	77.0	64.6	70.4	76.9	64.5	73.4	79.3	68.1
10 - 14	75.1	74.9	75.3	74.9	74.7	75.1	82.7	81.6	83.8
15 - 19	77.8	79.9	75.9	77.5	79.6	75.6	87.2	89.0	85.5
20 - 24	79.0	82.3	76.5	78.9	82.1	76.4	83.1	87.5	79.6
25 - 29	78.8	83.0	75.2	78.8	83.0	75.3	78.3	83.9	73.5
30 - 34	79.3	84.5	74.5	79.4	84.5	74.6	77.0	83.3	71.8
35 - 39	76.6	85.7	67.9	76.7	85.7	68.1	73.1	83.3	64.0
40 - 44	67.1	82.1	52.6	67.2	82.2	52.6	65.6	78.7	53.1
45 - 49	60.5	76.8	45.3	60.5	76.9	45.3	59.4	71.9	46.1
50 - 54	52.0	72.0	34.4	52.2	72.1	34.6	45.3	66.0	26.9
55 - 59	47.9	67.7	29.1	48.0	67.9	29.2	42.4	59.7	22.6
60 - 64	39.1	59.0	21.0	39.4	59.4	21.2	29.8	46.8	13.9
65 & over	27.8	42.9	13.8	27.9	43.1	13.9	21.4	34.4	9.2

Source: The United Republic of Tanzania 2002 Population and Housing Census

Figure 5. 1 Literacy rates by sex: 2002



Literacy rates are highest (over 70 percent) among the younger age groups (10-39 years of age) and decrease with age. The rates are below 30 percent for ages 65 years and over. The expansion of primary education in recent years is the cause of higher literacy rates among the younger age groups. Throughout the age span the literacy rates of females are lower than those of males, except the age group 10-14 years. In this age group, the female literacy rate is slightly higher than the male rate. The gap between male and female in literacy rates is relatively narrow in the young age groups. This is perhaps due to achievement of equal participation among sexes in primary education. The gap between the two sexes is substantial in older age groups.

5.2.3 Literacy Level by Language

In the 2002 census it was sought to measure literacy in various languages spoken in Tanzania. Kiswahili and English are the most common local and foreign languages spoken in Tanzania. Table 5.4 shows that 59.5 percent of population aged 10 years and over is literate in Kiswahili only, 0.5 percent in English only, 10.3 percent in both English and Kiswahili and 0.2 percent in other languages. For Tanzania Mainland, a trend is similar to this, and respective figures are 60.1, 0.4, 9.7 and 0.2 percent. Respective figures for Tanzania Zanzibar are 41.1, 0.6, 31.5 and 0.3 percent. Although the overall literacy rate for Tanzania Mainland and Tanzania Zanzibar are not much different (70.4 and 73.4 percent respectively), there is a big difference in literacy rates by language type. Table 5.4 shows that Tanzania Zanzibar has by far a much bigger proportion of population (31.5 percent) literate in both Kiswahili and English as compared to Tanzania Mainland (9.7 percent). This means that Tanzania Zanzibar has both a higher literacy rate and a bigger proportion of people who can speak and write in both Kiswahili and English.

Table 5.4 Literacy Rates of Population Aged 10 Years and Over, by Language: 2002 (%)

	Total literate	Kiswahili only	English only	Both English and Kiswahili	Other language(s) only
Total Tanzania	70.5	59.5	0.5	10.3	0.2
Tanzania Mainland	70.4	60.1	0.4	9.7	0.2
Tanzania Zanzibar	73.4	41.1	0.6	31.5	0.3

Source: The United Republic of Tanzania 2002 Population and Housing Census

5.2.4 Rural-Urban Differentials in Literacy Level

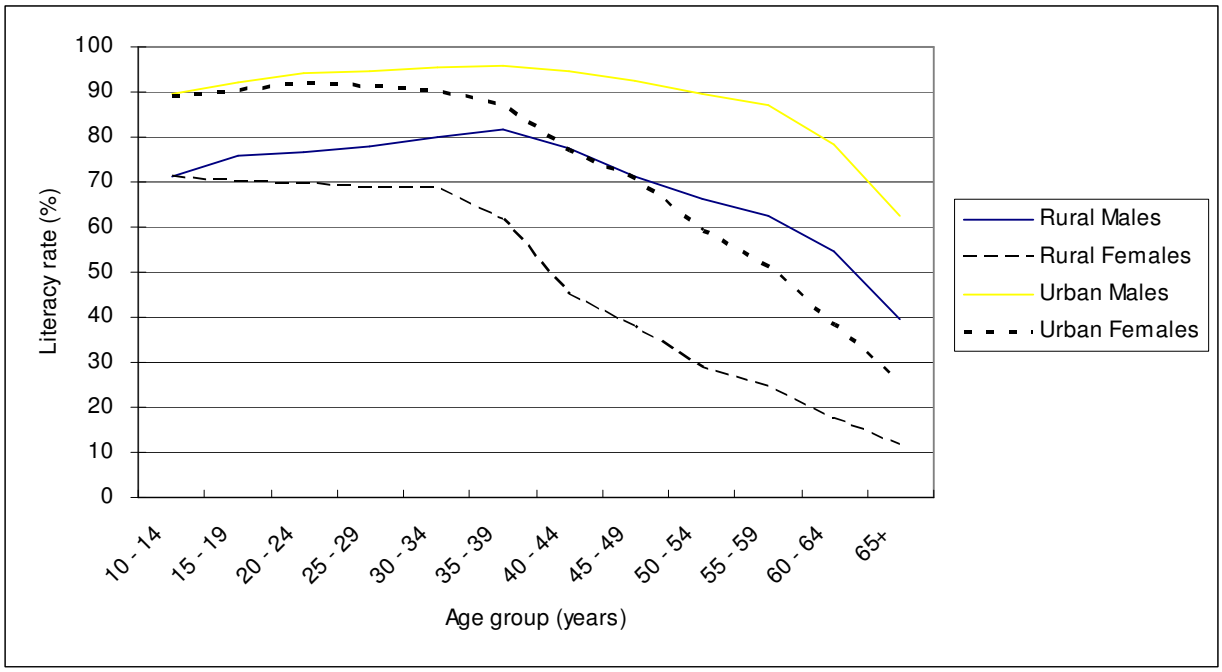
Table 5.5 and Figure 5.2 present the literacy rates by age and sex for rural and urban areas of whole Tanzania. The literacy rate is higher in the urban areas than in the rural areas in all ages. The difference in literacy rates between the rural and urban areas is substantial. The rate

Table 5.5 Literacy Rates of Population 10 Years of Age and Over, by Age and Sex, by Rural-Urban Areas: 2002 (%)

Age	Rural			Urban		
	Both sexes	Male	Female	Both sexes	Male	Female
Total, 10+	64.7	72.0	58.1	87.8	91.8	84.0
10 - 14	71.3	71.2	71.4	89.4	89.7	89.2
15 - 19	73.0	75.8	70.1	91.3	92.2	90.6
20 - 24	72.8	76.8	69.8	92.9	94.1	92.0
25 - 29	72.8	77.8	68.6	92.9	94.7	91.3
30 - 34	73.9	79.8	68.6	93.0	95.3	90.6
35 - 39	71.2	81.7	61.5	91.5	95.7	86.9
40 - 44	60.6	77.5	45.1	86.3	94.4	77.2
45 - 49	53.6	71.2	38.1	82.2	92.6	70.7
50 - 54	45.7	66.4	28.7	75.2	89.5	59.1
55 - 59	42.6	62.5	24.6	70.7	87.1	51.2
60 - 64	35.1	54.8	17.6	58.5	78.5	38.4
65+	25.3	39.8	11.6	42.0	62.6	25.6

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Figure 5. 2 Literacy rates by age, by rural – urban areas: 2002



is 64.7 percent in the rural areas as against 87.8 percent in the urban areas. There is also a major differential in the literacy level between the sexes in both the rural and urban areas. In the urban areas, the literacy rate is 91.8 percent for male and 84.0 percent for female. In the rural areas, the rate is 72.0 percent for male and 58.1 percent for female, which is much lower than that in the urban areas. In both the rural and urban areas, the literacy rate for male is higher than female throughout the age span. The difference between the sexes is relatively small in age groups 10 to 34 years. In older age groups, a gap is wider. In the urban areas, the literacy rate is 62.6 percent for male and 25.6 percent for female in the age group 65 years and over. In the rural areas, it is 39.8 and 11.6 percent for male and female respectively.

5.2.5 Regional Differentials of Literacy Level

Table 5.6 presents literacy rates of population 10 years of age and over by region for 1978, 1988 and 2002. There were substantial improvements in the literacy of the population throughout all regions between 1978 and 2002. However, there are big variations in literacy level between regions. Dar es Salaam Region has the highest literacy rate of 90.9 percent followed by Kilimanjaro (89.5 percent) and Urban West (87.0 percent). The region with lowest rate is Tabora (54.3 percent) followed by North Pemba (56.7 percent) and Shinyanga (58.5 percent).

Literacy rates of population 10 years of age and over by language, by region are given in Table 5.7. On literacy rate by language type Kilimanjaro Region has the highest percentage of people who are literate in Kiswahili only (72.1 percent) compared to only 48.6 percent in Tabora on Tanzania Mainland. The region with the highest rate for both Kiswahili and English is Dar es Salaam (23.9 percent) and the lowest are Mtwara and Lindi (both 3.7 percent). In Tanzania Zanzibar, Urban West has the highest rate (43.0 percent) of population literate in both Kiswahili and English, followed by South Unguja (29.7 percent) and North Unguja (24.3 percent).

Table 5.6 Literacy Rates of Population Aged 10 Years and Over, by Region: 1978, 1988 and 2002 (%)

Region	Percentage literate				Rank		
	Kiswahili language			Different language			
	1978	1988	2002	2002	1978	1988	2002
Total Tanzania			69.8	70.5			
Tanzania Mainland	51.5	61.2	69.8	70.4			
Dodoma	49.5	55.5	63.9	64.4	12	17	16
Arusha	41.9	58.1	72.6	73.4	20	13	9
Kilimaniaro	74.1	80.8	88.9	89.5	1	1	2
Tanga	60.6	66.0	73.9	74.6	5	7	8
Morogoro	58.6	62.8	70.2	70.7	6	9	11
Pwani	44.0	51.1	59.4	60.2	18	20	23
Dar es Salaam	73.3	80.7	89.4	90.9	2	2	1
Lindi	48.4	53.8	59.7	60.2	15	19	22
Mtwara	51.4	57.1	61.7	62.1	11	16	19
Ruvuma	66.3	70.5	76.6	77.0	3	4	6
Iringa	54.0	68.3	78.9	79.5	8	5	5
Mbeya	49.2	61.9	71.5	72.0	13	10	10
Singida	46.7	57.4	68.8	69.5	16	14	13
Tabora	40.5	50.5	53.8	54.3	21	21	26
Rukwa	48.5	58.6	61.2	61.6	14	12	20
Kigoma	43.7	55.1	65.2	65.7	19	18	15
Shinyanga	33.2	48.3	58.1	58.5	24	23	24
Kagera	52.9	59.5	66.9	68.3	9	11	14
Mwanza	44.3	57.3	69.0	69.5	17	15	12
Mara	56.4	63.9	74.6	75.3	7	8	7
Manyara	n.a.	n.a.	63.1	63.4	n.a.	n.a.	18
Tanzania Zanzibar	46.3	58.8	71.5	73.4			
North Unguja	30.8	40.6	60.3	60.8	25	25	21
South Unguja	63.2	78.2	85.9	87.0	4	3	3
Urban/West	51.8	66.7	80.6	81.2	10	6	4
North Pemba	35.5	41.5	55.8	56.7	23	24	25
South Pemba	40.3	50.5	63.2	64.1	22	21	17

Source: The United Republic of Tanzania 2002 Population and Housing Census

Table 5.7 Literacy Rates of Population 10 Years of Age and Over by Language, by Region: 2002

(%)

Region	Total literate	Kiswahili only	English only	Kiswahili & English	Other language
Total Tanzania					
Tanzania Mainland	70.4	60.1	0.4	9.7	0.2
Dodoma	64.4	56.0	0.2	8.0	0.2
Arusha	73.4	57.1	0.7	15.5	0.1
Kilimanjaro	89.5	72.1	0.5	16.8	0.1
Tanga	74.6	64.0	0.5	9.9	0.2
Morogoro	70.7	61.8	0.4	8.5	0.1
Pwani	60.2	52.7	0.3	6.7	0.4
Dar es Salaam	90.9	65.5	1.1	23.9	0.3
Lindi	60.2	56.0	0.2	3.7	0.3
Mtwara	62.0	57.9	0.2	3.7	0.3
Ruvuma	77.0	70.3	0.3	6.3	0.1
Iringa	79.5	68.1	0.5	10.8	0.2
Mbeya	72.0	59.7	0.4	11.8	0.1
Singida	69.5	59.0	0.6	9.7	0.1
Tabora	54.3	48.6	0.3	5.2	0.2
Rukwa	61.6	56.7	0.3	4.5	0.1
Kigoma	65.7	59.9	0.2	5.3	0.3
Shinyanga	58.5	53.2	0.3	4.9	0.1
Kagera	68.3	61.0	0.4	5.9	1.0
Mwanza	69.5	59.7	0.4	9.3	0.1
Mara	75.3	62.9	0.6	11.7	0.1
Manyara	63.4	57.0	0.3	6.1	0.1
Tanzania Zanzibar	73.4	41.1	0.6	31.5	0.3
North Unguja	60.8	36.1	0.3	24.3	0.1
South Unguja	81.2	50.9	0.4	29.7	0.2
Urban/West	87.0	42.9	0.7	43.0	0.4
North Pemba	56.7	35.6	0.6	20.2	0.4
South Pemba	64.1	40.6	0.7	22.6	0.2

Source: The United Republic of Tanzania 2002 Population and Housing Census

5.3 School Attendance

5.3.1 Types of School

The structure of the educational system in Tanzania is as follows:

Level	Duration	Entrance age
Pre-primary education	2 years	5
Primary education	7 years	7
Lower secondary education	4 years	14
Upper secondary education	2 years	18
University education	3 or more years	20 and over

Pre-primary schools provide a 2 year course for children aged 5 and 6 years.

The age of entry into primary school is 7 years, and schools provide a 7-year course of primary education from Standard 1 to Standard 7. The primary education is compulsory.

There are two levels of secondary education: lower and upper secondary education. The lower secondary schools provide a 4-year course from Form 1 to Form 4 for pupils aged 14 to 17 years. The upper secondary schools provide a 2-year course, Form 5 and Form 6 for pupils aged 18 to 19 years.

Universities provide an undergraduate course for 3 or more years. The normal entry age into university education is 20 years and above. Besides universities, there are technical colleges providing post-secondary education.

Two questions on education were asked in the 2002 census for all persons aged 5 years and over on a sample basis in the long questionnaire. The first of the two relates to school attendance. School attendance status was classified into 4 categories:

Now attending,
Partly attended,
Completed, and
Never attended.

If the answer to the first question was attending, partly attended, or completed, the second question on educational attainment was asked. Categories of level of educational attainment are:

Under Standard 1 (pre-primary level),
Standard 1 to Standard 8 by grade (primary education level),
Training after primary education,
Pre-Form 1
Form 1 to Form 6 by grade (secondary education level),
Training after secondary education,
University and other related.

Standard 8 in primary education is a grade in the old education system.

5.3.2 School Attendance by Age and Sex

(1) School Attendance Status

The school attendance status of population aged 5 years and over by age groups was presented in Table 5.8 below. Age brackets shown in the table are the normal school ages corresponding to the levels of education: 5 - 6 years, 7 - 13 years, 14 - 17 years, 18 - 19 years and 20 - 24 years correspond to pre-primary school, primary school, lower secondary school, higher secondary school and university levels respectively.

Table 5.8 School Attendance Status of Persons Aged 5 Years and Over by Age Groups: 2002 (%)

Area and age	Total	Never attended	Attending school	Having attended	
				Dropped out	Completed
Tanzania total					
Total, 5 and over	100.0	32.8	24.5	8.9	33.8
5 - 6	100.0	82.1	17.3	0.1	0.4
7 - 13	100.0	29.0	69.1	1.0	0.9
14 - 17	100.0	18.4	55.7	8.1	17.8
18 - 19	100.0	21.0	16.4	13.6	48.9
20 - 24	100.0	19.0	4.1	13.8	63.1
25 and over	100.0	34.3	0.6	13.2	51.9
Tanzania Mainland					
Total, 5 and over	100.0	32.8	24.4	8.7	34.2
5 - 6	100.0	82.0	17.4	0.1	0.4
7 - 13	100.0	29.1	69.0	1.0	0.9
14 - 17	100.0	18.7	55.0	8.0	18.3
18 - 19	100.0	21.3	15.4	13.3	50.1
20 - 24	100.0	19.1	3.8	13.3	63.8
25 and over	100.0	34.2	0.6	12.8	52.4
Tanzania Zanzibar					
Total, 5 and over	100.0	32.0	30.7	17.1	20.2
5 - 6	100.0	85.4	14.4	0.1	0.0
7 - 13	100.0	27.0	71.4	1.5	0.2
14 - 17	100.0	9.4	78.0	10.3	2.3
18 - 19	100.0	13.1	46.8	23.9	16.2
20 - 24	100.0	15.3	13.3	30.3	41.1
25 and over	100.0	38.0	0.7	26.5	34.8

Source: The United Republic of Tanzania 2002 Population and Housing Census.

About one-third of persons aged 5 years and over has never attended school (32.8 percent). About one quarter (24.5 percent) is currently attending school, about one-third (33.8 percent) has completed school education and the remaining 8.9 percent dropped out. A similar pattern is observed for Tanzania Mainland. However, for Tanzania Zanzibar, while the percentage of persons aged 5 years and over who have never attended school was more or less at the same level as Tanzania Mainland, the percentage attending school was higher in Zanzibar (30.7 percent) than in Mainland (24.4 percent). This is due to the fact that percentages of persons in age groups corresponding to the normal school age of the secondary school and the university levels were relatively high in Tanzania Zanzibar as compared with Tanzania Mainland.

(2) Attending School

Data on the percentage of persons attending school, by single years of age (5～24 years) and by sex for Whole Tanzania are shown in Table 5.9 and Figure 5.3 below. The rate of school attendance increased between ages 5 years and 11 years, and thereafter decline continued. At its peak, the rate of school attendance was over 80 percent at ages 11 and 12 years. After 16 years of age, the attendance rate declined significantly, and by age 20 years only less than 10 percent of persons was still attending school. By sex, the attendance rate for female surpassed that for male at lower ages between 5 years and 10 years, but after 10 years the attendance rate for male surpassed that for female.

Table 5.9 Percentage of Persons Attending School, by Single Years of Age (5-24 years) and by Sex: 2002 (%)

	Both sexes	Male	Female
Total, 5-24	24.5	26.1	23.1
5	14.5	14.3	14.7
6	20.1	19.3	20.8
7	41.6	39.7	43.5
8	59.5	57.3	61.7
9	71.7	69.8	73.6
10	76.1	75.3	77.0
11	81.9	82.3	81.6
12	80.8	81.2	80.5
13	78.8	80.1	77.5
14	73.6	75.9	71.3
15	61.5	64.4	58.5
16	49.1	54.3	43.9
17	33.1	38.5	27.6
18	18.7	24.2	13.7
19	13.1	18.9	8.4
20	6.2	9.8	3.6
21	5.3	8.1	3.2
22	3.3	5.0	2.0
23	2.6	3.9	1.6
24	1.9	2.5	1.4

Source: The United Republic of 2002 Tanzania Population and Housing Census.

The percentage of persons aged 5 years and over attending school, by age and sex, by area is given in Table 5.10. It is clear from the table that very few children of ages 5-6 years (17.3 percent in Whole Tanzania, 17.4 percent in Tanzania Mainland and 14.4 percent in Tanzania Zanzibar) were attending school depicting low access of children to pre-primary education.

The level of school attendance for the primary school age group (7- 13 years), according to the census data, was 69.1 percent for the whole country, 69.0 percent for Tanzania Mainland and 71.4 percent for Tanzania Zanzibar showing a bit higher attendance rate for Tanzania Zanzibar. The school attendance rate for secondary education age groups (14-17 and 18-19 years) are 55.7 and 16.4 percent for the whole country, 55.0 and 15.4 percent for Tanzania Mainland and 78.0 and 46.8 percent for Tanzania Zanzibar respectively, indicating a significantly higher level of attendance for Tanzania Zanzibar than Tanzania Mainland. Similarly Tanzania Zanzibar had a considerably higher level of school attendance for the age group 20-24 years: 13.3 percent for Tanzania Zanzibar as compared to 3.8 percent for Tanzania Mainland. These apply to both males and females.

Figure 5.3 Percentage of Persons Attending Schools, by Single Years of Age (5-24 years) and by Sex: 2002

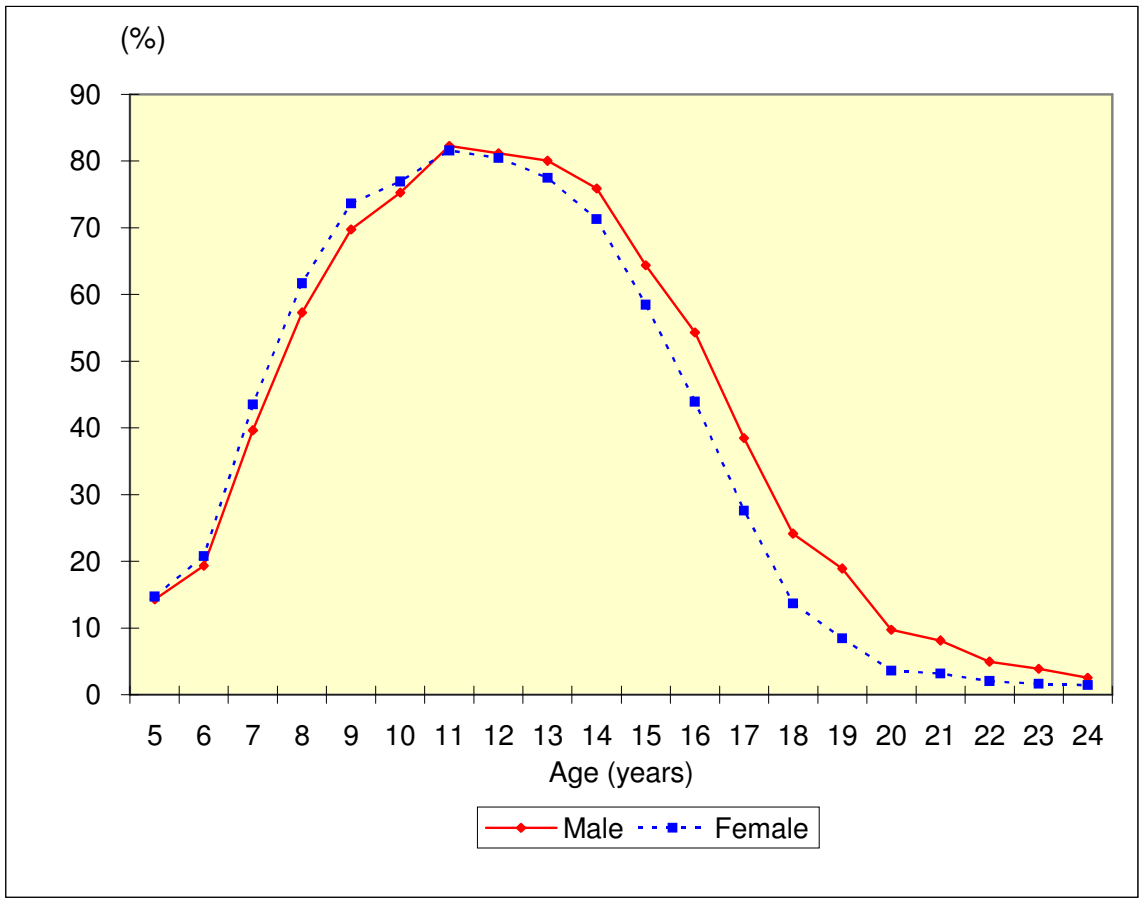


Table 5.10 Percentage of Persons Aged 5 Years and Over Attending School by Age and Sex: 2002 (%)

Age	Tanzania Total			Tanzania Mainland			Tanzania Zanzibar		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Total, 5+	24.5	26.1	23.1	24.4	25.9	22.9	30.7	32.2	29.3
5-6	17.3	16.9	17.8	17.4	16.9	17.9	14.4	13.9	15.0
7-13	69.1	68.3	69.9	69.0	68.3	69.8	71.4	69.5	73.4
14-17	55.7	59.5	51.8	55.0	58.9	51.1	78.0	80.2	76.0
18-19	16.4	22.1	11.5	15.4	21.0	10.5	46.8	54.8	40.0
20-24	4.1	6.2	2.5	3.8	5.8	2.3	13.3	18.9	8.7
25+	0.6	0.7	0.5	0.6	0.7	0.5	0.7	0.9	0.6

Source: The United Republic of Tanzania 2002 Population and Housing Census.

There was no significant difference in the percentage attending school between male and female for the lower age groups 5-6 years and 7-13 years corresponding to the normal school age for pre-primary and primary school levels respectively, the female rate being slightly higher than the male rate. However, for age groups 14-17, 18-19 and 20-24 years: the normal school ages for secondary education and higher levels, the percentage attending school of males was significantly higher than that of female. Predominance of the attendance rate in these age groups for male over that for female increases according to age. A similar tendency was observed in both Tanzania Mainland and Tanzania Zanzibar.

There was a considerable overlap in the ages of those attending primary, lower and upper secondary schools. Table 5.11 shows under-age and over-age pupils in the primary and secondary schools, and Table 5.12 shows school attendance of persons in age groups 7-13 years, 14-17 years and 18-19 years by level of education. If age groups 7-13 years, 14-17 years and 18-19 years were regarded as the normal primary, lower secondary and upper secondary school age groups respectively, the percentage of over-age pupils was 24.9 percent in the primary, 57.1 percent in the lower secondary and 85.0 percent in the upper secondary schools (see Table 5.11). Hence, of those aged 14-17 years attending school, only about 10 percent attended lower secondary schools, while about 90 percent attended primary schools. In age group 18-19 years, about 34 percent of those attending school attended primary, 62 percent lower secondary, and only 2 percent upper secondary schools. Of those aged 20-24 years attending school, about 91 percent and 7 percent attended lower and upper secondary schools (see Table 5.12)

Table 5.11 Under-age and Over-age Pupils in the Primary and Secondary Schools: 2002

	Number (1,000)	Percentage
Primary, total attending	6,061.5	100.0
Age below 7 years	84.6	1.4
Age 7-13 years	4,459.1	73.7
Age 14-18 years	1,509.3	24.9
Lower secondary, total attending	365.3	100.0
Age 14-17 years	156.3	42.9
Age 18-22 years	208.3	57.1
Upper secondary, total attending	31.6	100.0
Age 18-19 years	4.5	14.5
Age 20-24 years	26.9	85.0

Note: Percentages do not add up to 100.0 because the data for higher ages were not shown in the table.
Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 5.12 School Attendance in Age Groups 14-17 Years, 18-19 Years and 20-24 Years, by Level of Education: 2002

	Level of education			
	Total, attending	Primary	Lower secondary	Upper secondary
Number (1,000)				
Age 14-17 years	1,602.8	1,437.1	156.3	-
Age 18-19 years	212.8	72.2	132.1	4.5
Age 20-24 years	121.6	-	110.3	8.3
Percentage				
Age 14-17 years	100.0	89.7	9.8	-
Age 18-19 years	100.0	33.9	62.1	2.1
Age 20-24 years	100.0	-	90.8	6.8

Note: Percentages do not add up to 100.0, because the types of school other than those shown in the table were not included in the table.

Source: The United Republic of Tanzania 2002 Population and Housing Census.

The percentage attending school, by age, by rural and urban areas is presented in Table 5.13. As seen from data in the table, the school attendance rate in the rural areas was significantly lower than that in the urban areas in all age groups from 5 years to 25 years, except in the age group 14-17 years for

Tanzania Mainland. The attendance rate in the age group 14-17 years in the rural areas of Mainland was in the same level as that of the urban areas.

It will be noted that the attendance rate in the age group 7-13 years corresponding to the normal school age for primary school in rural areas was much lower than that in urban areas: 65.4 percent in rural areas as against 83.7 percent in urban areas. The situation was similar in both Tanzania Mainland and Tanzania Zanzibar. It will be also noted that the attendance rate in the age groups 14-17 years, 18-19 years and 20-24 years for Tanzania Zanzibar was significantly higher than that for Tanzania Mainland in both rural and rural areas.

Table 5.13 Percentage of Persons aged 5 Years and Over Attending School, by Age and Sex, by Rural and Urban Areas: 2002

(%)

Age	Tanzania Total			Tanzania Mainland			Tanzania Zanzibar		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Total, 5+	24.5	23.8	26.7	24.4	23.7	26.4	30.7	29.3	32.9
5-6	17.3	14.1	31.3	17.4	14.2	31.7	14.4	7.5	26.0
7-13	69.1	65.4	83.7	69.0	65.4	83.7	71.4	65.2	82.7
14-17	55.7	55.5	56.3	55.0	55.1	54.9	78.0	74.9	83.1
18-19	16.4	14.2	21.9	15.4	13.4	20.5	46.8	44.6	49.8
20-24	4.1	2.7	7.1	3.8	2.5	6.7	13.3	11.4	15.3
25+	0.6	0.5	1.0	0.6	0.5	1.0	0.7	0.5	1.1

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 5.14 Percentage of Persons Attending School, by Age (5-24 years) and Sex: 1988 and 2002

(%)

Age and sex	Tanzania		Mainland		Zanzibar	
	1988	2002	1988	2002	1988	2002
Both sexes						
5-6	1.2	17.3	1.1	17.4	3.6	14.4
7-13	47.6	69.1	47.3	69.0	56.8	71.4
14-17	49.8	55.7	49.7	55.0	52.6	78.0
18-19	10.4	16.4	11.7	15.4	19.7	46.8
20-24	2.4	4.1	2.3	3.8	3.5	13.3
Male						
5-6	1.1	16.9	1.0	16.9	3.4	13.9
7-13	45.5	68.3	45.2	68.3	57.0	69.5
14-17	53.1	59.5	53.1	58.9	55.0	80.2
18-19	14.1	22.1	13.7	21.0	26.0	54.8
20-24	3.7	6.2	3.6	5.8	5.7	18.9
Female						
5-6	1.3	17.8	1.2	17.9	3.7	15.0
7-13	49.6	69.9	49.4	69.8	56.7	73.4
14-17	46.5	51.8	46.4	51.1	50.3	76.0
18-19	7.2	11.5	9.4	10.5	14.5	40.0
20-24	1.4	2.5	1.4	2.3	1.9	8.7

Source: The United Republic of Tanzania Population and Housing Censuses of 1988 and 2002.

The percentage attending school by age groups in 2002 is compared with that in 1988 in Table 5.14 and Table 5.14. There was a substantial increase in the percentage of population attending school in all age groups for both Tanzania Mainland and Tanzania Zanzibar during the period of 14 years from 1988 to 2002. This is due to the rapid expansion of education in the recent years.

At a national level, the percentage attending school increased from 1.7 percent to 17.3 percent for the pre-primary school age group 5-6 years during the period 1988-2002; 47.6 percent to 69.1 percent for the primary school age group 7-13 years; 49.8 percent to 55.7 percent for the lower secondary school age group 14-17 years; 10.4 percent to 16.4 percent for the upper secondary school age group 18-19 years; and 2.7 percent to 7.1 percent for the university education age group 20-24 years during the same period. The improvement of school attendance rates during this period was more remarkable in Tanzania Zanzibar than in Tanzania Mainland for age groups 14-17 years, 18-19 years and 20-24 years. As a consequence, the differentials in school attendance rates between Tanzania Mainland and Tanzania Zanzibar were widened in these age groups, while the differential was reduced in age group 7-13 years for both male and female, from 1988 to 2002.

As seen in Table 5.14, there was a considerable improvement in school attendance rates for ages from 5 years to 24 years in both rural and urban areas during the period 1988-2002. However significant differences between the rural and the urban areas still remain in all age groups. The percentage attending school in the urban areas was higher than in the rural areas.

Table 5.15 Percentage of Persons Attending School, by age (5-24 years), by Rural and Urban Areas: 1988 and 2002 (%)

Age (years)	Rural		Urban	
	1988	2002	1988	2002
5-6	1.1	14.1	1.6	31.3
7-13	45.8	65.4	56.3	83.7
14-17	49.4	55.5	51.8	56.3
18-19	9.1	14.2	14.8	21.9
20-24	1.8	2.7	4.1	7.1

Source: The United Republic of Tanzania Population and Housing Censuses of 1988 and 2002.

(3) Never attended school

The percentage of females in age group 7-13 years who have never attended school was slightly

Table 5.16 Percentage of Persons Aged 5 Years and Over Who Have Never Attended School, by Age and Sex: 2002 (%)

Age	Tanzania Total			Tanzania Mainland			Tanzania Zanzibar		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Total, 5+	32.8	28.0	37.2	32.8	28.0	37.2	32.0	27.8	35.9
5-6	82.1	82.6	81.6	82.0	82.5	81.5	85.4	86.0	84.8
7-13	29.0	29.8	28.2	29.1	29.8	28.3	27.0	28.5	25.4
14-17	18.4	16.6	20.2	18.7	16.9	20.5	9.4	7.6	11.0
18-19	21.0	18.0	23.6	21.3	18.3	23.9	13.1	9.3	16.3
20-24	19.0	15.8	21.6	19.1	15.9	21.6	15.3	10.3	19.4
25+	34.3	23.8	43.9	34.2	23.7	43.8	38.0	28.4	46.7

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 5.17 Percentage of Persons Aged 5 Years and Over Who Have Never Attended School, by Age and Sex, by Rural and Urban Areas: 2002 (%)

Age	Tanzania Total			Tanzania Mainland			Tanzania Zanzibar		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Total, 5+	32.8	38.1	15.8	32.8	38.1	15.7	32.0	40.9	18.8
5-6	82.1	85.5	67.7	82.0	85.3	67.3	85.4	92.3	73.8
7-13	29.0	32.9	13.6	29.1	32.9	13.5	27.0	33.0	16.0
14-17	18.4	21.7	8.1	18.7	21.9	8.3	9.4	12.9	3.7
18-19	21.0	26.6	7.4	21.3	26.8	7.5	13.1	18.8	5.3
20-24	19.0	24.6	6.6	19.1	24.6	6.7	15.3	24.3	5.6
25+	34.3	40.4	15.7	34.2	40.2	15.4	38.0	50.4	20.8

Source: The United Republic of Tanzania 2002 Population and Housing Census.

lower than that of males, however the percentage of females was relatively high as compared with that of males. By rural-urban areas, the percentage of those who have never attended school in age groups 14-17 years, 18-19 years and 0-24 years in the rural areas was significantly high as compared with the urban areas.

5.3.3 School Attendance by Region

Table 5.18 gives the school attendance status by region for population aged 5 years and above. The table shows that 24.5 percent of Tanzania population aged 5 years and above was attending school while 42.7 percent had attended school: either had completed or had dropped out, and 32.8 percent had never attended school. This is almost the same as for Tanzania Mainland but in Tanzania Zanzibar the percentage attending school was higher (30.7 percent) and the percentage of those who had never attended was slightly lower (32.0 percent) as compared with Tanzania Mainland.

Table 5.18 School Attendance Status of Persons Aged 5 Years and Over, by Region: 2002 (%)

Region	Total	Never attended	Attending school	Having attended	
				Dropped out	Completed
Tanzania	100.0	32.8	24.5	8.9	33.8
Tanzania Mainland	100.0	32.8	24.4	8.7	34.2
Dodoma	100.0	40.0	22.8	6.2	31.1
Arusha	100.0	30.4	25.1	5.5	39.0
Kilimanjaro	100.0	14.0	32.5	10.4	43.1
Tanga	100.0	30.1	25.2	11.1	33.6
Morogoro	100.0	32.6	21.9	8.9	36.6
Pwani	100.0	43.2	19.5	8.2	29.2
Dar es Salaam	100.0	12.5	24.6	7.1	55.8
Lindi	100.0	42.0	18.1	10.8	29.2
Mtwara	100.0	36.4	18.8	11.1	33.8
Ruvuma	100.0	25.0	25.4	8.6	41.1
Iringa	100.0	25.8	29.5	7.2	37.6
Mbeya	100.0	29.7	26.8	9.5	34.0
Singida	100.0	35.0	26.0	8.2	30.8
Tabora	100.0	47.9	18.4	8.9	24.9
Rukwa	100.0	41.7	21.6	10.4	26.4
Kigoma	100.0	36.9	26.3	8.2	28.6
Shinyanga	100.0	45.1	21.3	7.8	25.7
Kagera	100.0	33.9	26.0	9.3	30.8
Mwanza	100.0	32.7	25.6	9.9	31.7
Mara	100.0	27.5	29.7	9.8	32.9
Manyara	100.0	41.0	22.4	6.3	30.2
Tanzania Zanzibar	100.0	32.0	30.7	17.1	20.2
North Unguja	100.0	43.2	29.7	15.9	11.1
South Unguja	100.0	24.3	33.2	23.4	19.1
Urban West	100.0	19.0	31.8	18.5	30.8
North Pemba	100.0	47.3	28.4	13.4	10.9
South Pemba	100.0	41.3	30.2	15.4	13.1

Source: The United Republic of Tanzania 2002 Population and Housing Census.

In looking at regional data, Kilimanjaro recorded the highest percentage of persons aged 5 years and above attending school (32.5 percent) followed by South Unguja (33.2 percent) and Urban West (31.8 percent). Lindi, Tabora and Mtwara recorded very low percentages attending school (18.1 percent and 18.4 percent, 18.8 percent respectively). These regions have not responded well in various education development programmes launched in the recent decades possibly due to historical, social, economic and cultural reasons.The percentage attending school in Dar es Salaam was 24.6 percent, very close to the national average. The regions with the highest percentage of persons aged 5 years and above who have never attended school was Tabora (47.9 percent), followed by North Pemba (47.3 percent) and Shinyanga (45.1 percent). Tabora and Shinyanga are also the regions featuring among the poor performers in the attending and having attended categories.

5.4 Levels of Educational Attainment

5.4.1 Educational Attainment by Age and Sex

In this sub-section the educational attainment of persons aged 25 years and over will be analysed. Table 5.19 presents the data on school attendance status of persons aged 25 years and over, by sex. The table shows that the percentage never attended was higher for female than that for male in all age

groups, and the difference between male and female was greater in the higher ages. For male, the percentage never attended was lowest in age group 35-39 years, and it increased with age. In the age group 65 years and over nearly 60 percent had no school education. The percentage never attended increased with age for female as well. More than a half of females in age group 45-49 and older had no school education, and 86.3 percent of females aged 65 years and over had never attended school as compared with males aged 65 years and over (59.3 percent).

Table 5.19 Percentage of Persons Aged 25 Years and Over, by School Attendance Status, by Age and Sex: 2002 (%)

Age	Male			Female		
	Never attended	Dropped out	Completed	Never attended	Dropped out	Completed
Total, 25+	23.8	15.1	60.4	43.9	11.4	44.2
25-29	15.1	13.6	69.9	22.5	11.0	65.6
30-34	13.8	11.0	74.4	23.2	10.4	65.7
35-39	13.2	10.7	75.5	30.3	12.3	56.9
40-44	17.6	13.0	68.9	46.2	13.8	39.6
45-49	23.6	18.5	57.4	53.9	15.5	30.3
50-54	28.8	21.3	49.4	64.7	13.5	21.5
55-59	33.6	23.2	42.8	70.4	12.4	16.9
60-64	42.5	22.5	34.7	78.5	9.5	11.8
65+	59.3	18.4	22.0	86.3	6.4	7.1

Source: The United Republic of Tanzania 2002 Population and Housing Census.

The data on the highest grade of education attained are available separately for persons who had completed education and for those who dropped out in the 2002 census. Table 5.20 presents the data on levels of educational attainment for persons aged 25 years and over who had attended school by age and sex, for 2002. In this table, those who had completed education and those who had dropped out were combined and denoted as persons who had attended school. Table 5.21and Table 5.22 give the data on level of educational attainment for persons aged 25 years and over who had completed education and who dropped out from school respectively, by age and sex, for 2002.

In these tables Standard I to Standard IV of primary schools were combined and shown as “lower primary”; Standard V to Standard VII as “upper primary”; Form I to Form IV of secondary schools as “lower secondary”; and Form V and Form VI as “upper secondary”.

Table 5.20 Percentage of Persons Aged 25 Years and Over Who Have Attended School, by Level of Educational Attainment, by Age and Sex: 2002 (%)

Age and sex	Total, Having attended	Primary		TP [1]	Secondary		TS [2]	University
		Lower	Upper		Lower	Upper		
Males, 25+	75.5	14.4	50.8	0.3	7.4	1.2	0.6	0.6
25 - 29	83.5	7.2	65.0	0.2	8.8	1.3	0.5	0.3
30 - 34	85.5	6.0	68.1	0.2	8.4	1.4	0.6	0.6
35 - 39	86.2	6.2	67.9	0.3	9.0	1.3	0.7	0.7
40 - 44	81.9	9.6	58.5	0.5	9.6	1.6	1.0	1.0
45 - 49	76.0	19.3	43.2	0.5	9.2	1.5	1.0	1.1
50 - 54	70.7	28.5	32.1	0.3	6.6	1.1	0.9	0.9
55 - 59	66.0	33.6	24.6	0.3	4.7	0.9	0.6	1.0
60 - 64	57.2	33.9	18.5	0.1	3.1	0.3	0.4	0.5
65+	40.4	26.5	11.5	0.1	1.6	0.1	0.1	0.2
Female, 25+	55.6	10.0	40.0	0.2	4.4	0.3	0.4	0.2
25 - 29	76.5	5.7	62.2	0.2	7.3	0.5	0.5	0.2
30 - 34	76.2	5.6	63.1	0.2	6.1	0.4	0.5	0.2
35 - 39	69.2	7.0	55.4	0.2	5.4	0.3	0.4	0.2
40 - 44	53.4	11.3	35.9	0.3	4.5	0.3	0.5	0.3
45 - 49	45.8	18.1	22.9	0.3	3.3	0.2	0.4	0.3
50 - 54	35.0	19.7	12.6	0.1	1.6	0.2	0.3	0.2
55 - 59	29.3	19.7	7.9	0.1	0.9	0.1	0.1	0.1
60 - 64	21.3	14.9	5.4	0.0	0.4	0.0	0.1	0.0
65+	13.5	9.6	3.2	0.0	0.2	0.0	0.0	0.0

(1) TP: Training after primary education.

(2) TS: Training after secondary education.

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 5.21 Percentage of Persons Aged 25 Years and Over Who Completed Education, by Level of Educational Attainment, by Age and Sex: 2002 (%)

Age and sex	Total Completed	Primary		TP (1)	Secondary		TS (2)	University
		Lower	Upper		Lower	Upper		
Males, 25+	60.4	4.9	46.3	0.3	6.4	1.1	0.6	0.6
25 - 29	69.8	0.5	59.8	0.2	7.2	1.3	0.5	0.3
30 - 34	74.4	0.5	63.9	0.2	7.2	1.3	0.6	0.6
35 - 39	75.5	0.6	64.0	0.3	7.8	1.3	0.7	0.7
40 - 44	68.9	1.8	54.4	0.5	8.6	1.6	1.0	1.0
45 - 49	57.4	6.2	38.8	0.5	8.3	1.4	1.0	1.1
50 - 54	49.4	12.9	27.2	0.3	6.0	1.1	0.9	0.9
55 - 59	42.8	16.2	19.5	0.3	4.2	0.9	0.6	1.0
60 - 64	34.7	17.0	13.6	0.1	2.7	0.3	0.4	0.5
65+	22.0	12.4	7.7	0.1	1.3	0.1	0.1	0.2
Female, 25+	44.2	2.9	36.4	0.2	3.7	0.3	0.4	0.2
25 - 29	65.5	0.4	57.8	0.2	6.1	0.4	0.5	0.2
30 - 34	65.7	0.5	58.8	0.1	5.1	0.4	0.5	0.2
35 - 39	56.9	0.7	50.4	0.2	4.6	0.3	0.4	0.2
40 - 44	39.6	2.3	31.8	0.3	4.0	0.3	0.5	0.2
45 - 49	30.3	6.2	19.7	0.3	2.9	0.2	0.4	0.3
50 - 54	21.5	8.9	10.2	0.1	1.5	0.2	0.3	0.2
55 - 59	16.9	9.5	6.0	0.1	0.8	0.1	0.1	0.1
60 - 64	11.8	7.1	4.0	0.0	0.4	0.0	0.1	0.0
65+	7.1	4.3	2.3	0.0	0.1	0.0	0.0	0.0

(1) TP: Training after primary education.
(2) TS: Training after secondary education.
Source: The United Republic of Tanzania 2002 Population and Housing Census.

Of males aged 25 years and over, 75.5 percent have attended schools. For females aged 25 years and over, the percentage having attended schools was 55.6 percent, significantly lower than males. However most of them have attended only at primary education level. Of males 25 aged 25 years and over, 14.4 percent have attended only at lower grades of primary schools, 50.8 percent have attended at higher grades of primary schools. Males aged 25 years and over who have attended at lower secondary level and at upper secondary level accounted for only 7.4 percent and 1.2 percent of total males aged 25 years and over respectively. Level of educational attainments for females aged 25 years and over was lower than that for males. Of females aged 25 years and over, 10.0 percent have attended only at lower grades of primary schools, 40.0 percent at upper grades of primary schools and 4.4 percent at lower secondary level.

The proportion of those who have attended schools decreased with age and the differential between male and female widened. In age group 65 years and over, the proportion of those who have attended at lower grades and upper grades of primary schools was 26.5 percent and 11.5 percent respectively for males, but the corresponding percentage for females was 9.6 percent and 3.2 percent respectively. Very few people have attended schools at secondary level for both male and female.
It will be seen from Table 5.22 that rather significant proportions of persons in higher age groups dropped out school education at primary level.

Table 5.22 Percentage of Persons Aged 25 Years and Over Who Dropped Out, by Level of Educational Attainment, by Age and Sex: 2002 (%)

Age and sex	Total Dropped out	Primary		TP (1)	Secondary		TS (2)	University
		Lower	Upper		Lower	Upper		
Males, 25+	15.1	9.5	4.5	0.0	1.0	0.0	0.0	0.0
25 - 29	13.6	6.7	5.2	0.0	1.6	0.1	0.0	0.0
30 - 34	11.0	5.6	4.2	0.0	1.2	0.0	0.0	0.0
35 - 39	10.7	5.6	3.9	0.0	1.2	0.0	0.0	0.0
40 - 44	13.0	7.8	4.1	0.0	1.0	0.0	0.0	0.0
45 - 49	18.5	13.1	4.4	0.0	0.9	0.0	0.0	0.0
50 - 54	21.3	15.6	5.0	0.0	0.6	0.0	0.0	0.0
55 - 59	23.2	17.4	5.1	0.0	0.6	0.0	0.0	0.0
60 - 64	22.5	16.9	4.9	0.0	0.4	0.0	0.0	0.0
65+	18.4	14.1	3.8	0.0	0.3	0.0	0.0	0.0
Female, 25+	11.4	7.1	3.5	0.0	0.7	0.0	0.0	0.0
25 - 29	11.0	5.3	4.4	0.0	1.2	0.0	0.0	0.0
30 - 34	10.4	5.2	4.2	0.0	1.0	0.0	0.0	0.0
35 - 39	12.3	6.4	5.0	0.0	0.8	0.0	0.0	0.0
40 - 44	13.8	9.0	4.1	0.0	0.5	0.0	0.0	0.0
45 - 49	15.5	11.8	3.2	0.0	0.4	0.0	0.0	0.0
50 - 54	13.5	10.8	2.4	0.0	0.2	0.0	0.0	0.0
55 - 59	12.4	10.3	1.9	0.0	0.1	0.0	0.0	0.0
60 - 64	9.5	7.8	1.4	0.0	0.1	0.0	0.0	0.0
65+	6.4	5.3	0.9	0.0	0.0	0.0	0.0	0.0

(1) TP: Training after primary education.
(2) TS: Training after secondary education.
Source: The United Republic of Tanzania 2002 Population and Housing Census.

5.4.2 Regional Differentials of Educational Attainment

Data in Table 5.23 show that there were very few people with education beyond primary schools. Of persons aged 25 years and over in Tanzania Mainland, 12.3 percent have completed or dropped out at lower grades of primary schools, 45.8 percent at higher grades of primary schools and only 5.1 percent at lower secondary level and 0.7 percent at upper secondary level. In contrast, a higher proportion of persons 25 years have attended school at secondary education and higher levels in Tanzania Zanzibar. Of persons aged 25 years and over in Tanzania Zanzibar, 6.8 percent have completed or dropped out at lower grades of primary schools, 21.9 percent at upper grades of primary schools and 29.8 percent at lower secondary level.

Table 5.23 Level of Educational Attainment for Persons Aged 25 Years and Over by Region: 2002

(%)

Region	Never attended	Primary		TP [1]	Secondary		TS [2]	University
		Std I-IV	Std V-VI		I-IV	V-VI		
Tanzania	34.3	12.1	45.1	0.2	5.8	0.7	0.5	0.4
Tanzania Mainland	34.2	12.3	45.8	0.2	5.1	0.7	0.5	0.4
Dodoma	42.7	9.9	43.0	0.2	2.8	0.4	0.2	0.1
Arusha	32.8	7.7	46.8	0.4	8.9	1.3	0.6	0.7
Kilimanjaro	14.7	16.9	57.5	0.4	7.7	1.0	0.6	0.4
Tanga	29.4	15.2	48.9	0.1	4.8	0.5	0.2	0.1
Morogoro	32.3	14.8	46.2	0.1	4.5	0.6	0.3	0.3
Pwani	46.6	10.1	38.1	0.2	3.4	0.4	0.3	0.2
Dar es Salaam	11.9	7.4	54.7	0.6	16.4	3.1	1.6	2.8
Lindi	41.8	14.7	40.1	0.0	2.5	0.2	0.1	0.1
Mtwara	38.4	15.8	42.4	0.1	2.3	0.2	0.2	0.1
Ruvuma	22.9	17.3	53.7	0.4	4.0	0.3	0.5	0.1
Iringa	30.9	14.3	48.4	0.2	4.1	0.5	0.4	0.2
Mbeya	35.4	11.4	46.3	0.2	4.6	0.6	0.5	0.2
Singida	38.1	12.5	45.9	0.1	2.3	0.3	0.2	0.1
Tabora	48.1	12.1	36.0	0.1	2.7	0.3	0.2	0.1
Rukwa	40.7	12.8	41.8	0.1	3.3	0.3	0.3	0.1
Kigoma	41.2	11.9	42.6	0.1	2.6	0.3	0.2	0.1
Shinyanga	48.0	10.0	38.2	0.1	2.4	0.3	0.3	0.1
Kagera	34.3	15.1	44.6	0.3	4.1	0.3	0.5	0.1
Mwanza	34.3	11.9	46.1	0.1	5.1	0.6	0.4	0.2
Mara	30.8	12.5	49.9	0.2	4.8	0.5	0.4	0.2
Manyara	43.4	9.0	43.3	0.2	3.0	0.3	0.3	0.1
Tanzania Zanzibar	38.0	6.8	21.9	0.1	29.8	0.9	1.4	0.4
North Unguja	55.0	7.7	16.5	0.1	19.6	0.2	0.4	0.1
South Unguja	29.7	8.8	30.1	0.1	30.1	0.3	0.4	0.1
Urban West	20.3	6.1	26.6	0.2	40.9	1.5	2.3	0.8
North Pemba	59.5	6.3	14.0	0.1	17.9	0.5	1.0	0.1
South Pemba	52.3	6.8	17.1	0.0	21.6	0.5	1.0	0.1

Source: The United Republic of Tanzania 2002 Population and Housing Census.

When regional differentials are considered, Dar es Salaam has the biggest proportion of people going beyond primary education in Tanzania Mainland. Of persons 25 years and over in this region, 16.4 percent have completed or dropped out at lower secondary level, 3.1 percent at upper secondary level, and 2.8 percent at university level. In Arusha and Kilimanjaro, 8.9 percent and 7.7 percent of persons aged 25 years and over in respective regions have completed or dropped out at lower secondary level. In other regions in Tanzania Mainland, of persons aged 25 years and over a very small proportions have attended schools at secondary and higher levels. Singida, Mtwara and Shinyanga have the lowest proportions having attended school beyond primary level.

On the other hand, in Tanzania Zanzibar the proportions of persons aged 25 years and over who have completed or dropped out at secondary level were relatively higher in all regions as compared with regions in Tanzania Mainland. In Urban West, while 6.1 percent and 26.6 percent of persons aged 25 years and over have completed or dropped out at lower grades and upper grades of primary schools, 40.9 percent have completed or dropped out at lower secondary level and 1.5 percent at upper secondary level. Among other four regions in Tanzania Zanzibar, South Unguja has the largest proportions of people who have attended school beyond primary level. In this region, while 8.8

percent of persons aged 25 years and over have completed or dropped out at lower grades of primary schools, 30.1 percent at upper grades of primary schools, 30.1 percent have completed or dropped out at lower secondary level.

With the exception of Dar es Salaam, less than one percent of persons aged 25 years and over had attended the university and higher level of education.

5.5 Summary

It is clear from the data from the censuses that there has been significant improvement in literacy and education provision in Tanzania. Literacy rates of population aged 10 years and above increased significantly from about 50 percent in 1978 to about 70 percent in 2002. Improvement in literacy of population was more remarkable in Tanzania Zanzibar. Tanzania Zanzibar that had a lower literacy rate in 1978 than Tanzania Mainland recorded a faster increase in literacy rate to surpass it in 2002.

The proportion of population which had never attended school had declined substantially and that attending school had increased significantly especially at the primary school attendance age group. There was no significant difference between male and female in the proportions of population attending school in primary school ages. However, still some significant differentials in proportions attending schools exist between gender in ages 14 years and over. In most cases males had performed better than females.

There were geographical disparities in literacy and education achievements. The urban areas had higher rates than the rural areas. Regional differentials still exist in literacy and school attendance levels.

Level of education attainment of population aged 25 years and over had remained low. Most people who attended school had only primary education except in Tanzania Zanzibar where about 30 percent of population aged 25 years and over have attended schools beyond the primary school level geographical disparities in literacy and education achievements..

CHAPTER 6: ECONOMIC ACTIVITY

6.1 Introduction

The 2002 Population and Housing Census included five basic economic questions which were asked for all persons aged 5 years and over in the long questionnaire in all the sampled areas. The questions gathered information on usual activity, current activity, status in employment, type of main occupation and type of main industry. Data on current activity and main industry were not collected in the last census of 1988 but the current activity featured for the first time in the 2002 Population and Housing Census.

The purpose of this chapter is to provide analysis of data on economic characteristics of the population that emanated from the five questions in order to come up with measures of some key indicators of the labour market. These measures will focus more on the available labour and on the manner and the extent it is used for production of goods and services which is central in the fight against poverty. The aim is to show not only trends in the economic activity of the population, all of which depend on the performance of the economy, but also to bring up information that can be used for planning and formulating policies on the development of human resources as well as in the design and evaluation of government policies on employment.

Following the introduction, concepts and definitions of terms used in the analysis of economic activity of the population will be given in section 6.2. Then the results of analysis are presented in seven sections from 6.3 to 6.11. In section 6.3, the participation in economic activity is analyzed. Sections 6.4, 6.5, 6.6 and 6.7 give analysis of the structure of employed persons by type of work, occupation, industry and employment status, respectively. Unemployment is dealt with Section 6.8, and those who are not economically active are analyzed in Section 6.9. Section 6.10 deals with working children. Analysis of regional differentials is given in Section 6.11 that will be followed by the concluding section 6.12.

6.2 Concepts and Definitions

This section gives concepts and definitions of terms that are used in the analysis of economic characteristics of the population.

In the 2002 census, questions were asked on economic activity in the last 12 months prior to the census and on economic activity in the last 7 days prior to the census, for persons aged 5 years and over. The former is referred to as “usual activity” and the latter as “current activity”. Categories of activity identified in the two questions are:

Worked, paid, non-seasonal,
Worked, paid, seasonal,
Worked, unpaid, non-seasonal,
Worked, unpaid, seasonal,
Worked for own benefit, full-time,
Worked for own benefit, seasonal,
Not worked, available for work and actively seeking for work,
Not worked, available for work but not actively seeking for work,
Full-time student,
Home maintenance (e.g. cooking, hygiene caring for children and elderly,
Unable to work, sick, too old, disabled
Others
Unknown

The structure of economic activity is:

- Total population aged 5 years and over
  - Economically active population
    - Employed persons
      - Paid work, non-seasonal
      - Paid work, seasonal
      - Unpaid work, non-seasonal,
      - Unpaid work, seasonal
      - Work for own benefit, full-time
      - Work for own benefit, seasonal
    - Unemployed persons
      - Seeking work,
      - Available, but not seeking for work
  - Economically inactive persons
      - Full-time student
      - Home maintenance
      - Unable to work

Economically active population: Comprises all persons of either sex who worked or did not work but were available for work during a specified reference period. They furnished the supply of labour for the production of goods and services whether for the market, for barter or for household own consumption.

When measured in relation to twelve months prior to the census reference month it is referred to as *usually economically active population*, but when measured in relation to seven days prior to the census night it is termed as *currently economically active population or labour force.*

Employed persons: Comprises all persons actually engaged in production of goods and services during a specified time reference period. When measured in relation to a long reference period of twelve months it is known as *usually employed*, but when measured in relation to a short reference period of seven days it is termed as *currently employed.*

Unemployed persons: Comprises all persons who did not work, but are either seeking or are available for work during a specified time reference period. When measured in relation to a long reference period of twelve months it is known as *usually unemployed*, but when measured in relation to a short reference period of seven days it is termed as *currently unemployed.*

Economically inactive population: Comprises all persons not working and neither seeking nor available for work during a specified time reference period. In this group there are full-time students, persons of old age, persons engaged in purely family household chores and persons in long sickness or disabled.

6.3 Economically Active Population

6.3.1 Comparison between Usual Status and Current Status

Target population for measuring economic characteristics is defined by determining working age cut-off point. For Tanzania it is defined as that population of age 10 and above, although in practice the data was collected from all persons aged 5 years and above. This practice has been found useful for studying issues related to working children and school dropouts.

6.3.1A Comparison Based on the Population Aged 10 Years Old and Over

The working age population aged 10 years and over based on the data from the 2002 population and housing census for the United Republic of Tanzania was 22,864,000, comprising 10,954,000 males (47.9 percent) and 11.910,000 females (52.1 percent). Three quarters of the working age population resided in rural areas. By area, Tanzania Mainland had a working age population of 22,198,000, of which three quarters of the working age population resided in rural areas. Tanzania Zanzibar had a working age population of 666,000. Unlike in Tanzania Mainland, less than 60 percent of the working age population in Tanzania Zanzibar resided in rural areas.

A comparison of usual and current status of economic activity is given in Tables 6.1 and 6.4.

Table 6.1.1 below shows, usually economically active population in the United Republic of Tanzania was 14,841,000, larger by 683,000 (4.4 percent) than currently economically active population. The number of employed persons measured in terms of usual activity was larger than that measured in terms of current activity. On the contrary, numbers of unemployed persons and the economically inactive persons measured in terms of usually activity were smaller than those measured in terms of current activity. The pattern is same for both male and female. The difference between usual status and current status is larger in female than in male for economically active population, while, it is smaller in female than in male for unemployed persons and economically inactive population.

Table 6.2 presents each rate of economically active population represented as percentage of the target population, which is called sometimes as economic activity rate or participation rate, for usual status and current status by sex. Observing Table 6.2.1, the United Republic of Tanzania showed 67.9% for both sexes, 71.5 % for male and 64.6% for female in terms of usually economically active rate. On the other hand, the United Republic indicated 64.9% for both sexes, 70.5 % for male and 59.8% for female in terms of currently economically active rate. On the contrary, rates of unemployed persons and the economically inactive persons measured in terms of usually activity were lower than those measured in terms of current activity. The pattern is same for both male and female. However, the difference between usual status and current status is higher in female than in male for economically active rate, while, it is lower in female than in male for rates of unemployed and economically inactive.

Table 6.1.2 and Table 6.2.2 present the comparison of usual and current status of economic activity in Tanzania Mainland. The patterns of differences presented in these tables between usual and current statuses and by sex are same as in the United Republic of Tanzania. On the contrary, Table 6.1.3 and Table 6.2.3 presenting the comparison of usual and current status of economic activity in Tanzania Zanzibar showed different patterns of the differences from those in the United Republic or Tanzania Mainland. In Tanzania Zanzibar, number of usually economically active population was smaller than currently economically active population for each sex., while number of usually economically inactive population was larger than currently economically inactive population. In addition, rate of usually economically active was lower than rate of currently economically active, while rate of usually economically inactive was higher than rate of currently economically inactive.

A main reason for these differences in figures based on the usual and current approaches may be the seasonality of economic activities in Tanzania. According to the labour force survey, economic activities pick up generally from the month of October to March when they start to slow down, reaching the lowest level in August/September.

Table 6.1.1 A comparison of Usual and Current Activities of Persons Aged 10 Years and Over: 2002, for United Republic of Tanzania (In '000)

	Total, age 10 and over	Economically active			Economically inactive
		Total	Employed	Unemployed	
Usual activity					
Both sexes	22,864	15,524	15,105	419	7,289
Male	10,954	7,832	7,567	265	3,093
Female	11,910	7,692	7,538	154	4,196
Current activity					
Both sexes	22,864	14,841	14,294	547	7,968
Male	10,954	7,720	7,347	373	3,203
Female	11,910	7,121	6,947	174	4,765
Difference (Usual - Current)					
Both sexes	0	683	811	-128	-679
Male	0	112	220	-108	-110
Female	0	571	591	-20	-569
Difference (percent)					
Both sexes	0.0	4.6	5.7	-23.4	-8.5
Male	0.0	1.5	3.0	-29.0	-3.4
Female	0.0	8.0	8.5	-11.5	-11.9

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 6.2.1 A Comparison of Usual and Current Activities of Persons Aged 10 Year and Over: 2002, for United Republic of Tanzania (%)

	Economically active rate			Economically inactive rate	Unemployment rate
	Total	Employed	Unemployed		
Usual activity					
Both sexes	67.9	66.1	1.8	31.9	2.7
Male	71.5	69.1	2.4	28.2	3.4
Female	64.6	63.3	1.3	35.2	2.0
Current activity					
Both sexes	64.9	62.5	2.4	34.8	3.7
Male	70.5	67.1	3.4	29.2	4.8
Female	59.8	58.3	1.5	40.0	2.4

Source: The United Republic of Tanzania 2002 Population and Housing Census.

The census month was August which is a period of low activity (slack season) in most parts of the country causing some of affected individuals to lay off tools and chose to stay idle for a while (inactive). This is where the structure of the economy has impact in respect of what activities slow down and what activities pick up (if any) during these months. It is in this respect that economic participation for long and short reference periods may behave differently.

Table 6.1.2 A Comparison of Usual and Current Activities of Persons Aged 10 Years and Over: 2002, for Tanzania Mainland (In '000)

Usual activity	Total, age 10 and over	Economically active			Economically inactive
		Total	Employed	Unemployed	
Both sexes	22,198	15,155	14,757	398	6,992
Male	10,635	7,619	7,367	252	2,988
Female	11,563	7,536	7,390	146	4,004
Current activity					
Both sexes	22,198	14,464	13,938	526	7,680
Male	10,635	7,500	7,141	359	3,105
Female	11,563	6,964	6,797	167	4,575
Difference (Usual - Current)					
Both sexes	0	691	819	-128	-688
Male	0	119	226	-107	-117
Female	0	572		-21	-571
Difference (percent)					
Both sexes	0.0	4.8	5.9	-24.3	-9.0
Male	0.0	1.6	3.2	-29.8	-3.8
Female	0.0	8.2	0.0	-12.6	-12.5

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 6.2.2 A Comparison of Usual and Current Activities of Persons Aged 10 Years and Over: 2002, for Tanzania Mainland (%)

	Economically active rate			Economically inactive rate	Unemployment rate
	Total	Employed	Unemployed		
Usual activity					
Both sexes	68.3	66.5	1.8	31.5	2.6
Male	71.6	69.3	2.4	28.1	3.3
Female	65.2	63.9	1.3	34.6	1.9
Current activity					
Both sexes	65.2	62.8	2.4	34.6	3.6
Male	70.5	67.1	3.4	29.2	4.8
Female	60.2	58.8	1.4	39.6	2.4

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 6.1.3 A Comparison of Usual and Current Activities of Persons Aged 10 Years and Over: 2002, for Tanzania Zanzibar (In '000)

	Total, age 10 and over	Economically active			Economically inactive
		Total	Employed	Unemployed	
Usual activity					
Both sexes	666	368	347	21	297
Male	319	212	199	13	106
Female	347	156	148	8	191
Current activity					
Both sexes	666	377	356	21	288
Male	319	220	206	14	98
Female	347	157	150	7	190
Difference (Usual - Current)					
Both sexes	0	-9	-9	0	9
Male	0	-8	-7	-1	8
Female	0	-1	-2	1	1
Difference (percent)					
Both sexes	0.0	-2.4	-2.5	0.0	3.1
Male	0.0	-3.6	-3.4	-7.1	8.2
Female	0.0	-0.6	-1.3	14.3	0.5

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 6.2.3 A Comparison of Usual and Current Activities of Persons Aged 10 Years and Over: 2002, for Tanzania Zanzibar (%)

	Economically active rate			Economically inactive rate	Unemployment rate
	Total	Employed	Unemployed		
Usual activity					
Both sexes	55.3	52.1	3.2	44.6	5.7
Male	66.5	62.4	4.1	33.2	6.1
Female	45.0	42.7	2.3	55.0	5.1
Current activity					
Both sexes	56.6	53.5	3.2	43.2	5.6
Male	69.0	64.6	4.4	30.7	6.4
Female	45.2	43.2	2.0	54.8	4.5

Source: The United Republic of Tanzania 2002 Population and Housing Census.

6.3.1 B Comparison Based on the Population Aged 15 Years Old and Over

In most of countries including not only developed countries but also developing countries, where the period of compulsory education is long, the cut-off age for economically active population is 15 years old and over. Therefore, for the purpose of international comparison, the population aged 15 years old and over is used as the target population of economically active status. Table 6.3 and Table 6.4 present comparisons of usual and current status of economic activity in the population aged 15 years old and over for the United Republic of Tanzania, Tanzania Mainland and Tanzania Zanzibar.

Table 6.3.1 A Comparison of Usual and Current Activities of Persons Aged 15 Years and Over: 2002, for United Republic of Tanzania (In '000)

	Total, age 15 and over	Economically active			Economically inactive
		Total	Employed	Unemployed	
Usual activity					
Both sexes	18,499	14,918	14,531	387	3,550
Male	8,757	7,521	7,275	246	1,218
Female	9,742	7,397	7,256	141	2,332
Current activity					
Both sexes	18,499	14,156	13,648	508	4,309
Male	8,757	7,357	7,009	348	1,380
Female	9,742	6,799	6,639	160	2,929
Difference (Usual - Current)					
Both sexes	0	762	883	-121	-759
Male	0	164	266	-102	-162
Female	0	598	617	-19	-597
Difference (percent)					
Both sexes	0.0	5.4	6.5	-23.8	-17.6
Male	0.0	2.2	3.8	-29.3	-11.7
Female	0.0	8.8	9.3	-11.9	-20.4

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 6.4.1 A Comparison of Usual and Current Activities of Persons Aged 15 Years and Over: 2002, for United Republic of Tanzania (%)

	Economically active rate			Economically inactive rate	Unemployment rate
	Total	Employed	Unemployed		
Usual activity					
Both sexes	80.6	78.6	2.1	19.2	2.6
Male	85.9	83.1	2.8	13.9	3.3
Female	75.9	74.5	1.4	23.9	1.9
Current activity					
Both sexes	76.5	73.8	2.7	23.3	3.6
Male	84.0	80.0	4.0	15.8	4.7
Female	69.8	68.1	1.6	30.1	2.4

Source: The United Republic of Tanzania 2002 Population and Housing Census.

According to Table 6.3.1, usually economically active population in the United Republic of Tanzania was 14,918,000, larger by 762,000 (5.4 percent) than currently economically active population. The number of employed persons measured in terms of usual activity was larger than that measured in terms of current activity. On the contrary, numbers of unemployed persons and the economically inactive persons measured in terms of usually activity were smaller than those measured in terms of current activity. The pattern is same for both male and female. The difference between usual status and current status is larger in female than in male for economically active population, while, it is smaller in female than in male for unemployed persons and economically inactive population. Also, it is larger

for the economically active population aged 15 years old and over than for the economically active population aged 10 years old and over.

Table 6.3.2 A Comparison of Usual and Current Activities of Persons Aged 15 Years and Over: 2002, for Tanzania Mainland (In '000)

	Total, age 15 and over	Economically active			Economically inactive
		Total	Employed	Unemployed	
Usual activity					
Both sexes	17,966	14,565	14,199	366	3,369
Male	8,506	7,318	7,085	233	1,169
Female	9,460	7,247	7,114	133	2,200
Current activity					
Both sexes	17,966	13,802	13,314	488	4,131
Male	8,506	7,151	6,816	335	1,335
Female	9,460	6,651	6,498	153	2,796
Difference (Usual - Current)					
Both sexes	0	763	885	-122	-762
Male	0	167	269	-102	-166
Female	0	596	616	-20	-596
Difference (percent)					
Both sexes	0.0	5.5	6.6	-25.0	-18.4
Male	0.0	2.3	3.9	-30.4	-12.4
Female	0.0	9.0	9.5	-13.1	-21.3

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 6.4.2 A Comparison of Usual and Current Activities of Persons Aged 15 Years and Over: 2002, for Tanzania Mainland (%)

	Economically active rate			Economically inactive rate	Unemployment rate
	Total	Employed	Unemployed		
Usual activity					
Both sexes	81.1	79.0	2.0	18.8	2.5
Male	86.0	83.3	2.7	13.7	3.2
Female	76.6	75.2	1.4	23.3	1.8
Current activity					
Both sexes	76.8	74.1	2.7	23.0	3.5
Male	84.1	80.1	3.9	15.7	4.7
Female	70.3	68.7	1.6	29.6	2.3

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 6.3.3 A Comparison of Usual and Current Activities of Persons Aged 15 Years and Over: 2002, for Tanzania Zanzibar (In '000)

	Total, age 15 and over	Economically active			Economically inactive
		Total	Employed	Unemployed	
Usual activity					
Both sexes	533	353	332	21	181
Male	251	203	190	13	49
Female	282	150	142	8	132
Current activity					
Both sexes	533	353	333	20	178
Male	251	205	192	13	45
Female	282	148	141	7	133
Difference (Usual - Current)					
Both sexes	0	0	-1	1	3
Male	0	-2	-2	0	4
Female	0	2	1	1	-1
Difference (percent)					
Both sexes	0.0	0.0	-0.3	5.0	1.7
Male	0.0	-1.0	-1.0	0.0	8.9
Female	0.0	1.4	0.7	14.3	-0.8

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 6.4.3 A Comparison of Usual and Current Activities of Persons Aged 15 Years and Over: 2002, for Tanzania Zanzibar (%)

	Economically active rate			Economically inactive rate	Unemployment rate
	Total	Employed	Unemployed		
Usual activity					
Both sexes	66.2	62.3	3.9	34.0	5.9
Male	80.9	75.7	5.2	19.5	6.4
Female	53.2	50.4	2.8	46.8	5.3
Current activity					
Both sexes	66.2	62.5	3.8	33.4	5.7
Male	81.7	76.5	5.2	17.9	6.3
Female	52.5	50.0	2.5	47.2	4.7

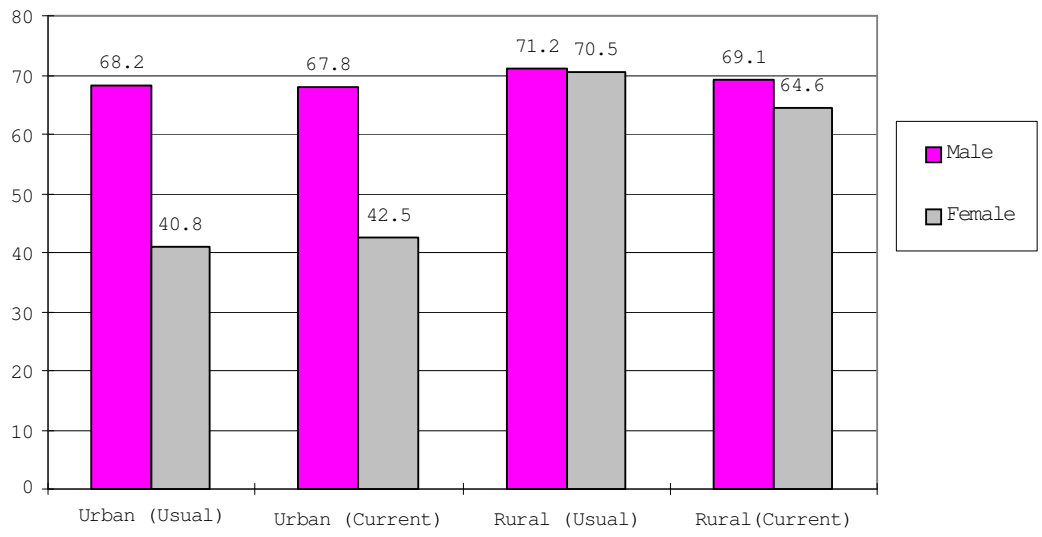
Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 6.4 presents each rate of economically active population represented as percentage of the target population for usual status and current status by sex. Observing Table 6.4.1, the United Republic of Tanzania showed 80.6% for both sexes, 85.9 % for male and 75.9% for female in terms of usually economically active rate. On the other hand, the United Republic indicated 76.5% for both sexes, 84.0 % for male and 69.8% for female in terms of currently economically active rate. On the contrary, rates of unemployed persons and the economically inactive persons measured in terms of usually activity were lower than those measured in terms of current activity. The pattern is same for both male and female.

Table 6.3.2 and Table 6.4.2 present the comparison of usual and current status of economic activity in Tanzania Mainland. The patterns of differences presented in these tables between usual and current statuses and by sex are same as in the United Republic of Tanzania.

On the contrary, Table 6.3.3 and Table 6.4.3 presenting the comparison of usual and current status of economic activity in Tanzania Zanzibar did not show significant difference for each sex between usual and current statuses. For male, the rate of usually economically active was lower than the rate of currently economically active while rate of usually economically inactive was higher than rate of currently economically inactive. For female, vice versa.

Figure 6.1 Economically active rates of population 15 and over, by Rural and Urban, and Sex, 2002, United Republic of Tanzania



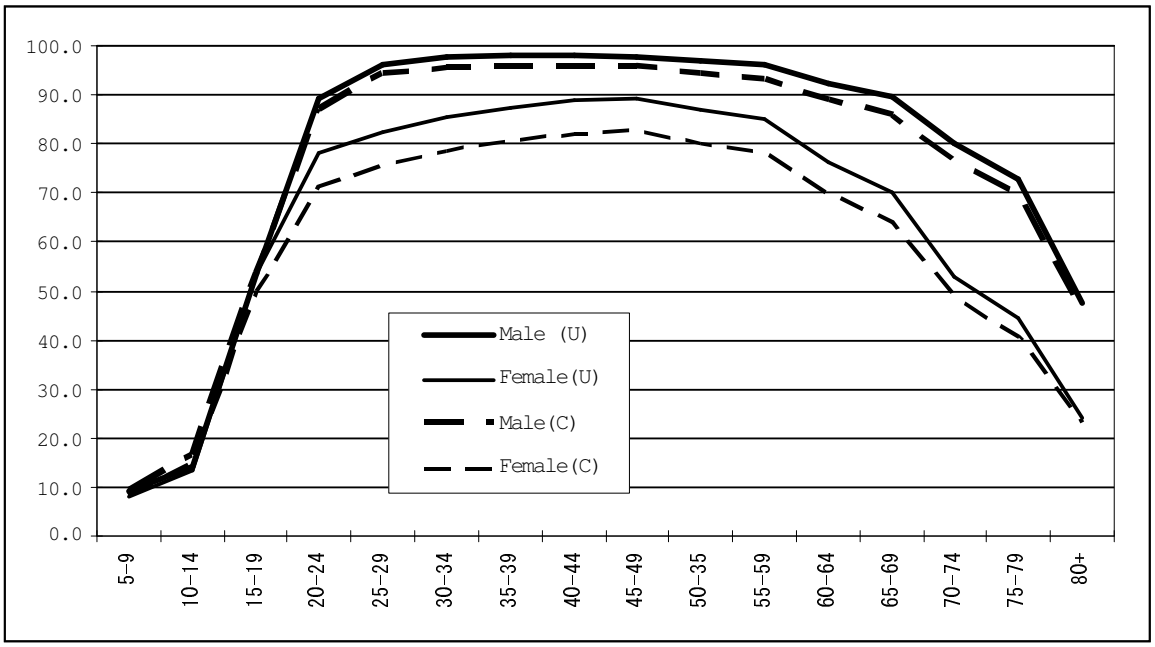
The economically active rates of population aged 15 years old and over for each sex are higher in rural area than in urban area not only for usual status but also for current status. The difference between male and female is larger in urban area than in rural area for current status as well as for usual status. (Figure 6.1)

6.3.2 A Comparison of Economically Active Rates between Usual and Current Statuses.

Figure 6.2 depicts the curves of age-specific economically active rates by male and female and by usual status and current status, 2002, for the United Republic of Tanzania. Each curves form mountain-like shape. The curve of male is higher than that of female at each age although the curve for usual status is higher than for current status at each ages. For male, the peak (97.9%) for usual status and that (95.8%) for current status locate at the ages of 35-39. For female, the peak (89.2%) for

usual status and that (82.7%) for current status locate at the ages of 45-49. The difference between usual status and current status is larger for female than for male.

Figure 6.2 Economically Active Rates by Sex, and Usual and Current Statuses, 2002, United Republic of Tanzania



Source: The United Republic of Tanzania 2002 Population and Housing Census.

6.3.3 Trends in the Usually Economically Active Rate for Tanzania Mainland.

One striking observation on usually economically active rates by age groups in time series for Tanzania Mainland is a consistent and persistent decline in active rates. The 2002 census data reveal lowest active rates below 1978 levels. This is true for both males and females except for age groups 10-14 for each sex and 50-59 for females which have either remained at the 1988 level or increased a little bit. On the other hand, participation of young persons below age 20 has increased significantly (Table 6.5, Figures 6.3 and 6.4).

Table 6.5 Rates of Usually Economically Active by Age and Sex: Tanzania Mainland

Age Group	Both sexes			Males			Females		
	1978	1988	2002	1978	1988	2002	1978	1988	2002
10-14	3	14	14	2	14	14	5	13	14
15-19	44	61	51	33	59	51	54	62	51
20-24	85	88	79	85	92	83	87	85	76
25-29	93	92	86	96	97	91	91	88	81
30-34	96	94	88	98	98	92	94	90	84
35-39	97	94	90	99	98	94	95	91	86
40-44	97	94	90	99	98	94	96	92	87
45-49	97	95	91	99	98	94	95	92	87
50-54	96	93	93	98	97	94	94	89	91
55-59	95	92	91	98	96	96	91	87	87
60-64	91	86	84	96	93	92	85	80	76

Source: The United Republic of Tanzania, 1978, 1988 and 2002 Population and Housing Censuses

Figure 6.3 Trends in Usually Economically Active Rates – Males Tanzania Mainland

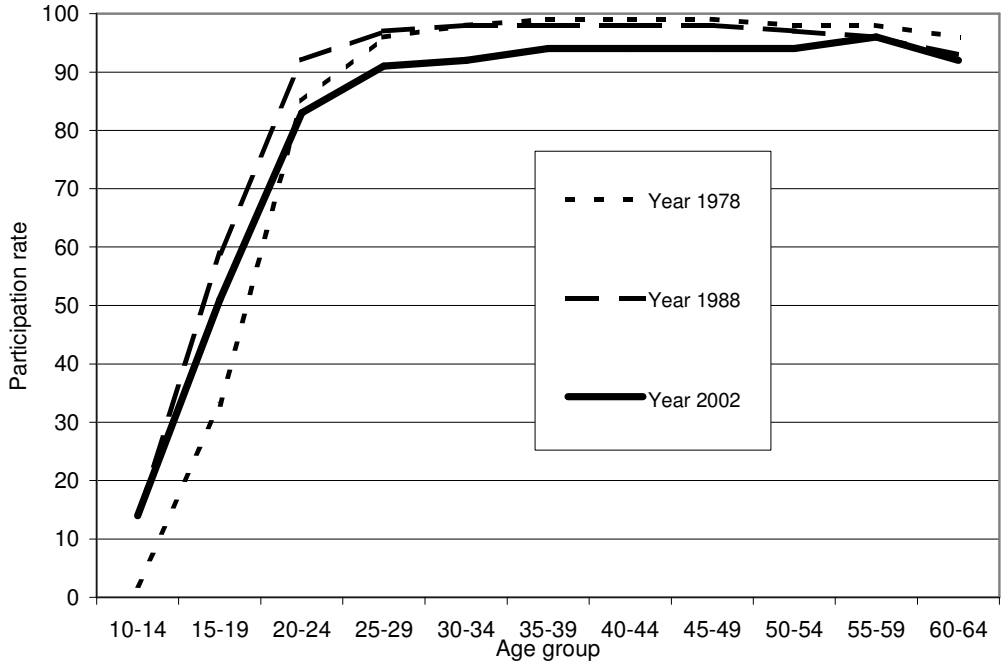
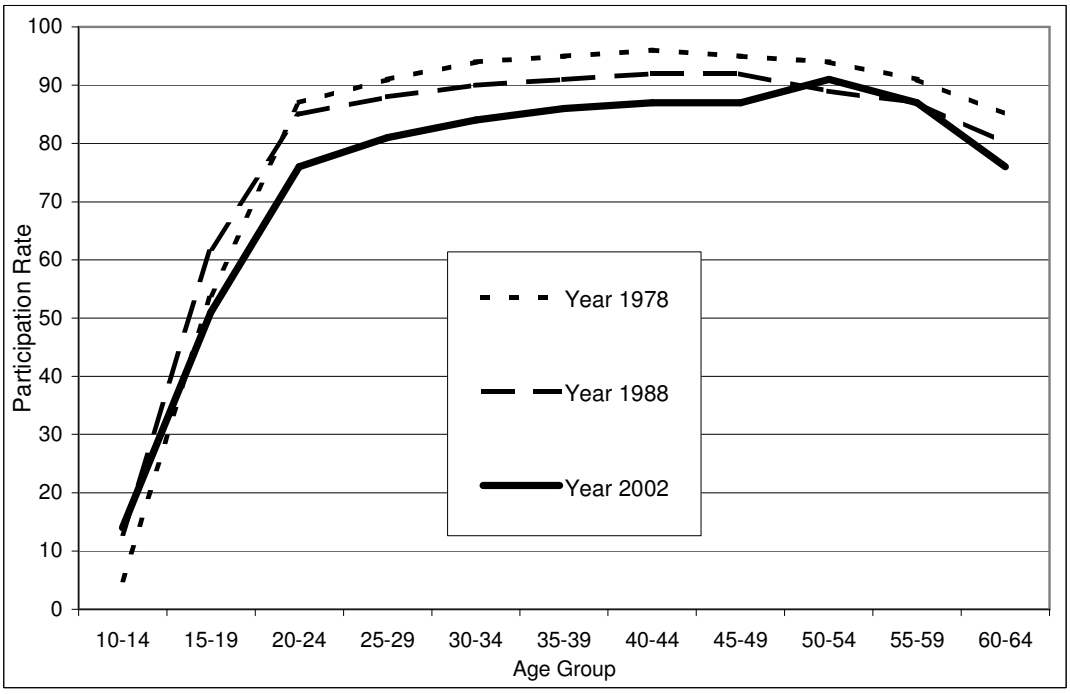


Figure 6.4 Trends in Usually Economically Active Rates – Females Tanzania Mainland



6.3.4 International Comparison of Economically Active Rates

Target population for analysis in developing countries including Tanzania is the population aged 10 years old and over normally. Therefore, international comparison based on the population aged 10 years old and over has to be made at least in developing countries. However, in developed countries and some of developing countries where term of compulsory education is 8 or more years, target population for analysis is the population aged 15 years old and over, because of less in child labour force. Hence, in this section, international comparison based on the population aged 15 years old and over is made from the viewpoint of worldwide comparison..

Table 6.6 International Comparison of Economically Active Rates by Male and Female

Country	Year	Male	Female
Brazil	2001	81.0	54.1
Chile	2002	71.8	34.7
Italy	2002	62.0	36.8
Japan	2002	74.7	48.5
Korea, Republic	2001	73.6	48.8
Malaysia	2000	79.0	43.7
Netherlands	2001	72.7	54.4
Philippines	2001	82.3	52.8
Singapore	2000	81.1	55.5
Sudan	1996	74.7	29.1
Switzerland	2002	76.7	59.4
Syria	2002	81.6	23.5
Thailand	2001	81.4	65.0
Tunisia	1997	73.4	23.7
Turkey	2002	70.5	26.9
Zimbabwe	1999	78.6	64.5
Tanzania, United Republic,(Usual)	2002	83.1	74.5
Tanzania, United Republic,(Current)	2002	80.0	68.1

Source: ILO Labour Statistical Yearbook.
The United Republic of Tanzania, 2002 Population and Housing Censuses

Table 6.6 shows economically active rates by male and female in selected countries. Most of data in the table are derived from those on current status. Although distinction between usual status and current status is needed for exact analysis, roughly comparison may be permitted without the distinction of the data. According to Figure 6.5, male economically active rate for United Republic of Tanzania on usual status is the highest among selected countries being followed by Philippines, Syria, Thailand, Singapore, Brazil and United Republic of Tanzania .on current status.

Figure 6.5 Male economically active rates in selected countries

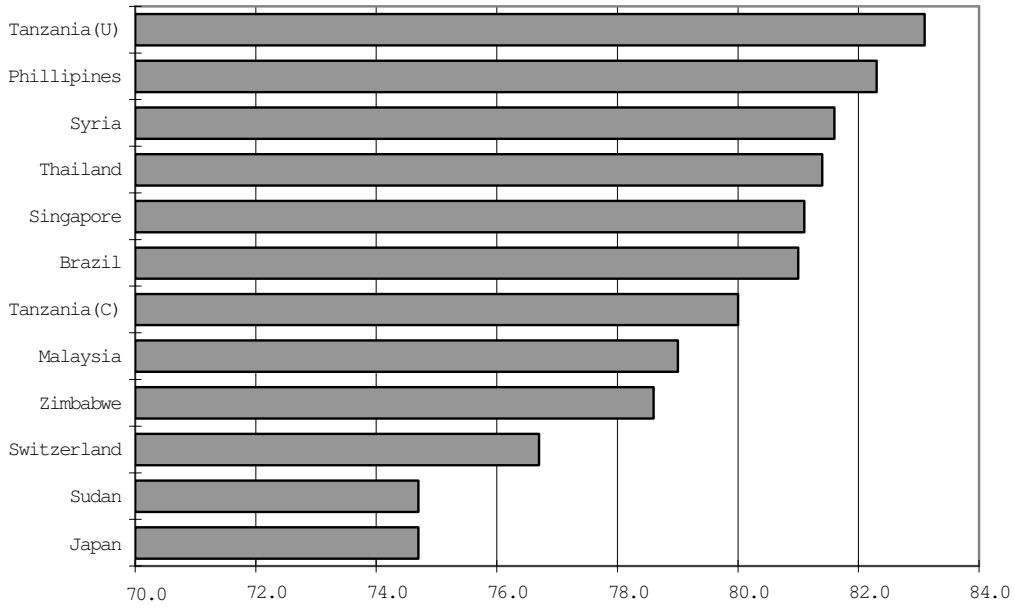
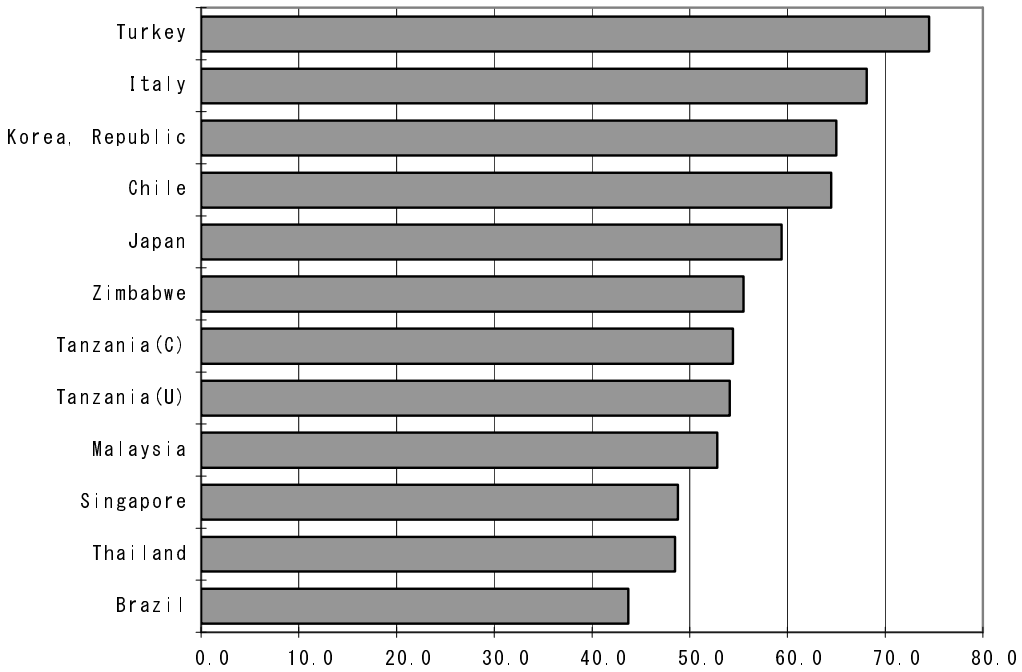


Figure 6.6 International comparison of economically active rates by male and female



On the other hand, female economically active rates for United Republic of Tanzania on both usual and current statuses is lower than those in Turkey, Italy, Republic of Korea, Chile, Japan and Zimbabwe (Figure 6.6). From those findings, it may be concluded that male economically active rate for United Republic of Tanzania is ranked at very high position not only compared with developed countries but also among developing countries, while female active rate for United Republic of Tanzania is ranked at rather low position, being based on the population aged 15 years old and over

Figure 6.7 Male economically active rates by age in selected countries

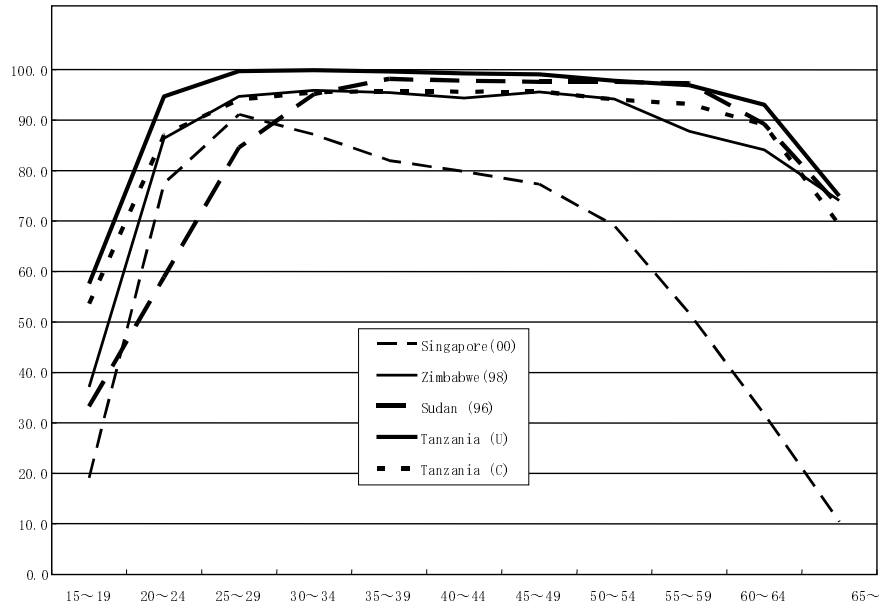
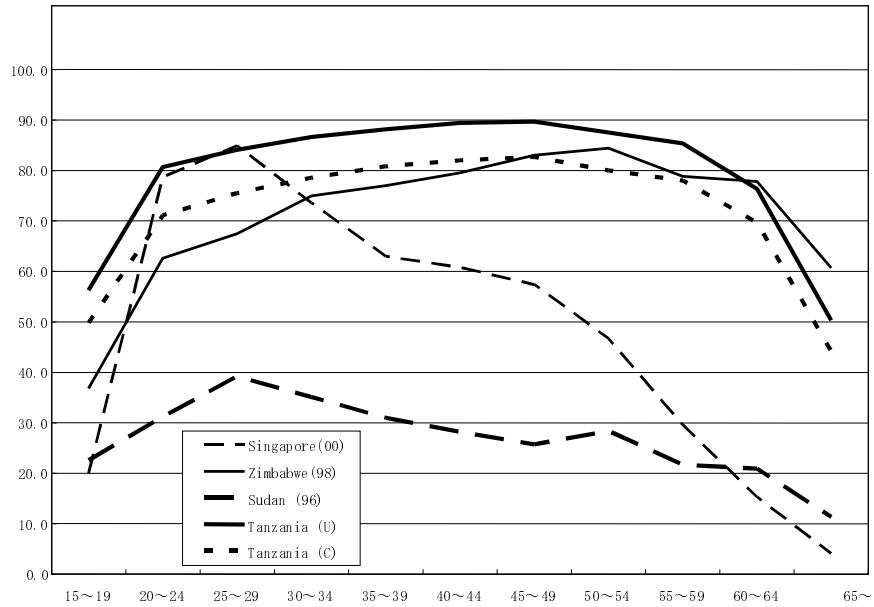


Figure 6.8 Female economically active rates by age in selected countries



Figures 6.7 and 6.8 show age-specific economically active rates in Singapore (2000), Sudan (1996) and Zimbabwe (1998) together with United Republic of Tanzania (usual status and current status of 2002). Selected countries' data may be based on current status as those were derived from labour force survey From these observations, it can be said that levels of participation in economic activity of United Republic of Tanzania are remarkably high at each ages not only for males but also for females.

6.4 Type of Work of Employed Persons

Employment data can be analyzed to produce indicators for different uses. This section provides analysis of employed population by occupational and industrial characteristics and status in employment according to the data that were collected during the 2002 Population and Housing Census.

Table 6.8 Type of Work of employed persons aged 10 Years Old and Over, Usual Status, 2002, United Republic of Tanzania

	Both Sexes	Males	Females
Employed persons (1000)	15,105	7,567	7,538
Paid Work	1,272	868	404
Non-seasonal	1,032	697	335
Seasonal	240	171	69
Unpaid Work	714	348	366
Non-Seasonal	423	256	218
Seasonal	291	142	149
Work for own Benefit	13,119	6,351	6,768
Full-time	11,468	5,567	5,901
Seasonal	1,651	784	867
Employed persons	100.0	100.0	100.0
Paid Work	8.4	11.5	5.4
Non-seasonal	6.8	9.2	4.4
Seasonal	1.6	2.3	0.9
Unpaid Work	4.7	4.6	4.9
Non-Seasonal	2.8	2.7	2.9
Seasonal	1.9	1.9	2.0
Work for own Benefit	86.9	83.9	89.8
Full-time	75.9	73.6	78.3
Seasonal	10.9	10.4	11.5

Source: The United Republic of Tanzania 2002 Population and Housing Census.

According to 2002 Population and Housing Census, 15.5 million persons aged 10yeras old and over comprising about equal number of males (7.8 million) and females (7.7 million) were employed most of the time during the last twelve months prior to the census reference month in United Republic of Tanzania. The level of total employment in United Republic of Tanzania gives employment to population ratio of 66.1 % and it is a measure of economic performance in terms of employment creation. (Table 6.1.1 and Table 6.2.1)

14.8 million persons comprising about equal number of males and females were employed most of the time during the last twelve months prior to the census reference month in Tanzania Mainland. This is an increase of 4.3 million workers or 41 percent in fourteen years. The overall female share in employment was 50.1 percent, down by 0.8 percent compared to the 1988 census. The level of total employment in Tanzania Mainland gives employment to population ratio of 66.5 % and it is a measure of economic performance in terms of employment creation. (Table 6.1.2 and Table 6.2.2)

Total employment in Tanzania Zanzibar was 347,000 persons comprising 199,000 males and 148,000 females. Female share in total employment in Tanzania Zanzibar was 42 percent lower by 8.1

percent when compared to their counterparts in Tanzania Mainland. Employment to population ratio was 52.1%.(Table 6.1.3 and Table 6.2.3)

According to Table 6.8, among usually employed population in United Republic of Tanzania, 11,468,000 persons or 75.9 % was full-time workers for own benefit. While 1,704,000 persons or 14.4 % were seasonal workers. The Majority of seasonal workers (1,651,000 persons or 10.9 %) worked for own benefit, the rest were unpaid workers (291,000 or 1.9 %) and paid workers were (240,000 or 1.6 %).

Table 6.9 Type of Work of Employed Persons Aged 10 Years Old and Over, Current Status, 2002, United Republic of Tanzania

	Both Sexes	Males	Females
Employed Persons (1000)	14,293	7,346	6,947
Paid Work	1,321	909	412
Non-Seasonal	1,029	697	332
Seasonal	292	212	80
Unpaid Work	916	473	443
Non-seasonal	473	242	231
Seasonal	443	231	212
Work for own Benefit	12,056	5,964	6,092
Full-time	10,176	5,020	5,156
Seasonal	1,880	944	936
Employed Persons	100.0	100.0	100.0
Paid Work	9.2	12.4	5.9
Non-Seasonal	7.2	9.5	4.8
Seasonal	2.0	2.9	1.2
Unpaid Work	6.4	6.4	6.4
Non-seasonal	3.3	3.3	3.3
Seasonal	3.1	3.1	3.1
Work for own Benefit	84.3	81.2	87.7
Full-time	71.2	68.3	74.2
Seasonal	13.2	12.9	13.5

Source: The United Republic of Tanzania 2002 Population and Housing Census.

On the other hand, according to Table 6.9, among currently employed population in United Republic of Tanzania, 10,176,000 persons or 71.2 % was full-time workers for own benefit. While 2,615,000 persons or 18.3 % were seasonal workers. The Majority of seasonal workers (1,880,000 persons or 13.2 %) worked for own benefit, the rest were unpaid workers (443,000 or 3.1 %) and paid workers were (292,000 or 2.0 %).

Accordingly, seasonal workers were enumerated more in current status than in usual status, while full-time workers were counted less in current status than in usual status in the 2002 population and housing census of United Republic of Tanzania. .

6.5 Occupation of Employed Persons

Occupational composition of employed persons aged 10 years old and over, on current status by sex as of 2002 for United Republic of Tanzania is shown in Table 6.10. According to this table, farmers occupied 72.3 % among the employed persons amounting to.14,702,000 persons, being followed by Elementary occupation (5.7 %), Street vendors and related (4.5 %), Services and shop sales workers (3.6 %), Craftsmen and related (3.4 %) , Technical and associate professionals (2.6 %), Livestock keepers (1.9 %) , Small business managers (1.4 %), Fishermen (1.0 %), etc. Most of these occupations are classified into non-skilled occupations.

Such pattern is more significant in female employed persons comprised of 6,947,000 persons than in male employed persons of 7,347,000 persons. Observing sex ratios by occupational groups, remarkable male dominance, can be observed excluding Farmers (89) and Clerks (105), both exceeding the sex ratio of the employed persons (106). Particularly, Plant & machine operators (1588), Fishermen (851), and Craftsmen and related (325) indicate more than three times.

Table 6.10 Occupational Composition of Employed Persons Aged 10 Years Old and Over, Current Status, 2002, United Republic of Tanzania

	Both sexes	Male	Female	Sex ratio
Total, 10 years and over	100.0	100.0	100.0	106
Legislators, Administrators and Managers	0.5	0.7	0.3	240
Professionals	0.8	1.0	0.5	214
Technical and Associate Professionals	2.6	3.3	1.8	190
Clerks	0.9	0.9	0.9	105
Small Business Managers	1.4	1.5	1.2	128
Service & Shop Sales Workers	3.6	4.3	2.9	155
Street Vendors and Related	4.5	4.7	4.3	114
Craftsmen and Related	3.4	5.0	1.6	325
Farmers	72.3	66.1	78.8	89
Livestock Keepers	1.9	2.1	1.7	136
Fishermen	1.0	1.8	0.2	851
Plant & Machine Operators	0.9	1.7	0.1	1858
Elementary Occupations	5.7	6.3	5.0	132
Others	0.5	0.6	0.5	123

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 6.11 show occupational pattern of the employed population in Tanzania Mainland and Tanzania Zanzibar respectively. Farmers were dominant in both areas accounting for more than 73.0 % in Tanzania Mainland and 43.6 % in Tanzania Zanzibar. The number of persons engaged in elementary occupations and street vendors were the second and third largest occupations in Tanzania Mainland. In Tanzania Zanzibar crafts and service/shop sales workers were the second and third largest occupations.

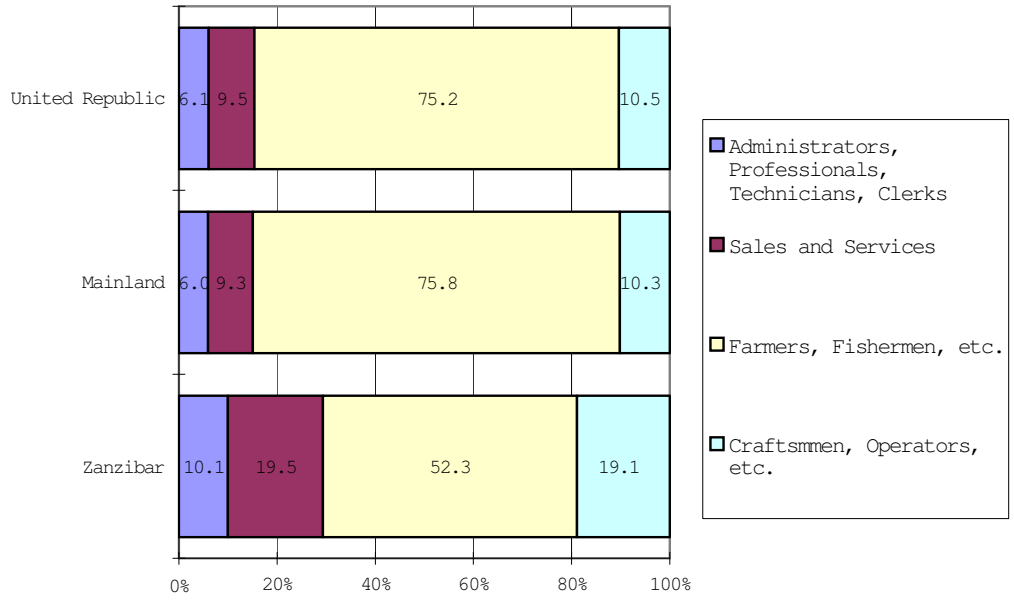
Female share was highest in farming occupation in both Tanzania Mainland and Tanzania Zanzibar and they outnumbered males (89 and 81 in sex ratio). Other occupations with high

Table 6.11 Occupational Composition of Employed Persons Aged 10 Years Old and Over, Current Status, 2002, Tanzania Mainland Zanzibar

	Tanzania Mainland				Tanzania Zanzibar			
	Both sexes	Male	Female	Sex ratio	Both sexes	Male	Female	Sex ratio
Total, 10 years and over	100	100	100	105	100	100	100	138
Legislators, Administrators and Mananagers	0.5	0.7	0.3	237	0.4	0.6	0.2	471
Professionals	0.8	1.0	0.5	213	0.9	1.1	0.7	223
Technical and Associate Professionals	2.5	3.2	1.8	193	5.5	5.5	5.4	142
Clerks	0.9	0.9	0.9	104	2.3	2.2	2.5	120
Small Business Managers	1.4	1.5	1.2	126	1.0	1.4	0.5	394
Service & Shop Sales Workers	3.5	4.1	2.9	149	9.4	12.3	5.5	307
Street Vendors and Related	4.4	4.6	4.2	116	9.0	7.2	11.5	87
Craftsmen and Related	3.2	4.8	1.5	341	10.3	11.7	8.3	195
Farmers	73.0	67.0	79.3	89	43.6	33.8	57.2	81
Livestock Keepers	1.9	2.1	1.7	132	2.0	2.9	0.7	573
Fishermen	0.9	1.6	0.2	858	6.7	10.3	1.7	819
Plant & Machine Operators	0.9	1.7	0.1	1,815	2.1	3.5	0.2	3,078
Elementary Occupations	5.6	6.2	5.0	131	6.6	7.3	5.7	177
Others	0.5	0.6	0.5	122	0.1	0.2	0.1	269

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Figure 6.9 Occupational composition of employed persons aged 10 years and over, current status, 2002



representation of females were Clerks (104) and Street vendors (116) in Tanzania Mainland. In Tanzania Zanzibar female shares in the same occupations, Street vendors (87) and Clarks (120). Managerial and professional jobs were among occupations with low levels of female representation. However, in Tanzania Mainland the female share in various occupational categories especially those which require high skills had improved. For example, female share in managerial occupations had increased from 13 % in 1988 to 29.6 % in 2002. However, because of the use of different occupational classifications in the two censuses such changes are difficult to measure for many occupational categories.

Figure 6.9 depicts the composition of abridged occupational groupings of employed persons aged 10 years old and over, on current status, 2002 for United Republic, Mainland and Zanzibar. According to the Figure, heavy dominance of "Farmers, Fishermen, Live-stock keepers" is recognized in each areas. However, in Zanzibar, other three groupings: "Sales and Service workers", "Craftsmen, Operators, etc." and "Administrators, Professionals, Technicians, Clerks" occupy larger proportion than in United Republic and Mainland.

6.6 Industry of Employed Persons

Employed population was distributed across all industrial major groups but some sectors provided more employment than others. "Agriculture" was predominant in United Republic of Tanzania, as it was in both Tanzania Mainland and Tanzania Zanzibar.

Table 6.12 Industrial Composition of Employed Persons Aged 10 Years Old and Over, Current Status, 2002, United Republic of Tanzania

	Both sexes	Male	Female	Sex ratio
Total, 10 years and over	100.0	100.0	100.0	106
Agriculture	71.8	66.1	77.9	90
Forestry, Fishery, Livestock and Hunting	9.2	10.1	8.3	130
Mining and Quarrying	0.5	0.7	0.2	409
Manufacture	1.9	2.8	1.0	288
Electricity; Gas and Water	0.3	0.6	0.1	824
Construction	1.1	2.0	0.2	1,316
Raw food Sales (Uncooked)	1.2	1.3	1.1	119
Trade and Commerce	6.5	7.3	5.6	137
Transport and Communication	0.9	1.6	0.1	1,580
Finance and Insurance	0.2	0.3	0.2	166
Public Administration and Education	4.3	5.1	3.5	153
Others	2.0	2.2	1.9	125

Source: The United Republic of Tanzania 2002 Population and Housing Census

In United Republic of Tanzania it provided employment to 10,266,000 persons or 71.8 % of the total employed persons (14,293,000), while in Tanzania Mainland number of employed persons was 10.123,000 persons (72.6 %), and in Tanzania Zanzibar 142,484 persons, (40.0 %). The second largest employing industry is "Forestry, Fishery, Livestock and Hunting" occupying 9.2 % in United Republic and 9.1% in Mainland, but in Zanzibar it was "Trade and Commerce"(14.7%), although "Forestry, Fishery, Livestock and Hunting" was the third largest group (14.5%). The third largest employing group was "Trade and Commerce" in United Republic (6.5%) and in Mainland (6.3%). (Table 6.12 and Table 613)

Distribution of employed population by sex varies across major groups. Females had the highest share in Agriculture (excluding Forestry, Fishing and Hunting) and they were more than males (90 in United

Republic and in Tanzania Mainland respectively and 82 in Tanzania Zanzibar in sex ratio). (Table 6.12 and Table 613)

In United Republic extremely high sex ratio was found in the groups of "Transport and Communication", "Construction", "Electricity, Gas and Water" and "Mining and Quarrying". The share of males was more than four times of females. (Table 6.12)

Females in Tanzania Mainland were distributed differently compared to their counterparts in Tanzania Zanzibar in respect of the second and third highest female sector employment shares. In Tanzania Mainland the second and third highest female shares were in Raw Food Sales (un-cooked and Trade and Commerce,. Second and third highest female shares in Tanzania Zanzibar were in Trade and Commerce and Manufacturing. Transport and Communication, Construction and Utilities were among groups with the highest in sex ratio. (Table 613)

Table 6.13 Industrial Composition of Employed Persons Aged 10 Years Old and Over, Current Status, 2002, Tanzania Mainland and Zanzibar

	Tanzania Mainland				Tanzania Zanzibar			
	Both sexes	Male	Female	Sex ratio	Both sexes	Male	Female	Sex ratio
Total, 10 years and over	100.0	100.0	100.0	105	100.0	100.0	100.0	138
Agriculture	72.6	67.1	78.5	90	40.0	31.2	52.2	82
Forestry, Fishery, Livestock and Hunting	9.1	9.9	8.2	126	14.5	18.2	9.5	265
Mining and Quarrying	0.5	0.7	0.2	409	0.7	1.0	0.3	417
Manufacture	1.8	2.7	0.9	315	6.5	6.3	6.8	129
Electricity; Gas and Water	0.3	0.6	0.1	805	0.6	1.0	0.1	1569
Construction	1.0	1.9	0.2	1274	3.1	5.1	0.3	2300
Raw food Sales (Uncooked)	1.2	1.2	1.1	116	2.2	2.7	1.6	241
Trade and Commerce	6.3	7.1	5.4	138	14.2	13.5	15.0	124
Transport and Communication	0.8	1.5	0.1	1538	2.1	3.5	0.2	2741
Finance and Insurance	0.2	0.3	0.2	167	0.3	0.3	0.3	146
Public Administration and Education	4.1	4.8	3.3	152	14.7	16.2	12.7	175
Others	2.1	2.2	1.9	125	1.1	1.0	1.1	133

Source: The United Republic of Tanzania 2002 Population and Housing Census

6.7 Employment Status of Employed Persons

Table 6.14 shows the proportion of employed population by status in employment in United Republic of Tanzania, Tanzania Mainland and Tanzania Zanzibar on current status, 2002. According to this Table, 72.5%, 73.3% and 41.1% of total workers in United Republic, Tanzania Mainland and Tanzania Zanzibar respectively are counted as Agricultural own account workers. Other own account workers are in the second most employment, that is,13.4% in United Republic, 12.9 % in Mainland, and 31.6% in Zanzibar. The third most employment is Employees, 9.9% in United Republic,, 9.6% in Mainland and 21.6% in Zanzibar. The proportion in Contributing family workers is 3.9% in United Republic, 3.8% in Mainland and 5.3% in Zanzibar. The shares in Employers and in Apprentices are very small, in each areas.

Table 6.14 Employment Status of Employed Persons Aged 10 Years Old and Over, Current Status, 2002

	Employed persons 10 years old and over	Employer	Employee	Own account worker		Family worker	Appren-tice	Other
				Agricultural	Other			
Both sexes								
United Republic	100.0	0.1	9.9	72.5	13.4	3.9	0.2	0.1
Mainland	100.0	0.1	9.6	73.3	12.9	3.8	0.2	0.1
Zanzibar	100.0	0.1	21.6	41.1	31.6	5.3	0.3	0.0
Male								
United Republic	100.0	0.1	13.2	66.3	16.4	3.6	0.3	0.2
Mainland	100.0	0.1	12.9	67.3	15.8	3.5	0.3	0.2
Zanzibar	100.0	0.1	25.3	31.5	37.5	5.3	0.3	0.0
Female								
United Republic	100.0	0.1	6.3	79.0	10.2	4.2	0.1	0.1
Mainland	100.0	0.1	6.1	79.6	9.9	4.1	0.1	0.1
Zanzibar	100.0	0.1	16.6	54.3	23.6	5.3	0.2	0.0

Source: The United Republic of Tanzania 2002 Population and Housing Census

The share in females is larger in Agricultural own account workers and in Contributing family workers, while it is smaller in other statuses in employment for each areas.

6.8 Unemployment

Unemployment is very serious social and population problem in developing countries as well as in developed countries. Number of unemployed persons and rate of unemployment have been collected in population censuses as well as in labour force surveys and related surveys in various countries. According to past experiences of analyses on unemployment, it is said that rates of unemployment are in general lower in developing countries than in developed countries. In 2002 population and housing census of the United Republic of Tanzania, two types of approaches for obtaining economically active persons were employed . One is based on usual status and another is on current status. For both male and female, the number of economically active persons based on the current status approach is smaller than that based on the usual activity approach. For the economically active population, the current status approach gives a smaller number of the employed but a larger number of the unemployed compared to the usual status approach. Hence, in this section, unemployment in Tanzania is discussed on current status.

According to Table 6.15, number of unemployed persons enumerated during last seven days before the census day in August 2002 was 547,568 persons in the United Republic of Tanzania. Also, it was 526,215 persons for Tanzania Mainland, and 21,350 persons for Tanzania Zanzibar. The rate of unemployment measured by number of unemployed persons per 100 economically active population, was 3.7 % for United Republic, 3.6 % for Mainland, and 5.7 % for Zanzibar. The number and the rate of unemployment were greater for males than for females in each areas.

Table 6.15 Number and Rate of Unemployment, on Current Status 2002

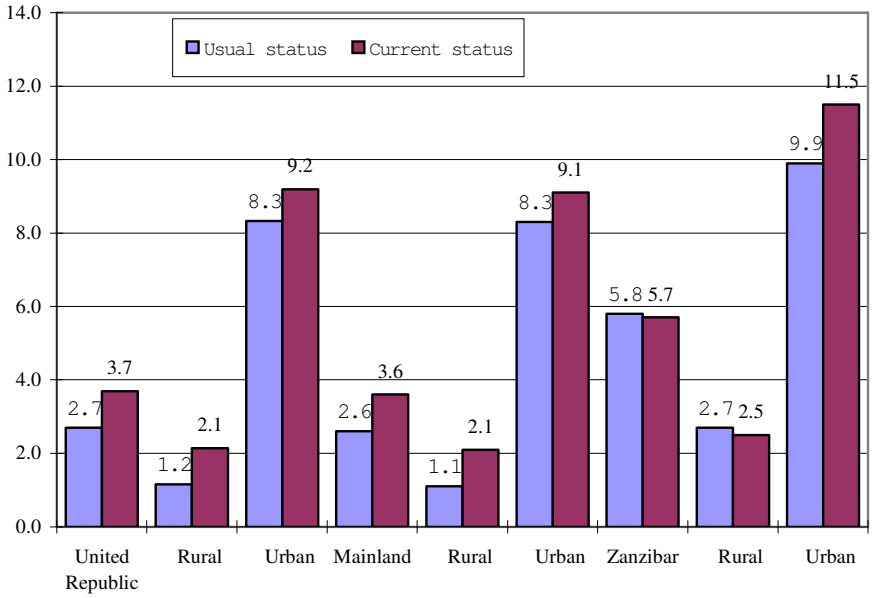
	Economically active population	Unemployed persons		
		Total	No work (Seeking)	No work (Available)
United Republic				
Both sexes	14,840,975	547,568	298,787	248,781
Males	7,720,138	373,348	204,517	168,831
Females	7,120,837	174,220	94,270	79,950
Mainland				
Both sexes	14,463,757	526,215	286,787	239,428
Males	7,500,037	359,477	196,237	163,240
Females	6,963,720	166,738	90,550	76,188
Zanzibar				
Both sexes	377,220	21,350	12,003	9,347
Males	220,104	13,873	8,282	5,591
Females	157,116	7,477	3,721	3,756
United Republic				
Both sexes		3.7	2.0	1.7
Males		4.8	2.6	2.2
Females		2.4	1.3	1.1
Mainland				
Both sexes		3.6	2.0	1.7
Males		4.8	2.6	2.2
Females		2.4	1.3	1.1
Zanzibar				
Both sexes		5.7	3.2	2.5
Males		6.3	3.8	2.5
Females		4.8	2.4	2.4

Source: The United Republic of Tanzania 2002 Population and Housing Census

Dividing the unemployed persons into “No work (seeking job)” and “No work (available for job)”, number of the former is larger that of the latter for each sexes and for each areas except for females of Zanzibar. The rate of unemployment for the former is 2.0 %, while that for the latter is 1.7 % for United Republic and Mainland respectively. On the other hand, the rate of unemployment for the former is 3.2 %, while that for the latter is 2.5 % for Zanzibar.

The definition of unemployment or unemployed persons varies among nations. For example, the unemployed persons are defined in Japan as the persons who have no job and have been seeking during last seven days before the census day. The unemployed persons with no job but available for job without seeking job are included in economically inactive population. Even so, the rate of unemployment in Japan (5.0 % for unemployed aged 15 and over) is higher than in Tanzania. However, observing Figure 6.10, higher unemployment rate can be recognized in urban areas of Tanzania.

Figure 6.10 Comparison of Unemployment Rates (%) between Usual and Current Statuses



A question on what an individual was engaged in for most of the time during the last 12 months preceding the census month has been a key question being asked in every census for understanding the activity characteristics of the population. It identifies among activity statuses the number of persons who were unemployed throughout or most of the time in the census reference period (long term employment).

From 2002 population census results, a total of 419,185 individuals (265,464 males and 153,721 females) were identified as unemployed on usual status or long-term unemployed persons in United Republic of Tanzania Mainland. The overall long-term unemployment rate was 2.7, more than double the previous census rate. Males had higher rate of long-term unemployment than females.

6.9 The Population Not Economically Active

As was the case for employed and unemployed categories, individuals who were inactive in terms of economic activities or not in the labour force were identified from individual answers
Among 22,864,000 persons of the population aged 10 years old and over, 7967000 persons or 34.8% were classified into economically inactive population on current status in the United Republic of Tanzania. Of those, males are 3203000 persons, while females are 4,765,000 persons. Among male population aged 10 years old and over, 29.2% are economically inactive, while among female population at the same ages 40.0% are inactive in the United Republic of Tanzania.

Economically inactive population is divided into three categories: “full-time students”, “home maintenance” and “unable to work”. In United Republic, home maintenance indicates 16.3%, full-time students 14.0% and unable to work 4.6%. Females are more in home maintenance and unable to work and less in full-time students than males in United Republic, Mainland and Zanzibar.

Table 6.16 Economically Inactive Population, on Current Status, 2002 (100 persons)

	Total population 10 and over	Economically inactive population			
		Total	Full time students	Home maintenance	Unable to work
United Republic					
Both sexes	228,639	79,674	31,913	37,336	10,425
Males	109,540	32,028	16,925	10,495	4,608
Females	119,098	47,646	14,988	26,841	5,817
Mainland					
Both sexes	221,980	76,792	30,804	35,857	10,132
Males	106,355	31,047	16,342	10,225	4,479
Females	115,625	45,745	14,462	25,632	5,652
Zanzibar					
Both sexes	6,659	2,882	1,109	1,480	293
Males	3,186	981	582	270	129
Females	3,473	1,900	526	1,209	165
United Republic					
Both sexes	100.0	34.8	14.0	16.3	4.6
Males	100.0	29.2	15.5	9.6	4.2
Females	100.0	40.0	12.6	22.5	4.9
Mainland					
Both sexes	100.0	34.6	13.9	16.2	4.6
Males	100.0	29.2	15.4	9.6	4.2
Females	100.0	39.6	12.5	22.2	4.9
Zanzibar					
Both sexes	100.0	43.3	16.7	22.2	4.4
Males	100.0	30.8	18.3	8.5	4.0
Females	100.0	54.7	15.2	34.8	4.7

Source: The United Republic of Tanzania 2002 Population and Housing Census

to the census activity status question. Table 6. 16 shows that 7,967,000 persons or 34.8%of total population of age 10 and above in United Republic of Tanzania were currently economically inactive. Home maintenance accounted for 16.3 %, full time students accounted for 14.0 % and unable to work did 4.6 %. In Tanzania Mainland the rate of currently economically inactive population counted 34.6 %, while in Tanzania Zanzibar it was 43.3 %.

The rate of currently economically inactive population was higher in females than in males for United Republic, Mainland and Zanzibar.

For the economically inactive population, the current status approach gives a smaller number of full-time students but larger numbers of persons in home maintenance and persons unable to work. Such gaps in figures between the two approaches are due to the seasonality of economic activities. Table 6.17 shows the economically inactive population on usual status, 2002.

Table 6.17 Economically Inactive Population, on Usual Status, 2002 (100 persons)

	Total population 10 and over	Economically inactive population			
		Total	Full time students	Home maintenance	Unable to work
United Republic					
Both sexes	228,639	72,892	44,663	19,524	8,705
Males	109,540	30,934	23,541	3,855	3,539
Females	119,098	41,958	21,123	15,670	5,166
Mainland					
Both sexes	221,980	69,922	43,136	18,326	8,461
Males	106,355	29,878	22,756	3,686	3,437
Females	115,625	40,044	20,380	14,640	5,024
Zanzibar					
Both sexes	6,659	2,970	1,528	1,198	244
Males	3,186	1,056	785	168	102
Females	3,473	1,915	743	1,030	142
United Republic					
Both sexes	100.0	31.9	19.5	8.5	3.8
Males	100.0	28.2	21.5	3.5	3.2
Females	100.0	35.2	17.7	13.2	4.3
Mainland					
Both sexes	100.0	31.5	19.4	8.3	3.8
Males	100.0	28.1	21.4	3.5	3.2
Females	100.0	34.6	17.6	12.7	4.3
Zanzibar					
Both sexes	100.0	44.6	22.9	18.0	3.7
Males	100.0	33.1	24.6	5.3	3.2
Females	100.0	55.1	21.4	29.6	4.1

Source: The United Republic of Tanzania 2002 Population and Housing Census

6.10 Working Children

In Tanzania, there are statutes that give a general definition of the child in line with Article 1 of the Convention on the Rights of the Child whereby *a child is defined as any human being below age of 18 years.* These include the Interpretation and General Clauses Act, 1972, in which a "minor" is defined (section 3.1) as a person who has not attained the apparent age of 18 years. These and other general statutes which set the age of seniority at 18 years provide

Table 6.18 Economic Activity in Children Aged 5-14 Years Old by Sex, on Usual Status, 2002, United Republic of Tanzania

	Both sexes	Males	Females	Both sexes	Males	Females
Total	9,333,677	4,693,720	4,639,957	100.0	100.0	100.0
Economically active	3,629,080	1,877,728	1,751,352	38.9	40.0	37.7
Employed persons	3,555,972	1,834,643	1,721,329	38.1	39.1	37.1
Paid work	988,620	508,955	479,665	10.6	10.8	10.3
Non-seasonal	976,789	503,741	473,048	10.5	10.7	10.2
Seasonal	11,831	5,214	6,617	0.1	0.1	0.1
Unpaid work	1,454,404	753,201	701,203	15.6	16.0	15.1
Non-seasonal	1,283,676	662,844	620,832	13.8	14.1	13.4
Seasonal	170,728	90,357	80,371	1.8	1.9	1.7
Work for own benefit	1,112,948	572,487	540,461	11.9	12.2	11.6
Non-seasonal	593,028	307,786	285,242	6.4	6.6	6.1
Seasonal	519,920	264,701	255,219	5.6	5.6	5.5
Unemployed persons	73,108	43,085	30,023	0.8	0.9	0.6
5-9 years old	4,968,491	2,496,272	2,472,219	100.0	100.0	100.0
Economically active	1,425,735	751,025	674,710	28.7	30.1	27.3
Employed persons	1,395,520	734,043	661,477	28.1	29.4	26.8
Paid work	406,432	214,035	192,397	8.2	8.6	7.8
Non-seasonal	402,949	212,010	190,939	8.1	8.5	7.7
Seasonal	3,483	2,025	1,458	0.1	0.1	0.1
Unpaid work	596,791	314,358	282,433	12.0	12.6	11.4
Non-seasonal	494,544	260,004	234,540	10.0	10.4	9.5
Seasonal	102,247	54,354	47,893	2.1	2.2	1.9
Work for own benefit	392,297	205,650	186,647	7.9	8.2	7.5
Non-seasonal	211,256	111,316	99,940	4.3	4.5	4.0
Seasonal	181,041	94,334	86,707	3.6	3.8	3.5
Unemployed persons	30,215	16,982	13,233	0.6	0.7	0.5
10-14 years old	4,365,186	2,197,448	2,167,738	100.0	100.0	100.0
Economically active	2,203,345	1,126,703	1,076,642	50.5	51.3	49.7
Employed persons	2,160,452	1,100,600	1,059,852	49.5	50.1	48.9
Paid work	582,188	294,920	287,268	13.3	13.4	13.3
Non-seasonal	573,840	291,731	282,109	13.1	13.3	13.0
Seasonal	8,348	3,189	5,159	0.2	0.1	0.2
Unpaid work	857,613	438,843	418,770	19.6	20.0	19.3
Non-seasonal	789,132	402,840	386,292	18.1	18.3	17.8
Seasonal	68,481	36,003	32,478	1.6	1.6	1.5
Work for own benefit	720,651	366,837	353,814	16.5	16.7	16.3
Non-seasonal	381,772	196,470	185,302	8.7	8.9	8.5
Seasonal	338,879	170,367	168,512	7.8	7.8	7.8
Unemployed persons	42,893	26,103	16,790	1.0	1.2	0.8

Source: The United Republic of Tanzania 2002 Population and Housing Census

the general legal mechanism under which a child is given an identity as his/her nationality or citizenship gets recognized.

However, this general definition is further re-categorized under different schemes where the definition of a child becomes restricted. For instance, in the Employment Ordinance Cap. 366, a child is defined

as *a person under the apparent age of fifteen years* (section 2); however, there are children of the apparent age of twelve years who shall not be employed in any capacity whatsoever (section 77).

This section is restricted to the working population that is 5 years old and over but below 15 years of age, and thus referred to hereafter as the working children. Knowledge of nature and type of activities that are undertaken by this section of the population can throw some light on issues related to child labour which have become serious economic and social concern worldwide.

On the basis of the 2002 Population and Housing Census results (Table 6.18), among 9,333,677 children, 3,629,080 children or 38.9 % were classified as economically active on usual status, or for most of the twelve months prior to the census reference month, in the United Republic of Tanzania. Of those, 1,877,728 children are males and 1,751,352 children are females. Share in economically active was higher in males tjan in females.

Among those children, 15.6 % of the children were classified to unpaid work, 11.9 %s to children worked for their own benefit and 10.6% to paid work

Even in the children aged 5－9 years old, 28.7 % of the children were classified to economically active.

6.11 Regional Differentials

In looking at regional employment differentials in usual activity there are significant observations in both Tanzania Mainland and Tanzania Zanzibar. In Tanzania Mainland Shinyanga and Mwanza regions had the highest number of employed population aged 10 years and above with 1,268,948 persons and 1,240,466 respectively. Conversely, three regions registered the lowest number of employed persons in the same age category Lindi (410,485 persons), Pwani (421,727 persons) and Manyara (434,560 persons).

There were more persons employed in agriculture in all the regions except Dar es Salaam which scored (13.0 percent) as against the highest rate recorded in Mtwara and Rukwa regions (87.0 percent) followed closely by Lindi Region (86.0 percent) and Rukwa Region (85.0 percent).

Regarding Business Operations, Dar es Salaam Region led by (46.0 percent) followed by Arusha (17.0 percent) and Mwanza (16.0 percent). Mtwara and Rukwa regions were at the bottom with (6.0 percent) each (table 10.14 below provides more details).

As for Tanzania Zanzibar the Urban West Region was predominant with a total of 117,822 employed persons aged 10 years and above. On the other hand, South Unguja had the least number of employed persons who were only 36,881.

The agriculture sector was also dominant in Tanzania Zanzibar just as it was in Tanzania Mainland. South Pemba had the highest rate (65.0 percent) followed by North Unguja (64.0 percent) while the Urban West Region with a mere (15.0 percent).

The Business Operations industry came second to agriculture in which the Urban West Region had (53.0 percent), South Pemba (21.0 percent) and North Pemba (20.1 percent). It is also worth noting that the fishing industry also employed a sizeable number of persons led by North Unguja Region (12.53 percent), South Pemba (7.73 percent) and North Pemba (7.62 percent). Table 6.19 below provides more details.

Table 6.19 Percentage of Employed Persons by Selected Ocupations and Region

Region	Employed persons 10 years and over	Business operation	Office work	Agricul-ture	Livestock keeping	Fishing	Plant operation and assembles
Dodoma	782,705	8	3.0	83	1.4	0.2	0.41
Arusha	558,194	17	6.3	48	17.3	0.2	1.72
Kilimanjaro	589,196	14	6.0	70	0.8	0.4	1.32
Tanga	729,290	12	3.8	77	1.7	1.1	0.82
Morogoro	835,395	10	4.2	77	1.0	0.2	0.80
Pwani	421,727	10	3.5	78	1.2	2.4	0.57
D'Salaam	934,633	46	19.0	13	1.0	1.4	5.21
Mtwara	610,755	6	2.0	87	0.1	1.1	0.36
Lindi	410,485	8	2.5	86	0.1	1.1	0.25
Ruvuma	528,404	7	3.2	87	0.3	0.4	0.45
Iringa	684,005	9	3.6	81	0.2	0.2	0.62
Mbeya	947,194	11	3.5	79	1.1	0.3	0.59
Singida	502,966	8	2.5	81	4.6	0.2	0.24
Tabora	821,607	10	3.3	76	2.6	0.2	0.35
Rukwa	515,063	6	2.1	85	0.8	1.5	0.25
Kigoma	537,576	9	3.5	82	0.4	1.6	0.41
Shinyanga	1,268,948	9	2.5	75	1.7	0.1	0.38
Kagera	853,038	7	2.9	83	0.9	1.0	0.41
Mwanza	1,240,466	16	5.4	64	0.9	2.3	0.81
Mara	551,293	10	4.3	77	1.2	3.0	0.46
Manyara	434,560	7	2.8	72	11.0	0.9	0.34
North Unguja.	50,957	15	3.5	64	0.8	12.5	1.07
South Unguja.	36,881	16	4.8	65	1.0	6.9	1.43
Urban West.	117,822	53	17.0	15	0.8	2.8	4.22
North Pemba.	79,725	20	4.5	52	6.7	7.6	0.62
South Pemba.	61,730	21	6.7	52	1.2	7.7	1.14

Source: The United Republic of Tanzania, 2002 Population and Housing Census.

Values of indicators of the labour market vary from one region to another reflecting differences in economic involvement of the respective populations. In Tanzania Mainland, Dar es Salaam had the highest rate of unemployment (11.7 percent) and inactivity (42.7 percent), followed by Arusha and Kilimanjaro regions (14.0 percent and 36.3 percent respectively). Ruvuma region had lowest rate of unemployment (0.7 percent), ahead of Iringa (1 percent) and Shinyanga (1.1 percent). The rate of unemployment in the remaining regions of Tanzania Mainland lay between 1.2 and 2.8 percent.

In Tanzania Zanzibar the Urban West Region had the highest rate of unemployment (11.2 percent) and inactivity (50.7 percent) and it was minimum (1.6 percent and 32.2 percent respectively) in North Pemba Region.

6.12 Summary

One of the salient features of the 2002 population and housing census results is that the information on economic activity can be obtained in terms of current status as well as in terms of usual status. Accordingly, focus of analysis was placed upon currently economically active population.

Usually economically active population aged 10 years old and over in the United Republic of Tanzania was 14,841,000, larger by 683,000 (4.4 percent) than currently economically active population. The number of employed persons measured in terms of usual activity was larger than that measured in terms of current activity. On the contrary, numbers of unemployed persons and the economically inactive persons measured in terms of usually activity were smaller than those measured in terms of current activity. The pattern is same for both male and female. The difference between usual status and current status is larger in female than in male for economically active population, while, it is smaller in female than in male for unemployed persons and economically inactive population.

Time serial comparison of usually economically active rates for Tanzania Mainland revealed that the rate has declined at each ages not only for males but also for females.

However, international comparison based on the population aged 15 years old and over revealed higher position in the rates of economically active population not only for males but also for females in Tanzania in terms of current status as well as in terms of usual status among selected developing nations.

Both occupational and industrial characteristics reveal little or no progress in engaging the working population in areas of high productivity and technology. The majority are engaged in subsistence farming and elementary occupations. Subsistence agriculture remains the largest industry followed by trading activities and public administration. These characteristics are not favorable for the economy to benefit from globalization and all that goes with it. More efforts are needed to ensure that new entrants to the labour force are well prepared with technological skills that can bring a change towards areas of high productivity and technology.

In United Republic of Tanzania, 420,000 long-term unemployed persons were counted. On the other hand, the rate of unemployment was not so high even in measure of current status of activity. However, it indicated remarkably high rate in urban areas.

On the other hand, 2002 Census revealed that 363,000 children aged 5-9 years old were economically active on usual status. They accounted for about 40 % of the children at same ages.

In United Republic of Tanzania, all regions except for Dar es Salaam indicated the characteristics in agriculture in occupation and industry of employed persons.

7.0: Introduction

Fertility is one of the most important components of population change; hence it is an important subject for demographic analysis, other components being mortality and migration. Historically, the rapid population growth experienced by many developing countries has been a result of high and relative constant fertility and rapid decline of mortality. The rate, at which a country's population grows and changes over a period of time accompanied by other demographic processes as well as socio-economic attributes, has a bearing on development prospects.

This chapter seeks to determine Tanzania fertility levels, patterns, trends and differentials. The level of fertility will be measured using Crude Birth Rate and Total Fertility Rate (TFR) and the Mean Number of Children Ever Born (MNCEB). Fertility differentials will also be examined since formulation of sound policies requires an understanding of factors that influence reproductive behaviors, as such socio-economic factors will be analysed in relation to fertility.

7.1: Sources of Fertility Data and Limitation

As in the previous post independence censuses, all females aged 12 years and above were asked to state the number of children they had ever given birth to by sex of the children and by whether children were still living at home, living elsewhere, or had died. Another question, which was asked to females 12 – 49 years that would be used to derive fertility indices, was about the number of children born alive to them in the last 12 months by sex. . The answers to the first set of questions give information on lifetime fertility, and those to the second set help us to determine current fertility.

Census data from developing nations, suffer from some limitations. These limitations can be explained as those affecting current fertility data, age specific parity data, and maternity history data. Errors that affect current fertility data include age misreporting, omission of births, reference period error, and the use of short time period, which raise uncertainty in the reported fertility levels due to sampling variability of the observed number of births.

Age specific parity data on the other hand can be affected by misclassification errors arising from misreporting of age and/or duration of marriage, errors in the reported number of births (enumerator) and women of specific age group (denominator). The most serious error in the reported births is the omission of births by older women, 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, and children not present at home for various reasons. 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 births, 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).

For maternity history data, possible sources of variation other than cohort or period changes are misstatement of the age of women especially in their earlier lifetime fertility data, under-reporting of births of women above 35 years and unmarried adolescents who would not like to be reported as mothers. Those women, who died before the interviews were conducted, might have had a different fertility pattern from those interviewed. Given the possibilities of these distortions, caution needs to be taken in interpreting the reported data. In this situation, indirect techniques cannot be avoided.

7.2. Measures of Fertility

Tanzania, like many other countries in sub-Saharan Africa, does not have a complete, reliable and accurate vital registration system. This problem has necessitated the use of demographic surveys and population censuses to collect data on lifetime and current fertility. As mentioned earlier the indices of fertility levels and trends used in this chapter are: average parities; total fertility rate (TFR); Age Specific Fertility Rate (ASFR); age-specific birth order rate; relative age-specific fertility rate and Crude Birth Rate (CBR). These direct measures give unreliable values because of errors of omission and commission previously discussed. Conclusively, making comparisons between lifetime fertility and current fertility sometimes enables such data to be adjusted.

In order to reduce substantial errors inherent in such direct estimates of fertility levels and trends, it is recommended that indirect methods based on various techniques of data graduation be used (United Nations. 1983). The suitability of indirect methods, however, depends on the assumptions made about the nature of the data collected and the procedure used in their computation. For most developing countries, the assumptions often made have proved to be unrealistic to and inconsistent with the changing demographic conditions. This has thus rendered the results of some indirect estimates of fertility levels liable to bias.

7.2.1 Crude Birth Rate

The Crude Birth Rate (CBR) is normally the first step to estimate the fertility of a nation. It is defined as the ratio of the total births in a population for a specified period to the total number of person-years lived by the population during that period, with the assumption that the population is closed to migration and experiencing constant age specific fertility and mortality rates eventually attaining a constant age distribution.

Such a population is known as a stable population. But when mortality gradually declines without any change in fertility, the population loses its stability and become what is known as a ‘quasi-stable’ population. The age distribution of the quasi-stable population is close to the age distribution of the stable population that has the same level of fertility and current mortality.

In this section therefore besides direct estimates of crude birth rate, which is the number of births in a year per 1000 mid year population, the robust estimate of birth rate developed by Coale (1981) and simplified by Venkatacharya and Teklu (1987) will be employed as an indirect estimation. One advantage of using the Coale’s robust method is that the cumulated age distribution is used to reduce the errors of age misstatement within the age range considered. The robust method to estimate birth rates uses only rate of growth of population (r), proportion of children of both sexes under 15 years C (15-), and the probability of surviving from birth to age 5 (l_5). Appendix I presents the spreadsheet for data used to estimate CBR.

The CBR for Tanzania was estimated to be 43. Surprisingly, the level of CBR for Zanzibar in 2002, Mainland and of course Tanzania was estimated to be the same 43 births per 1,000 population (mid year). Kigoma (56), Rukwa (52) and Shinyanga (49) are among regions which recorded high CBR while Dar es Salaam (35), Kilimanjaro (36), Mtwara (36), Lindi (37), South Unguja (38) and Pwani (38) are regions which recorded the lowest CBR less than 40 births per 1,000 mid year population in 2002. Table 12.1 also gives a comparison of the CBRs for 2002 population census and other post-independence population censuses. Although the CBR is a crude measure of fertility, observation on the table shows that fertility has been declining in all regions.

Table 7.1: Crude Birth Rate for the 1967, 1978, 1988 and 2002 Population Censuses

Region	1967		1978		1988		2002	
	Recorded	Adjusted	Recorded	Adjusted	Recorded	Adjusted	Recorded	Adjusted
Dodoma	61	48	44	52	40	48	35	44
Arusha	56	47	48	48	40	46	33	43
Kilimanjaro	57	51	46	48	38	47	28	36
Tanga	58	46	42	47	35	46	33	40
Morogoro	50	44	48	45	34	45	31	41
Pwani	48	37	40	35	34	33	30	38
Dar es Salaam	-	33	42	48	34	38	24	35
Lindi	-	-	41	43	34	42	28	37
Mtwara	49	35	38	47	34	44	28	36
Ruvuma	62	46	44	47	35	46	30	41
Iringa	58	55	45	53	35	49	30	40
Mbeya	62	52	46	55	36	51	32	42
Singida	55	45	40	47	41	46	35	43
Tabora	55	40	43	45	38	45	35	48
Rukwa	-	-	56	62	42	52	39	52
Kigoma	54	43	54	52	42	47	43	56
Shinyanga	65	51	48	49	47	51	41	49
Kagera	53	50	48	49	46	49	42	48
Mwanza	62	49	48	51	43	50	40	46
Mara	62	52	68	53	42	53	42	47
Manyara	-	-	-	-	-	-	38	46
Mainland	**-**	**47**	**46**	**49**	**38**	**47**	**35**	**43**
Unguja North	-	-	47	46	47	44	31	43
Unguja South	-	-	39	41	42	46	28	38
Urban/West	-	-	47	47	40	51	30	42
North Pemba	-	-	54	53	47	52	36	46
South Pemba	-	-	53	48	51	51	35	45
Zanzibar	**58**	**48**	**48**	**48**	**45**	**49**	**32**	**43**
Tanzania	**-**	**47**	**46**	**49**	**38**	**47**	**35**	**43**

7.2.2 Total Fertility Rate

The crude birth rate is a crude measure of fertility because the denominator contains a large population not exposed to child bearing, i.e. men, children and elderly persons. It also includes sexually inactive and non-fecund women of child bearing age. This measure is less useful in comparing the fertility of two countries because of differences in age structure (Ngalinda, 1991). Another shortcoming of CBR is that it is not very sensitive to small fertility changes as it tends to minimize them. For example if the birth rate rises, there is an increase of children in the population. This swells the size of the denominator and tends to understate the fertility increase. Therefore, CBR tend to understate the extent of a genuine fall in fertility (Ngalinda, 1998 page 146).

Total Fertility Rate (TFR) as a measure of fertility that is less affected by differences in age and sex composition, hence a more useful measure of fertility. Total Fertility Rate is defined as the number of children a woman would have by the end of her child bearing years if she were to pass through those years bearing children at the observed age-specific fertility rates.

Table 7.2: Reported TFR in 1967, 1978, 1988 and 2002 Censuses

Region	1967	1978	1988	2002
Dodoma	7.6	6.2	5.9	4.5
Arusha	7.5	7.0	6.0	3.4
Kilimanjaro	8.9	7.5	5.8	3.4
Tanga	7.7	6.2	5.1	3.7
Morogoro	6.2	6.5	4.2	3.6
Pwani	5.8	6.1	5.4	3.7
Dar es Salaam	5.0	5.4	3.4	1.9
Lindi	-	5.4	4.6	3.1
Mtwara	5.7	4.9	4.5	3.1
Ruvuma	7.1	6.1	5.0	3.6
Iringa	7.8	6.3	4.9	3.6
Mbeya	8.1	6.3	4.7	3.5
Singida	6.3	5.9	5.7	4.8
Tabora	6.7	6.0	5.4	4.9
Rukwa	-	6.1	6.2	5.0
Kigoma	6.6	7.2	6.5	5.5
Shinyanga	8.7	6.9	6.3	5.6
Kagera	7.5	7.3	6.9	5.4
Mwanza	8.1	7.1	6.1	5.0
Mara	8.0	6.9	5.9	5.9
Manyara	-	-	-	4.9
Tanzania Mainland	**7.3**	**6.3**	**5.4**	**4.2**
North Unguja	-	7.1	7.0	4.9
South Unguja	-	6.2	6.5	4.2
Urban West	-	6.1	5.2	3.6
North Pemba	-	8.3	6.9	5.7
South Pemba	-	8.2	7.6	5.8
Tanzania Zanzibar	**7.3**	**7.1**	**6.4**	**4.5**
Tanzania	**7.3**	**6.3**	**5.4**	**4.2**

Using the direct estimation of TFR to analyse current fertility data – the number of births by women during the 12 months period prior to the 2002 population and housing census resulted in the reported TFR of Tanzania of 4.2, and 4.5 for Zanzibar (Table 7.2). The following regions recorded higher TFR: Mara (5.9), South Pemba (5.8), North Pemba (5.7), Shinyanga (5.6), Kigoma (5.5) and Kagera (5.4). Assuming that the extent of reporting errors is the same in all post-independence censuses, the recorded TFR of 4.2 in 2002 suggest a decline of 42 percent during the 1967-2002 intercensal period. The decline in fertility is more pronounced in Kilimanjaro, Arusha, Ruvuma, Iringa and Mbeya. However, as explained earlier recorded TFR (direct estimation of TFR) often under estimate the true level of fertility due to omission of events by mothers, reference period errors on births etc. The use of indirect estimation of fertility reduces such errors.

7.3 Indirect Estimation of Fertility

In this section several indirect estimation of fertility has been employed in order to arrive at a plausible estimate. It is important for a reader to conceptualize those techniques used, their assumptions and limitations.

7.3.1 The Completed Family Size

The Completed family size represents the cumulated fertility of specific women for each successive age and involves only the variability of age (Kpedekpo, 1982). The completed family size is defined as the number of children ever born by the end of the reproductive period of a woman's life. This exhibits much more stability than do age-specific fertility rates from year to year. This is important for demographic analysis as the exercise involves following-up a group of women born in a particular year for their entire reproductive life by recording the number of children they bear. Due to time and financial constraints in developing countries, the exercise is not widely used, instead the average parity of women aged 45-49 (P7) is taken to represent the completed family size with the assumption that fertility of older cohorts are equal to the current fertility experience of women in child bearing ages. If the value of P6 is greater than P7, P6 is taken to represent the Completed family size. Table 12.3 shows the completed family size for all regions, Zanzibar, Mainland and Tanzania and the estimation TFR by using average parity.

In order to determine the level of fertility for the country and the regions, there is a need first to derive TFR by applying the Coale-Demeny method $((P_3)^2/P_{2)}$ and Brass method $(P_2 (P_4/P_3)^4)$ and compare them with the completed family size (P_7).

Observation of the estimated TFR based on average parities values reviles a wide range of results. Coale and Demeny approach seem to give very low figures of TFR. Results for the Brass approach and the Completed Family Size seem to be on the high side. However it must be borne in mind that older women tend to omit some of their children who either die at infancy or grew up and left home. Again, even if these parities were reported correctly, they reflect fertility of women, which prevailed twenty or thirty years before the census. Hence these estimates must be cautiously used although they give first indication of level of fertility. Fertility levels for the Mainland and Tanzania lie between 5.5 and 7.3 and between 5.8 and 7.7.

Table 7.3: Completed Family Size and Estimated Fertility Rates by using Parity Methods

Region	$(P_3)^2/P_2$	$P_2 (P_4/P_3)^4$	P_7
Dodoma	5.6	7.4	7.3
Arusha	4.8	7.1	6.3
Kilimanjaro	4.9	6.4	6.5
Tanga	5.4	6.3	6.9
Morogoro	5.0	7.4	6.8
Pwani	5.1	6.6	6.8
Dar es Salaam	3.6	6.3	5.5
Lindi	4.4	7.0	6.5
Mtwara	4.0	6.3	5.9
Ruvuma	5.0	7.1	6.7
Iringa	5.3	6.5	6.7
Mbeya	5.7	6.7	6.8
Singida	6.1	7.6	7.4
Tabora	6.3	7.5	7.6
Rukwa	6.7	7.7	8.0
Kigoma	6.8	9.4	8.0
Shinyanga	6.7	7.6	8.0
Kagera	6.4	8.4	7.8
Mwanza	6.3	7.7	7.9
Mara	6.2	8.5	7.9
Manyara	6.2	8.3	7.3
Mainland	**5.5**	**7.3**	**7.1**
North Unguja	6.9	8.8	7.8
South Unguja	6.4	7.4	8.0
Urban West	5.8	7.0	7.0
North Pemba	7.9	8.0	8.1
South Pemba	8.5	7.2	8.5
Zanzibar	**5.8**	**7.6**	**7.7**
Tanzania	**5.5**	**7.3**	**7.1**

7.3.2: P/F Ratio Method

P/F ratio method estimate fertility rates based on the average number of children ever born by age of mother collected in census or survey and adjust ASFRs to a fertility level desired from children ever born data. The method is based on the following assumptions:

- The completeness of reporting of births used to estimate the ASFRs is the same for all age groups of women.
- Reporting of the average number of children ever born per woman is complete (at least for women under 30 years or 35 years of age).
- The pattern and level of fertility have not changed during the 10 to 15 years prior to the census or survey.
- There is no age mis-reporting of women in childbearing years.
- This technique assumes constant fertility.

Some limitations to the P/F ratio method include:

- Errors in the data on the children ever born: These errors are associated with age misreporting of women in the data, under-reporting of the number of children ever born for older women, etc.
- Errors in the age-specific rates will affect the results in;
- Age mis-reporting of women at childbearing the pattern of fertility will have unpredictable effect.
- If the pattern of fertility taken as "actual" pattern contains errors, the estimated age-specific fertility rates will be incorrect. The outcome may also affect the level of the total fertility rate.

Table 7.4: P/F Ratio Technique

						Adjusted ASFR's			
Age	ASFR	Average CEB P(i)	Cumulative fertility Phi(i)	F(i)	P/F Ratio	P2/F2	P3/F3	P4/F4	Avg(P3/F3,P4/F4)
15-19	0.0784	0.286	0.325	0.140	2.049	0.1363	0.1236	0.1233	0.1234
20-24	0.1924	1.508	1.257	0.868	1.738	0.3345	0.3032	0.3026	0.3029
25-29	0.1892	2.890	2.208	1.833	1.576	0.3290	0.2983	0.2976	0.2979
30-34	0.1639	4.284	3.044	2.724	1.573	0.2850	0.2584	0.2578	0.2581
35-39	0.1229	5.458	3.681	3.442	1.585	0.2136	0.1937	0.1932	0.1935
40-44	0.0627	6.451	4.022	3.873	1.666	0.1091	0.0989	0.0987	0.0988
45-49	0.0236	7.078	4.166	4.132	1.713	0.0411	0.0372	0.0372	0.0372
TFR	4.1658					7.2421	6.5663	6.5522	6.5592

Table 7.5: Summary of the Results Based on P/F Ratio Technique

(i)	Age	Reported ASFRs and TFR	Adjusted ASFRs and TFR based on women 25-34 years**
1	15-19	0.0784	0.1234
2	20-24	0.1924	0.3029
3	25-29	0.1892	0.2979
4	30-34	0.1639	0.2581
5	35-39	0.1229	0.1935
6	40-44	0.0627	0.0988
7	45-49	0.0236	0.0372
TFR		4.2	6.6

Note: ** Adjustment factor of Avg(P3/F3(25-29), P4/F4(30-34)) was selected because women aged 25-34 are less likely to have memory lapse on reporting the number of children and their ages.

The results show a large difference between the reported TFR and the adjusted TFR. The difference is 2.4 children per woman. Under reporting of children ever born and memory lapse could cause the difference for older women.

7.3.3 Arriaga Techniques

The Arriaga Technique (two dates) assumed the following:

- The completeness of reporting of births used to estimate the age-specific fertility rates is the same for all age groups of women
- Reporting of the average number of children ever born per women is complete (at least for women under 30 years or 35 years of age).
- Changes in fertility produce a linear change in the average number of children ever born per women at each particular age of woman (mainly at ages 15 to 35 years) between the two dates
- Fertility occurs only between exact ages 15 and 50 years.

This technique has adjusted current fertility among women 20-24 years and uses older women slightly less. The technique has advantages over P/F ratio as follows:

- It does not assume that fertility is constant it can provide fertility estimates when levels have been changing.
- It uses two sources of data and looks at the changes in fertility patterns.

The method is affected by the age mis-reporting of women, under reporting or over reporting of children ever born and errors in reported age specific fertility. Thus, final estimations of the fertility rates will be derived using this method.

Table 7.6: Arriaga (Two Dates Technique)

Item and Age	Earlier date		Later date	
	CEB	ASFR	CEB	ASFR
Reference Date	1988.60		2002.65	
15-19	0.313	0.084	0.286	0.065
20-24	1.553	0.227	1.508	0.186
25-29	3.154	0.241	2.890	0.190
30-34	4.764	0.219	4.284	0.167
35-39	5.846	0.176	5.458	0.127
40-44	6.396	0.097	6.451	0.068
45-49	6.474	0.050	7.078	0.029
TFR		5.470		4.166

Childbearing, and Adjusting Factors

Item and age Group	1989.10	2002.15
	TOTAL FERTILITY RATE	
20-29	7.422	6.542
25-29	7.330	6.323
25-34	7.178	6.259
30-34	7.026	6.196
Mean age at child-bearing	30.07	29.59
	ADJUSTING FACTORS	
15-19	1.690	2.128
20-24	1.374	1.623
25-29	1.340	1.518
30-34	1.285	1.487
35-39	1.192	1.483
40-44	1.149	1.535
45-49	1.121	1.553

Year and item or age	ASFR from CEB		ASFR pattern		Adjusted ASFR's based on age group:				
	ASFR	Cumulative	ASFR	Cumulative	Adjusting factors	20-29	25-29	25-34	30-34
ASFR pattern shifted by one-half year (age code=0) *									
15-19	0.160	0.160	0.075	0.075	2.128	0.1182	0.1142	0.1131	0.1119
20-24	0.275	0.435	0.193	0.268	1.623	0.3028	0.2927	0.2898	0.2868
25-29	0.261	0.697	0.191	0.459	1.518	0.2996	0.2895	0.2866	0.2837
30-34	0.232	0.928	0.165	0.624	1.487	0.2593	0.2506	0.2481	0.2456
35-39	0.180	1.108	0.123	0.747	1.483	0.1931	0.1866	0.1848	0.1829
40-44	0.136	1.244	0.064	0.811	1.535	0.1000	0.0966	0.0957	0.0947
45-49	0.050	1.294	0.023	0.833	1.553	0.0354	0.0342	0.0339	0.0335
TFR	**6.471**		**4.166**			**6.542**	**6.323**	**6.259**	**6.196**
Mean age			**29.59**						

Table 7.7: Summary of the Result of Arriaga Two Dates Technique

(i)	Age	Reported ASFRs and TFR	Adjusted ASFR and TFR based on women 25-34 – Shifted by ½ year**
1	15-19	0.065	0.1131
2	20-24	0.186	0.2898
3	25-29	0.190	0.2866
4	30-34	0.167	0.2481
5	35-39	0.127	0.1848
6	40-44	0.068	0.0957
7	45-49	0.029	0.0339
TFR		**4.2**	**6.3**

** Adjustment factor of women aged 25-34 was selected because the technique recommends the factor close to mean age at child bearing (29.6 years)

The difference between the reported and adjusted TFR is 2.1 children per woman. This technique gives a plausible estimate of fertility. Examining the age pattern of fertility, maximum fertility occurred at age group 25-29.

7.3.5 Determination of Appropriate Model for Estimation of Fertility

It is evident that rates obtained by applying all indirect techniques do not vary much (Table 7.8). We accept the results based on application of the Arriaga Techniques due to the fact that when Arriagas' estimates were compared to those from other techniques, they showed some stability. Another reason for preferring Arriaga is based on the fact that all techniques used showed a decline in fertility but other techniques with exception of Arriaga assume that fertility has been constant in recent past. This assumption that fertility has been constant in recent past does not apply for the case of Tanzania. Ngalinda (1998) observed that the use of the Arriaga technique in populations where fertility is declining yields more reliable estimates as the technique not based on the assumption of constant fertility in the recent past. In view of the foregoing and to the fact that the same method was used in 1988 (Chuwa and Komba, 1994), which enhances the comparability of the estimates, it was therefore adopted as the most suitable for the analysis of 2002 population and housing census.

Table 7.8: Summary of Results of Methods used to Determine Appropriate Model for Estimation of Fertility for the 2002 Population and Housing Census

Age	Reported ASFR (i)	P/F Ratio Method ASFR (i)	Arriaga Method (Two Source of the Data) ASFR (i))
15-19	0.0753	0.1177	0.1137
20-24	0.1907	0.2980	0.3007
25-29	0.1819	0.2843	0.2887
30-34	0.1582	0.2472	0.2505
35-39	0.1109	0.1734	0.1751
40-44	0.0598	0.0935	0.0950
45-49	0.0202	0.0316	0.0306
TFR	3.98	6.23	6.27

7.4: Fertility Level

As we have seen above the data on current fertility could still be of value if it is assumed that under-reporting of the current births is not systematically related to the age or parity of the mother. Data on current births provides information on the shape of the age-specific fertility. This information used in conjunction with the data on average parities for younger women, give corrected age-specific and total fertility rates for the recent past and the method that was employed as explained above to determine fertility levels for the country and regions was the two dates technique developed by Arriaga (Table 7.8).

Table 7.9: Estimates of Total Fertility Rate and Crude Birth Rate, 2002

Region	*CBR*	*TFR*
Dodoma	44	6.8
Arusha	43	5.0
Kilimanjaro	36	5.2
Tanga	40	6.1
Morogoro	41	5.9
Pwani	38	5.3
Dar es Salaam	35	3.8
Lindi	37	5.2
Mtwara	36	5.0
Ruvuma	41	5.8
Iringa	40	5.7
Mbeya	42	5.9
Singida	43	6.8
Tabora	48	7.7
Rukwa	52	7.6
Kigoma	56	7.9
Shinyanga	49	8.1
Kagera	48	7.9
Mwanza	46	7.2
Mara	47	6.9
Manyara	46	7.2
Tanzania Mainland	43	**6.3**
North Unguja	43	7.3
South Unguja	38	5.7
Urban West	42	5.1
North Pemba	46	7.4
South Pemba	45	8.1
Tanzania Zanzibar	43	**6.2**
Tanzania	43	**6.3**

According to table 7.9, fertility levels for the Mainland, Zanzibar and Tanzania lies between 3.8 and 8.1 for the Mainland and for Zanzibar is between 5.1 to 8.1. As such the Total Fertility Rates for Tanzania, mainland, and Zanzibar was estimated to be 6.3 for the Mainland and Tanzania, as well as 6.2 for Zanzibar. Two regions in Tanzania showed a high (TFR of 8.1 each) was Shinyanga and South Pemba. But the following regions recorded high level of fertility above the national Kigoma (TFR of 7.9), Kagera (TFR of 7.9), Tabora (TFR of 7.7), Rukwa (TFR of 7.6), Mwanza (TFR of 7.2), Manyara (TFR of 7.2), Mara (TFR of 6.9), Dodoma (TFR of 6.8) and Singida (TFR of 6.8) for the Mainland and North Pemba (TFR of 7.4) and North Unguja (TFR of 7,3) for Zanzibar. Regions that recorded lowest fertility level in Tanzania include Dar es Salaam (TFR of 3.8), Arusha and Mtwara (TFR of 5 each region).

7.5: Patterns of Fertility

The reproductive period of a woman is usually considered to extend over a span of 35 years, from about 15 to 50. Ideally natural fertility could have an upper limit of as many as 35 births per woman. This means that a woman gives birth during the 35 years (15-49) of her life at 12 months interval between two successive births (Bongaarts and Potter, 1983). The upper-limit model assumes 9 months of full pregnancy and about 3 months after the birth of each child during which a woman cannot

become pregnant. In reality, it has been estimated that natural fertility can reach around 15 births per woman if the fertility inhibiting effects of delayed sexual unions, sexual interruption (abstinence, coitus interuptus etc), and breastfeeding are removed (Bongaarts, 1978).

In an ideal situation, all women are expected to be fertile during their whole reproductive period. But a small proportion of women may be sterile throughout the entire span, and most women or their partners may be sterile during some part of the reproductive age span. The proportions of women who are sterile at different ages are unknown. But this could be shown by an age specific fertility schedule of a country in the absence of contraception. Generally, a hypothetical model of age specific fertility curve shows a general low rate at 15 and then rises reaching a maximum at ages between 20 to 29, sometimes between 25 and 34. Then there is a decline, at first a gradual, and then a steep one at older ages until it reaches the lowest level at age 50.

The analysis of the shape of the age specific fertility schedule is an interesting and important part of the study of fertility. This is due to the fact that the mean age at child bearing, which is closely related to the mean of this schedule, is important in the relation between total fertility rate and population growth. The shape of the age specific fertility curve is also the link between the total fertility rate and such variables as the age at first birth and the age at menopause. For example a decrease in the age at first birth will affect the early part of the age specific fertility schedule and it will affect the total fertility rate through this part of the curve.

Another importance for the study of age patterns of fertility is the implication it has on policy formulation. For example, two countries with the same gross reproduction rate (GRR) but different mean ages of fertility schedule would produce different annual crude birth rates.[4] Therefore the age patterns of fertility have a bearing on the natural growth rate. Hence in order to reduce the natural growth rate, one policy measure in a country like Tanzania would be to rise the age at first birth in order to reduce fertility rate at young ages. Considering the broad-based age structure of these populations, such policy is likely to reduce the number of infants that would have been born and consequently reduces the crude birth rate. However during the transition period, if the average span between the generations is growing, then the population growth decreases even at constant fertility levels.

7.5.1 Age Specific Fertility Rates

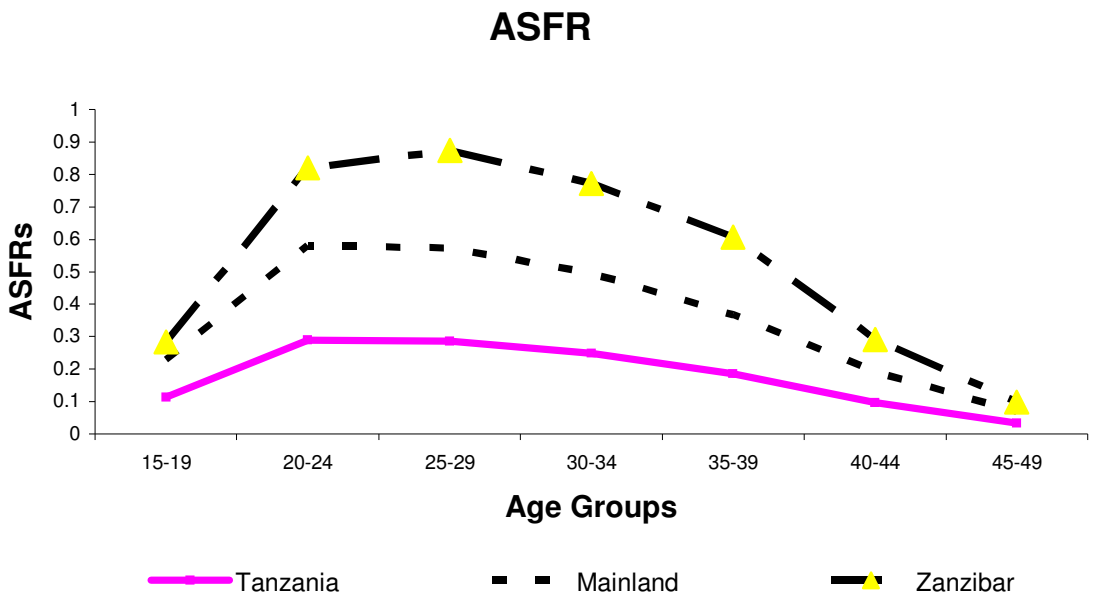
Women, who reported to have born children during 12 months preceding the census, were tabulated by age group and parity. The numbers obtained were divided by the total numbers of women in the relevant age groups to give age-specific fertility rates (ASFR).

[4] The GRR is a fertility measure related to TFR. This measure is identical to TFR except that it refers to female births only. It can simply be obtained by multiplying the TFR by the proportion of all female births in a year. This indicates how many daughters a woman will have in her lifetime. With that in mind, we can equate TFR to GRR. Then for two populations with the same fertility level but different mean age at fertility will have different CBR and hence different population growth. For a policy formulation, the level of fertility may not necessarily be compared to minimum age at birth called fertility schedule.

Table 7.10: Estimated Age Specific Fertility Rates

Age	Tanzania	Mainland	Zanzibar
	Adjusted ASFR	Adjusted ASFR	Adjusted ASFR
15-19	0.1131	0.1150	0.0566
20-24	0.2898	0.2912	0.2389
25-29	0.2866	0.2860	0.3008
30-34	0.2481	0.2469	0.2759
35-39	0.1848	0.1826	0.2388
40-44	0.0957	0.0954	0.1010
45-49	0.0339	0.0339	0.0312
TFR	6.3	6.3	6.2
MAF	29.6	29.6	30.8

Figure 7.1: Age Pattern of Fertility based on Arriaga Techniques



With the exception of Zanzibar (figure 12.1), the other two populations i.e Tanzania and Mainland show maximum fertility at age group 20-29 which indicate broad peak of the fertility in Tanzania and Mainland and also show a relatively low rates for age group 15-19. Specifically, the Zanzibar fertility schedule show a maximum fertility at age 25-29 which indicates the late peak while the fertility schedule of Mainland and Tanzania show a maximum fertility at age 20-24 which indicate an early peak.

In order to critically examine the fertility schedule, it is preferred to look on the degree of concentration of fertility in age groups at or near the peak. Table 12.15 presents the percentage distribution of each age group to the Total Fertility.

Table 7.11: Relative Age Specific Fertility Rates

Ages	Tanzania	Mainland	Zanzibar
15-19	9.0	9.2	4.6
20-24	23.1	23.3	19.2
25-29	22.9	22.9	24.2
30-34	19.8	19.7	22.2
35-39	14.8	14.6	19.2
40-44	7.6	7.6	8.1
45-49	2.7	2.7	2.5

The pattern of the age specific fertility schedule for Tanzania and Mainland is similar with a very minor difference. While the contribution of women by age 25 is less than 34 percent for both Mainland and Tanzania, the contribution of women in the same age is about 24 percent for Zanzibar. This table confirms the earlier findings that for Mainland and Tanzania, the peak is at age group 20-24 and drops very slightly at age group 25-29 hence characterised by a broad peak fertility curve. For Zanzibar, the schedule is different as the peak is at age group 25-29 and drops at age 30-34. For Zanzibar, the curve is characterised by a late peak.

7.5.2 Mean Age at Fertility Schedule

The mean age of fertility schedule that can be calculated from tabulated responses to a question about births occurring in the preceding year, with due allowance for the fact that women who report a birth during the preceding year would on average have been 15[5] months younger at the time of birth than at the time of census. The mean age of fertility schedule was found to be 29.6 for both Mainland and Tanzania, while Zanzibar indicated a higher mean age of fertility schedule of 30.8 (Table12.15). This is an indication that fertility is declining in Zanzibar compared to Mainland.

7.6 Final Estimates

It was observed that data on fertility for both current and retrospective were not reliable. The estimation of fertility by using completed family size seems to be on the higher side. The two parity approaches raised the level of fertility to unacceptable level. Brass P/F Ratio and Relational Gompertz techniques helped to give some indication of the level of fertility. However Arriaga technique seems to adjust the data and give the plausible estimates. The values of 6.3 for Tanzania and Mainland as well as 6.2 for Zanzibar as Total Fertility Rates are considered to be plausible. Regions with higher fertility include Shinyanga (8.1), Kagera and Kigoma (7.9 each), Tabora (7.7), Rukwa (7.6), Mwanza and Manyara (7.2 each), Mara (6.9), Dodoma and Singida (6.8 each) in Mainland. South Pemba (8.1), North Pemba (7.4) and North Unguja (7.3) in Zanzibar. However regions which reported low level of fertility include Dar es Salaam (3.8), Arusha and Mtwara (5.0 each) in Mainland and Urban West (5.1) in Zanzibar.

Crude birth rate was estimated based on the robust estimate of birth rate developed by Coale (1981) and simplified by Venkatacharya and Teklu (1987). The value of 43 for Tanzania, Mainland and Zanzibar seems to be plausible for the 2002 population and housing census.

Thirteen regions in Tanzania recorded higher Crude Birth Rate of more than 43 births per 1000 population (mid-year), three regions which recorded high level of CBR include Kigoma (56), Rukwa

5 Six months younger plus 9 months (from January to 25.08 the Tanzania census day).

(52) and Shinyanga (49). Those which recorded low level of CBR include Dar es Salaam (35), Mtwara (36) and Kilimanjaro (36).

Table 7.12: Final Estimates of CBR and TFR

Region	*CBR*	*TFR*
Dodoma	44	6.8
Arusha	43	5.0
Kilimanjaro	36	5.2
Tanga	40	6.1
Morogoro	41	5.9
Pwani	38	5.3
Dar es Salaam	35	3.8
Lindi	37	5.2
Mtwara	36	5.0
Ruvuma	41	5.8
Iringa	40	5.7
Mbeya	42	5.9
Singida	43	6.8
Tabora	48	7.7
Rukwa	52	7.6
Kigoma	56	7.9
Shinyanga	49	8.1
Kagera	48	7.9
Mwanza	46	7.2
Mara	47	6.9
Manyara	46	7.2
Mainland	**43**	**6.3**
North Unguja	43	7.3
South Unguja	38	5.7
Urban West	42	5.1
North Pemba	46	7.4
South Pemba	45	8.1
Zanzibar	**43**	**6.2**
Tanzania	**43**	**6.3**

7.7 FERTILITY TRENDS

Data from all post independence census suggest some decline in fertility during the recent past. For Tanzania total, the Total Fertility Rate was 6.9 in 1978 and decreased to 6.5 in 1988 before it reached 6.3 in 2002. This shows that although fertility is still high, Tanzania has experienced a reduction in fertility by about 0.6 children per woman from 1978 to 2002. Table 12.18 shows that between 2002 and 1988 there was a decrease of 0.2 lifetime births as compared to 0.4 lifetime births between 1978 and 1988. Thus the tempo of fertility decline has somehow accelerated not faster as it was between 1978 to 1988. The age specific fertility rates shown on table 12.18 indicate a substantial decrease in ASFRs for all ages notably young ages 15-29.

Table 7.13: Trends of Age Specific Fertility Rates, Total Fertility Rate and Mean Age at Fertility Schedule -Tanzania, Mainland and Zanzibar (1978-2002)

	Tanzania			Mainland			Zanzibar		
Age	1978	1988	2002	1978	1988	2002	1978	1988	2002
15-19	0.146	0.106	0.113	0.135	0.107	0.115	0.239	0.117	0.057
20-24	0.325	0.280	0.290	0.305	0.281	0.291	0.353	0.309	0.239
25-29	0.314	0.310	0.287	0.295	0.310	0.286	0.320	0.334	0.301
30-34	0.253	0.272	0.248	0.239	0.272	0.247	0.236	0.286	0.276
35-39	0.194	0.206	0.185	0.183	0.205	0.183	0.166	0.209	0.239
40-44	0.100	0.105	0.096	0.093	0.105	0.095	0.078	0.103	0.101
45-49	0.040	0.017	0.034	0.039	0.017	0.034	0.044	0.016	0.031
TFR	**6.9**	**6.5**	**6.3**	**6.9**	**6.5**	**6.3**	**7.0**	**6.9**	**6.2**
MAF	**29.2**	**29.7**	**29.6**	**28.8**	**29.7**	**29.6**	**27.5**	**25.4**	**30.8**

The results clearly indicate that the decline is more pronounced in few regions i.e. Kilimanjaro (2.4 lifetime births) Arusha (1.9 lifetime births), Dar es Salaam (1.9 lifetime births), Iringa (1.6 lifetime births), Mbeya (1.5 lifetime births) and Mtwara (1.2 lifetime births) from 1978 to 2002. But fertility has increased in Kagera and North Unguja regions by 0.3 lifetime births. But Pwani recorded a constant fertility from 1978 to 2002.

Table 7.14: Trends of Total Fertility Rate (1967-2002)

Region	1967	1978	1988	2002
Dodoma	6.9	7.4	6.7	6.8
Arusha	7.1	6.9	6.6	5.0
Kilimanjaro	7.9	7.6	7.1	5.2
Tanga	6.9	7.1	6.4	6.1
Morogoro	6.0	6.3	6.3	5.9
Pwani	4.9	5.3	5.0	5.3
Dar es Salaam	4.3	5.7	4.6	3.8
Lindi	-	5.9	5.7	5.2
Mtwara	5.0	6.2	5.7	5.0
Ruvuma	6.7	6.4	6.6	5.8
Iringa	8.4	7.3	6.7	5.7
Mbeya	7.6	7.4	6.5	5.9
Singida	6.1	6.9	6.1	6.8
Tabora	5.5	6.2	6.4	7.7
Rukwa	-	8.7	7.5	7.6
Kigoma	5.9	7.1	6.9	7.9
Shinyanga	7.5	7.1	7.2	8.1
Kagera	7.1	7.6	7.2	7.9
Mwanza	6.9	7.4	7.0	7.2
Mara	7.1	7.4	7.6	6.9
Manyara	-	-	-	7.2
Mainland	6.6	6.9	6.5	6.3
North Unguja	-	7.0	6.8	7.3
South Unguja	-	6.6	6.9	5.7
Urban West	-	6.2	6.4	5.1
North Pemba	-	7.8	7.4	7.4
South Pemba	-	7.5	7.3	8.1
Zanzibar	6.5	7.0	6.9	6.2
Tanzania	6.6	6.9	6.5	6.3

7.8: Fertility Differentials

In this section an attempt is made to analysis the information on children ever born to women by various socioeconomic characteristics popular known as fertility defferentials. The variables that are included in this section are place of residence, marital status, education attainment and main economic activity of the respondent.

For the purpose of studying fertility differentials, what is essentially required is the order of magnitude of the difference between two or more fertility levels rather than the exact levels. This implies that the analysis assume that the whole dataset is equally affected by misclassification errors, errors in the reported number of births and women of specific age group, error in the reported births, inflation of the number of births, and non-inclusion of parity of a sizeable proportion of women who did not state their parities as well as other sources of error. In lieu of this, mean number of children ever born to women aged 20 to 34 years will be used as an index for determining fertility differentials associated with different socio economic characteristics of a woman due to the fact that those women are normally not affected much by the mentioned errors and their fertility shows the most recent pattern.

7.8.1 Place of Residence Differentials

Urbanization is significantly correlated with fertility. In general, low levels of fertility are often associated with high levels of urbanization and vice versa. Table 12.20 shows that rural areas in Tanzania have a higher fertility than urban areas. Ngallaba[6] in his analysis of 1978 population and housing census as well as Chuwa and Komba[7] in the analysis of the 1988 population and housing census also observed the same pattern.

In order to investigate more, the child woman ratio was determined as is believed to be the most general applicable index of rural-urban differential. The Child Woman Ratio (CWR) is defined as the ratio of children aged 5-9 years to women 20-49 years[8]. Table 12.20 further shows a similar trend whereby the child-woman ratios for rural areas are greater than those for urban areas in all regions. Likewise, the mean number of children ever born to women 20 – 34 years age group lies above of the urban areas. This therefore confirms that fertility is higher in rural areas than in urban part of Tanzania.

[6] Ngallaba, S.A.M: Fertility Differentials in 1978 Population Census Volume VIII, Population of Tanzania 1978 (Dar es Salaam, 1983)

[7] Chuwa and Komba: Fertility levels, patterns, trends and differentials in 1988 Population Census Analytical Report, The Population of Tanzania (Dar es Salaam, 1994)

[8] Ngalinda, 1998: Age at First Birth, Fertility and Contraception in Tanzania. Published PhD Thesis, Humboldt University of Berlin, Germany

Table 7.15: Child Woman Ratio (CWR) and P_{20-34} by Region: 2002 Census

Area	Child – Woman Ratio			P_{20-34}		
	Total	Rural	Urban	Total	Rural	Urban
Dodoma	0.815	0.850	0.603	2.83	2.99	1.92
Arusha	0.794	0.961	0.520	2.23	2.63	1.65
Kilimanjaro	0.823	0.899	0.598	2.26	2.41	1.88
Tanga	0.783	0.842	0.558	2.69	2.91	1.90
Morogoro	0.738	0.805	0.587	2.63	2.90	2.04
Pwani	0.740	0.794	0.569	2.66	2.85	2.10
Dar es Salaam	0.466	0.619	0.458	1.68	2.42	1.64
Lindi	0.644	0.677	0.494	2.50	2.62	1.97
Mtwara	0.570	0.584	0.518	2.35	2.45	2.01
Ruvuma	0.742	0.775	0.587	2.71	2.84	2.12
Iringa	0.814	0.860	0.619	2.47	2.62	1.91
Mbeya	0.770	0.811	0.634	2.74	2.94	2.13
Singida	0.909	0.946	0.705	2.87	2.99	2.26
Tabora	0.929	0.975	0.665	3.17	3.31	2.41
Rukwa	0.922	0.955	0.784	3.18	3.30	2.69
Kigoma	0.912	0.940	0.776	2.99	3.06	2.64
Shinyanga	0.963	1.002	0.642	3.31	3.43	2.40
Kagera	0.908	0.930	0.645	3.05	3.13	2.17
Mwanza	0.888	0.961	0.656	3.07	3.32	2.33
Mara	0.898	0.937	0.749	3.25	3.40	2.68
Manyara	0.920	0.977	0.621	2.76	2.89	2.17
Mainland	**0.799**	**0.885**	**0.566**	**2.71**	**3.01**	**1.97**
North Unguja	0.912	0.914	0.774	3.00	3.01	3.00
South Unguja	0.768	0.776	0.640	2.68	2.69	2.68
Urban West	0.644	0.763	0.622	2.06	2.67	2.06
North Pemba	0.930	0.958	0.803	3.24	3.40	3.24
South Pemba	0.942	0.974	0.807	3.08	3.25	3.08
Zanzibar	**0.787**	**0.898**	**0.648**	**2.58**	**3.06**	**2.58**
Tanzania	**0.798**	**0.885**	**0.569**	**2.71**	**3.01**	**1.97**

Source: The United Republic of Tanzania 2002 Population and Housing Census.

7.8.2 Educational Status Differentials

Education is one of the most important socio-economic factors that influence fertility. Extended formal education has been found to be one of the main reasons for the postponement of marriage among educated women. Higher educational attainment is also associated with the use of more effective contraceptive methods and better nutrition as well as better access to health care services. All analysis of the past post-independence census has shown a negative relationship between education and fertility. As the level of education increased, there was a reduction in fertility.

Table 7.15 shows that there is a marked difference between women who had no formal education wand those who had formal education. Generally the table suggest a negative effect on fertility the education has for the case of Tanzania in both rural and urban area. The mean number of children ever born for Mainland, Zanzibar and Tanzania decreased with increasing years in school, i.e. those women who have never attended school have the highest mean CEB compared to those in the other categories. However there is a slight increase in the mean number of children ever born for women whose level of

education is between one and four years for Zanzibar, Mainland and Tanzania. This is not surprising since most of them are still semi-illiterate as their level of education in this group is still too low to have any effect in their reproductive behaviour. The university category recorded high mean number of children ever born than that of post primary and post secondary women. This situation is attributed to a small sample of women in these categories as many of these women especially those aged 20 - 24 years are still in secondary or in other institutions like teacher training colleges where they are not supposed to get pregnant or bear children.

A close look at the rural-urban differentials among women of different educational status reveals again that, rural women of any given level of education on Mainland, Zanzibar and Tanzania have experienced high fertility compared to urban women of the same level of education.

Table 7.16: Mean Number of Children Ever Born to Women Aged 20 to 34 by Educational Status for Rural and Urban Areas: 2002 Census

	Total		Rural		Urban	
Level of Education	Mean CEB	Index	Mean CEB	Index	Mean CEB	Index
TANZANIA						
Total	2.71	100	3.01	100	1.97	100
Never attended	2.81	104	3.12	104	1.99	101
1 to 4	3.11	115	3.29	109	2.43	123
5 to 8	2.69	99	2.94	98	2.11	107
Post Primary	1.61	59	1.8	60	1.49	76
Post Secondary	1.13	42	1.58	52	0.95	48
Secondary	1.35	50	1.59	53	1.24	63
University	1.93	71	2.84	94	1.18	60
MAINLAND						
Total	2.71	100	3.01	100	1.97	100
Never attended	2.8	103	3.11	103	1.99	101
1 to 4	3.1	114	3.28	109	2.41	122
5 to 8	2.69	99	2.94	98	2.11	107
Post Primary	1.61	59	1.81	60	1.49	76
Secondary	1.26	46	1.46	49	1.18	60
Post Secondary	1.15	42	1.62	54	0.96	49
University	1.95	72	2.86	95	1.19	60
ZANZIBAR						
Total	2.58	100	3.06	100	2.02	100
Never attended	2.96	115	3.64	119	1.89	94
1 to 4	3.18	123	3.41	111	2.73	135
5 to 8	2.9	112	3.22	105	2.54	126
Post Primary	1.5	58	1.57	51	1.39	69
Secondary	1.82	71	2.13	70	1.61	80
Post Secondary	0.9	35	0.94	31	0.89	44
University	1.35	52	2.07	68	1.07	53

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Notes: The "Index" of fertility is calculated by using total P20-34 as a base for each category of educational level.

7.8.3 Marital Status Differentials

Classification of population by marital status varies from country to country in accordance with the prevailing marriage norms. In the 1988 Population Census the question on marital status was asked to all people regardless of their age, hence six categories of marital status can be identified. These are never married, current married, living together, divorced, separated and widowed. Table 12.22 present the mean number of children ever born by marital status to women aged 20-34.

It can be seen from the table that there is a little difference between the fertility, of married and widowed women in Tanzania, Mainland and Zanzibar whereby fertility of married women is less than those widowed. This might be attributed to the fact that respondents who report to be widowed women are most of the time those who are mothers and those without parities might categorise themselves as never married especially for this age group (20-34). But currently married would be proud to report so even if there are not mothers yet. The pattern was observed in during the analysis of the 1988 Population Census of Tanzania. The striking results is for those never married (20-34) with average parity of more than one child per woman. In Tanzania Mainland almost a never married woman had a child, but in Zanzibar there are few never married women who are mothers.

All regions in mainland recorded never married women (20-34) with more than one child except Arusha, Dar es Salaam, Kagera, Manyara, Kilimanjaro, Mbeya, Kigoma, and Iringa. All regions in Zanzibar have very low mean number of children ever born to never married women 20-34 years, this might be attributed to culture whereby for those regions with more than one child per never married woman in the age groups 20-34 are characterised with a culture that women with pre-marital births have equal chances of getting married while for those regions with low level of mean number of children ever born to never married women 20-34 (less than one child), never married mothers have less chance of getting married after motherhood before marriage. The rural-urban differentials show that for any category of marital status, women in rural areas experienced higher fertility than those in urban areas.

Table 7.17: Mean Number of Children Ever Born to Women Aged 20 to 34 by Marital Status

Marital Status	Total		Rural		Urban	
	MCEB	Index	MCEB	Index	MCEB	Index
TANZANIA						
Total	2.71	100	3.01	100	1.97	100
Never married	1.02	38	1.24	41	0.78	40
Married	3.18	117	3.36	112	2.58	131
Living together	2.6	96	2.87	95	2.18	111
Divorced	2.6	96	2.72	90	2.32	118
Separated	2.81	104	2.91	97	2.53	128
Widowed	3.53	130	3.79	126	2.87	146
MAINLAND						
Total	2.71	100	3.01	100	1.97	100
Never married	1.05	39	1.27	42	0.81	41
Married	3.18	117	3.36	112	2.56	130
Living together	2.6	96	2.87	95	2.18	111
Divorced	2.6	96	2.72	90	2.31	117
Separated	2.81	104	2.91	97	2.54	129
Widowed	3.52	130	3.79	126	2.86	145
ZANZIBAR						
Total	2.58	100	3.06	100	2.02	100
Never married	0.23	9	0.33	11	0.17	8
Married	3.29	128	3.61	118	2.82	140
Living together	2.46	95	2.81	92	1.98	98
Divorced	2.55	99	2.7	88	2.41	119
Separated	2.53	98	3.08	101	1.86	92
Widowed	3.68	143	4.18	137	3.1	153

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Notes: The "Index" of fertility is calculated by using total P20-34 as a base for each category of marital status.

7.8.4: Main Occupation Differentials

Fertility is found to vary with the type of work done by the woman in Tanzania. Table 7.18 shows variations of the mean number of children ever born according to the type of work done by the women 20-34 years old. The type of the occupation analysed were:

i. Professional, Technical and Manager
ii. Small business and service
iii. Agriculture
iv. Street vendors
v. Clerks

Table 7.18 shows that there is a marked difference between the fertility of women in professional, technical and managerial group and those who are engaging in agriculture. While the women in the former group is 41 percent less than the total mean children ever born in Tanzania and Mainland, and 37 percent less in Zanzibar, fertility of women 20-34 age group in the agriculture sector is 12 percent more than total mean children ever born to women 20-34 age group in Tanzania and Mainland, and 38 percent more in Zanzibar. The result of the 2002 Population and Housing Census seems to confirm the findings of other post-independence censuses in Tanzania[9] that women in the agricultural sector have the highest mean number of children ever born.

Table 7.18: Mean Number of Children Ever Born to Women Aged 20 to 34 by Main Occupation for Total, Rural and Urban: 2002 Census

Main Occupation	Total		Rural		Urban	
	MCEB	Index	MCEB	Index	MCEB	Index
TANZANIA						
Total	2.71	100	3.01	100	1.97	100
Prof, tech, managers	1.61	59	1.91	63	1.46	74
Small business and service	2.15	79	2.86	95	1.71	87
Agriculture	3.04	112	3.09	103	2.6	132
Street vendors	2.36	87	2.8	93	2.17	110
Clerks	2.05	76	2.66	88	1.65	84
Others	2.32	86	2.85	95	1.85	94
MAINLAND						
Total	2.71	100	3.01	100	1.97	100
Prof, tech, managers	1.61	59	1.92	64	1.45	74
Small business and service	2.16	80	2.87	95	1.71	87
Agriculture	3.04	112	3.08	102	2.6	132
Street vendors	2.34	86	2.79	93	2.15	109
Clerks	2.03	75	2.71	90	1.61	82
Others	2.33	86	2.86	95	1.84	93
ZANZIBAR						
Total	2.58	100	3.06	100	2.02	100
Prof, tech, managers	1.63	63	1.79	58	1.58	78
Small business and service	1.85	72	2.42	79	1.66	82
Agriculture	3.57	138	3.59	117	3.28	162
Street vendors	2.81	109	2.96	97	2.71	134
Clerks	2.17	84	2.36	77	2.01	100
Others	2.21	86	2.57	84	1.97	98

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Notes: The "Index" of fertility is calculated by using total P20-34 as a base for each category of type of occupation

[9] Ibid Chuwa and Komba, 1994

7.9: Conclusion

The results of this analysis clearly show that fertility in Tanzania although still is on high side is declining from 6.9 children per woman in 1978 to 6.3 children per woman in 2002. Although fertility decline amongst all age groups, it was more pronounced among young women. Fertility decline was much more pronounced in few regions like Dar es Salaam, Kilimanjararo, Arusha and Mtwara. Kagera and North Unguja regions experienced an increase in fertility while Pwani region experienced a constant fertility. Beside the variations in fertility associated with socioeconomic characteristics several factors were identified as having a strong influence on fertility and largely accounted for the decline in fertility. It has been found that fertility of women with no formal education was high and that fertility decreases as education increases.

Examination of the rural-urban differentials revealed that rural women have recorded higher fertility compared to urban women on the Mainland, Zanzibar and Tanzania. Marital status on the other hand is also one of the most significant determinants of fertility. It is evident that social transformation from an early and almost universal marriage to where only a proportion of women of reproductive age remain unmarried along with a notable tendency towards late marriage might have occurred due to the effect of globalization. It is also evident that pre-marital child bearing has become increasingly more prevalent. Fertility is found to vary with the type of occupation of a woman. The study of occupation of women showed that women in the agriculture sector have higher fertility than those in other occupational groups.

7.10 APPENDICES

Table 7.10.1: Aggregates for CBR Calculations

Region	C(15-)	r	$e^{(7.5xr)}$	C(15-) $e^{(7.5xr)}$	l_5	0.161+14.789xl_5	CBR
Dodoma	0.444	0.023	1.185	0.526	0.803	12.039	44
Arusha	0.439	0.040	1.349	0.592	0.930	13.921	43
Kilimanjaro	0.431	0.016	1.125	0.484	0.910	13.622	36
Tanga	0.440	0.018	1.141	0.502	0.835	12.505	40
Morogoro	0.416	0.026	1.216	0.506	0.832	12.462	41
Pwani	0.400	0.024	1.195	0.478	0.831	12.445	38
Dar es Salaam	0.328	0.043	1.385	0.455	0.874	13.083	35
Lindi	0.390	0.014	1.114	0.434	0.793	11.886	37
Mtwara	0.372	0.017	1.136	0.423	0.790	11.846	36
Ruvuma	0.425	0.025	1.210	0.514	0.828	12.412	41
Iringa	0.445	0.015	1.121	0.499	0.827	12.391	40
Mbeya	0.436	0.024	1.199	0.523	0.829	12.422	42
Singida	0.463	0.023	1.187	0.550	0.863	12.917	43
Tabora	0.469	0.036	1.311	0.615	0.863	12.918	48
Rukwa	0.484	0.036	1.305	0.632	0.818	12.256	52
Kigoma	0.495	0.048	1.435	0.710	0.849	12.721	56
Shinyanga	0.488	0.033	1.279	0.624	0.848	12.704	49
Kagera	0.473	0.031	1.258	0.595	0.818	12.265	48
Mwanza	0.466	0.032	1.271	0.593	0.859	12.864	46
Mara	0.481	0.025	1.202	0.578	0.813	12.186	47
Manyara	0.463	0.038	1.328	0.615	0.889	13.303	46
Tanzania Mainland	**0.442**	**0.029**	**1.238**	**0.548**	**0.843**	**12.622**	**43**
North Unguja	0.453	0.025	1.203	0.545	0.840	12.584	43
South Unguja	0.427	0.021	1.173	0.500	0.871	13.045	38
Urban West	0.403	0.045	1.401	0.564	0.894	13.387	42
North Pemba	0.490	0.022	1.176	0.576	0.844	12.641	46
South Pemba	0.484	0.023	1.188	0.576	0.854	12.794	45
Tanzania Zanzibar	**0.443**	**0.031**	**1.259**	**0.558**	**0.865**	**12.947**	**43**
Tanzania	**0.442**	**0.029**	**1.239**	**0.548**	**0.843**	**12.622**	**43**

Table 7.10.2: Mean Number of Children Ever Born 2002

Pi	Age Group	Tanzania	Mainland	Zanzibar
1	**15-19**	0.286	0.291	0.132
2	**20-24**	1.508	1.519	1.132
3	**25-29**	2.890	2.893	2.765
4	**30-34**	4.284	4.279	4.444
5	**35-39**	5.458	5.437	6.067
6	**40-44**	6.451	6.430	7.106
7	**45-49**	7.078	7.062	7.655

Table 7.10.3: Mean Number of Children Ever Born by Region, 2002 Population Census

Pi	1	2	3	4	5	6	7
Region	15-19	20-24	25-29	30-34	35-39	40-44	45-49
Dodoma	0.289	1.593	2.982	4.371	5.535	6.592	7.293
Arusha	0.225	1.195	2.393	3.742	4.790	5.740	6.300
Kilimanjaro	0.155	1.123	2.344	3.619	4.697	5.593	6.521
Tanga	0.300	1.510	2.857	4.083	5.232	6.138	6.888
Morogoro	0.364	1.536	2.765	4.090	5.248	6.150	6.805
Pwani	0.374	1.556	2.821	4.050	5.278	6.209	6.756
Dar es Salaam	0.183	0.893	1.787	2.908	3.940	4.798	5.504
Lindi	0.388	1.517	2.596	3.799	4.868	5.902	6.546
Mtwara	0.362	1.460	2.405	3.466	4.353	5.204	5.938
Ruvuma	0.339	1.619	2.833	4.106	5.113	6.221	6.720
Iringa	0.204	1.292	2.621	3.923	5.071	5.995	6.730
Mbeya	0.293	1.563	2.981	4.290	5.271	6.243	6.768
Singida	0.214	1.512	3.044	4.562	5.795	6.779	7.381
Tabora	0.411	1.873	3.429	4.847	6.061	7.053	7.611
Rukwa	0.351	1.860	3.518	5.023	6.480	7.352	8.009
Kigoma	0.231	1.549	3.253	5.100	6.561	7.522	7.957
Shinyanga	0.339	1.876	3.534	5.020	6.240	7.216	7.971
Kagera	0.223	1.651	3.258	4.895	6.197	7.178	7.775
Mwanza	0.339	1.737	3.314	4.813	6.076	7.229	7.883
Mara	0.363	1.931	3.461	5.010	6.169	7.185	7.865
Manyara	0.213	1.406	2.959	4.610	5.885	6.868	7.298
North Unguja	0.149	1.442	3.147	4.953	6.421	7.267	7.820
South Unguja	0.141	1.184	2.763	4.362	5.846	7.061	7.996
Urban West	0.114	0.853	2.220	3.763	5.295	6.405	7.011
North Pemba	0.157	1.485	3.423	5.222	6.729	7.837	8.075
South Pemba	0.126	1.391	3.432	5.180	6.928	7.736	8.513

Table 7.10.4: Reported Age Specific Fertility Rates

Region	Age Group						
	15-19	20-24	25-29	30-34	35-39	40-44	45-49
Dodoma	0.068	0.200	0.200	0.175	0.145	0.080	0.036
Arusha	0.041	0.147	0.162	0.145	0.111	0.052	0.025
Kilimanjaro	0.039	0.155	0.163	0.149	0.111	0.044	0.015
Tanga	0.060	0.171	0.171	0.143	0.108	0.058	0.027
Morogoro	0.084	0.164	0.160	0.132	0.101	0.059	0.025
Pwani	0.080	0.166	0.166	0.137	0.103	0.057	0.025
Dar es Salaam	0.027	0.076	0.092	0.079	0.055	0.035	0.016
Lindi	0.073	0.138	0.129	0.110	0.088	0.057	0.021
Mtwara	0.080	0.150	0.130	0.113	0.086	0.048	0.019
Ruvuma	0.079	0.178	0.157	0.134	0.100	0.051	0.025
Iringa	0.046	0.167	0.167	0.148	0.113	0.052	0.021
Mbeya	0.069	0.175	0.167	0.140	0.094	0.044	0.019
Singida	0.052	0.224	0.223	0.195	0.155	0.083	0.029
Tabora	0.086	0.220	0.213	0.185	0.144	0.085	0.040
Rukwa	0.080	0.230	0.226	0.189	0.147	0.086	0.036
Kigoma	0.056	0.230	0.254	0.232	0.181	0.097	0.054
Shinyanga	0.081	0.247	0.252	0.233	0.166	0.097	0.044
Kagera	0.066	0.258	0.255	0.223	0.172	0.077	0.029
Mwanza	0.081	0.224	0.228	0.200	0.151	0.086	0.038
Mara	0.098	0.268	0.275	0.229	0.179	0.097	0.031
Manyara	0.049	0.202	0.228	0.218	0.166	0.085	0.031
Tanzania Mainland	0.066	0.187	0.189	0.166	0.126	0.068	0.029
North Unguja	0.031	0.188	0.231	0.202	0.199	0.099	0.025
South Unguja	0.046	0.168	0.209	0.177	0.161	0.075	0.011
Urban West	0.028	0.125	0.172	0.175	0.149	0.051	0.015
North Pemba	0.044	0.217	0.287	0.229	0.191	0.106	0.057
South Pemba	0.034	0.205	0.269	0.256	0.238	0.103	0.049
Tanzania Zanzibar	0.034	0.163	0.216	0.201	0.181	0.080	0.029
Tanzania	**0.065**	**0.186**	**0.190**	**0.167**	**0.127**	**0.068**	**0.029**

Table 7.10.5: Mean Number of Children Ever Born to Women Aged 20 to 34 years by Educational Status

Region	Total	Never attended	1 to 4	5 to 8	Secondary	Post Primary	Post Secondary	University
Tanzania	2.71	2.81	3.11	2.69	1.35	1.61	1.13	1.93
Dodoma	2.83	3.15	3.12	2.83	1.12	1.67	1.03	2.76
Arusha	2.23	2.57	2.84	2.20	1.17	1.23	0.74	1.49
Kilimanjaro	2.26	2.08	2.92	2.40	1.24	1.99	1.20	1.64
Tanga	2.69	3.07	2.93	2.64	1.17	1.36	1.43	2.57
Morogoro	2.63	2.83	2.92	2.59	1.20	2.37	1.09	1.98
Pwani	2.66	3.45	2.85	2.61	1.09	1.29	1.10	2.48
Dar Es Salaam	1.68	1.46	1.97	1.85	1.08	1.18	0.76	1.04
Lindi	2.50	2.34	2.45	2.51	1.15	1.86	1.06	2.18
Mtwara	2.35	1.81	2.40	2.34	1.26	2.06	1.37	1.71
Ruvuma	2.71	2.23	2.96	2.76	1.50	2.37	1.44	2.56
Iringa	2.47	2.80	2.82	2.46	1.24	1.65	1.18	1.55
Mbeya	2.74	2.96	3.16	2.71	1.36	1.65	1.43	2.25
Singida	2.87	2.60	3.14	2.86	1.12	1.23	2.13	2.51
Tabora	3.17	3.98	3.58	3.05	1.55	2.15	1.53	2.85
Rukwa	3.18	2.12	3.26	3.19	1.49	2.13	1.88	2.31
Kigoma	2.99	2.98	3.24	2.95	1.35	1.26	1.57	2.28
Shinyanga	3.31	2.69	3.66	3.16	1.55	2.44	2.28	3.65
Kagera	3.05	3.33	3.51	2.99	1.51	1.41	1.18	2.87
Mwanza	3.07	3.31	3.38	3.03	1.54	1.67	1.77	2.90
Mara	3.25	3.05	3.49	3.28	1.91	2.97	2.13	3.20
Manyara	2.76	2.36	3.15	2.65	1.25	1.48	0.88	3.02
North Unguja	3.00	1.00	2.90	3.26	2.02	1.89	0.05	1.24
South Unguja	2.68	-	3.28	3.07	2.18	1.15	0.59	2.66
Urban West	2.06	2.59	2.76	2.56	1.64	1.30	0.85	1.08
North Pemba	3.24	1.82	3.74	3.19	2.11	1.96	1.89	2.65
South Pemba	3.08	9.02	3.71	3.52	2.03	1.02	1.29	1.49

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 7.10..6: Mean Number of Children Ever Born to Women Aged 20 to 34 years by Marital Status: Tanzania, 2002

Region	Total	Never married	Married	Living together	Divorced	Separated	Widowed
Tanzania	**2.71**	**1.02**	**3.18**	**2.60**	**2.60**	**2.81**	**3.53**
Dodoma	2.83	1.25	3.19	2.62	3.03	3.01	3.62
Arusha	2.23	0.62	2.77	2.28	2.32	2.56	3.26
Kilimanjaro	2.26	0.82	2.99	2.30	2.38	2.52	3.50
Tanga	2.69	1.04	3.12	2.66	2.63	2.53	3.36
Morogoro	2.63	1.41	3.13	2.71	2.85	2.76	3.49
Pwani	2.66	1.26	3.08	2.50	2.66	2.81	3.24
Dar es Salaam	1.68	0.69	2.33	1.99	2.07	2.41	2.39
Lindi	2.50	1.49	2.92	2.31	2.48	2.60	3.35
Mtwara	2.35	1.41	2.56	2.56	2.14	2.51	3.13
Ruvuma	2.71	1.44	3.08	2.60	2.62	2.74	3.17
Iringa	2.47	0.97	2.97	2.57	2.44	2.47	3.37
Mbeya	2.74	0.83	3.09	2.54	2.50	2.61	3.30
Singida	2.87	1.10	3.23	2.79	2.96	3.40	4.02
Tabora	3.17	1.55	3.51	3.19	2.87	2.99	3.73
Rukwa	3.18	1.03	3.51	2.95	2.74	3.01	3.92
Kigoma	2.99	0.86	3.49	3.01	2.73	2.71	4.04
Shinyanga	3.31	1.40	3.58	2.73	2.90	3.02	3.73
Kagera	3.05	0.70	3.40	3.15	2.43	2.64	3.91
Mwanza	3.07	1.42	3.46	2.93	2.94	3.07	3.78
Mara	3.25	1.53	3.52	2.77	2.80	3.42	4.15
Manyara	2.76	0.76	3.23	2.61	2.88	3.08	4.03
North Unguja	3.00	0.29	3.56	2.70	2.62	3.04	4.13
South Unguja	2.68	0.39	3.12	2.34	2.64	4.65	3.34
Urban West	2.06	0.19	2.81	2.53	2.45	2.20	3.22
North Pemba	3.24	0.31	3.80	2.03	2.63	2.20	4.18
South Pemba	3.08	0.26	3.82	1.62	2.76	1.06	4.45

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 7.10.8: Mean Number of Children Ever Born to Women Aged 20 to 34 years by Occupation: Tanzania, 2002

Region	Total	Professionals, technicians, managers	Small Business And service	Agriculture	Street vendors	Clerks	Others
Tanzania	**2.71**	**1.61**	**2.15**	**3.04**	**2.36**	**2.05**	**2.32**
Dodoma	2.83	1.81	2.14	3.05	2.33	2.13	2.28
Arusha	2.23	1.27	1.53	2.74	1.79	1.32	1.91
Kilimanjaro	2.26	1.38	1.78	2.70	2.06	1.29	1.73
Tanga	2.69	1.74	2.37	2.96	2.39	2.15	2.18
Morogoro	2.63	1.73	2.02	2.91	2.34	2.12	2.31
Pwani	2.66	1.44	2.17	2.97	2.25	2.11	2.22
Dar es Salaam	1.68	1.23	1.40	2.34	1.98	1.52	1.67
Lindi	2.50	1.56	2.40	2.62	2.13	2.27	2.21
Mtwara	2.35	1.80	2.09	2.44	2.01	1.89	2.03
Ruvuma	2.71	1.99	2.17	2.85	2.49	2.00	2.26
Iringa	2.47	1.48	2.07	2.67	2.08	1.65	1.90
Mbeya	2.74	1.80	2.44	2.96	2.39	2.13	2.31
Singida	2.87	1.62	2.56	3.01	2.56	2.46	2.43
Tabora	3.17	2.49	3.09	3.31	2.95	2.79	3.01
Rukwa	3.18	1.89	2.72	3.29	2.82	2.25	2.95
Kigoma	2.99	1.84	2.95	3.13	2.86	2.51	2.65
Shinyanga	3.31	2.16	2.83	3.49	3.09	2.52	3.07
Kagera	3.05	1.56	2.27	3.23	2.70	1.80	2.47
Mwanza	3.07	2.02	2.94	3.39	2.72	2.86	2.87
Mara	3.25	2.53	2.90	3.48	3.02	2.54	2.85
Manyara	2.76	1.29	2.53	2.99	2.35	2.06	2.43
North Unguja	3.00	1.46	2.75	3.46	2.76	2.54	2.47
South Unguja	2.68	1.78	2.00	2.99	2.97	2.20	2.42
Urban West	2.06	1.54	1.67	3.27	2.74	2.00	2.02
North Pemba	3.24	1.94	2.54	3.84	3.06	2.36	2.51
South Pemba	3.08	1.93	2.22	3.82	2.77	2.26	2.63

Source: The United Republic of Tanzania 2002 Population and Housing Census.

7.12: References

Ngalinda, I., 1998, **Age At First Birth, Fertility, and Contraception In Tanzania,** The Published **P**hD Thesis Presented at Humboldt University at Berlin, Germany, Department of Demography Philosophical Faculty III.

CHAPTER 8 MORTALITY

8.1 Introduction

Mortality data are poorly reported in most of Sub-Saharan African countries. This is due to the fact that many developing countries still do not have a vital registration system that provides information of the required quality or completeness for calculating reliable demographic estimates. Though vital registration system does exist in Tanzania, its data are not complete; as a result it cannot be used for mortality analysis.

Since independence, Tanzania has been relying on censuses as its main source of demographic data especially those related to mortality. However, since 1991/92, the government, with external assistance, introduced another source of demographic data, the Tanzania Demographic and Health Survey (TDHS). Furthermore, the Ministry of Health has introduced another system, the Demographic Surveillance Sentinel Sites (DSS), which provide important information on Burden of Disease (BOD). Information on BOD is not available from censuses and demographic surveys. To a great extent, these new sources of demographic data supplement census information. At the same time, it can be used to verify the quality of census and TDHS data.

As with the 1988 census, three types of mortality data were collected in the 2002 census.

(1) Deaths during 12 months prior to the census

The head of household was asked to report whether there was any death that occurred in that household in the twelve moths prior to the census reference date. If "yes", he/she was asked to state sex and age at the time of death of the deceased. This information can be used in estimating current mortality.

(2) Number of surviving children and number of children ever born who have died

Women aged 12 years and over were asked to report on the number of children ever born alive by sex who are still living and the number of children ever born by sex who have died.

(3) Survivorship of the mother and father

Information on the survivorship of the mother and father was collected with the intention to estimate adult mortality.

Errors might be introduced in current mortality data in both directions when the respondents did not observe the reference period exactly.

8.2 Level and Trend of Mortality

8.2.1 Crude Death Rates

The crude death rate (CDR) is defined as the ratio of the total number of deaths in a population for a specified period to the average total number of person-years lived by the population during that period. It is normally expressed as per 1,000 population. The CDR for a single year is usually calculated as the total number of deaths during that period divided by the mid-year population of that year.

Table 8.1 presents the recorded CDR for the country, rural and urban areas. It appears that CDR for Tanzania is 14.5 per 1000, for rural Tanzania it is 14.1 while the urban areas recorded a higher CDR of 15.5 per 1000. Tanzania Mainland and Tanzania Zanzibar recorded 14.6 and 10.1 per 1000 respectively. The pattern observed for rural and urban areas for Tanzania is similar in both Tanzania Mainland and Tanzania Zanzibar. Urban areas have recorded higher levels of CDRs.

Table 8.1: Recorded and adjusted Crude Death Rates by Administrative Areas

Area	Reported Crude Death Rate			Adjusted Crude Death Rate		
	Total	Male	Female	Total	Male	Female
Tanzania Total	14.5	15.4	13.5	16	15	16
Tanzania Rural	14.1	15.3	13.1	18	17	18
Tanzania Urban	15.5	16.0	15.0	9	10	9
Mainland Total	14.6	15.6	13.6	16	15	16
Mainland Rural	14.2	15.4	13.2	18	18	18
Mainland Urban	15.8	16.2	15.3	10	10	9
Zanzibar Total	10.1	10.6	9.6	10	10	10
Zanzibar Rural	9.8	9.9	9.6	12	13	14
Zanzibar Urban	10.5	11.6	9.6	6	7	7
Dodoma	12.8	14.3	11.5	24	23	24
Arusha	7.8	8.5	7.2	12	9	19
Kilimanjaro	10.2	11.8	8.6	15	14	15
Tanga	15.4	16.3	14.5	23	21	24
Morogoro	14.7	14.9	14.5	15	14	14
Pwani	17.6	17.2	17.9	14	12	15
Dar es Salaam	15.9	16.5	15.4	10	11	9
Lindi	15.5	16.0	15.1	17	17	17
Mtwara	16.9	18.3	15.6	23	23	23
Ruvuma	12.6	13.1	12.1	14	16	13
Iringa	14.0	15.5	12.7	29	25	33
Mbeya	14.9	16.7	13.2	24	21	27
Singida	11.5	12.2	10.9	18	18	18
Tabora	14.9	15.4	14.5	12	12	12
Rukwa	14.4	16.4	12.5	30	33	27
Kigoma	9.9	10.7	9.2	13	12	13
Shinyanga	13.2	14.6	11.9	17	17	15
Kagera	13.4	13.7	13.1	14	15	13
Mwanza	12.7	13.6	11.8	14	14	13
Mara	15.0	16.4	13.7	18	16	20
Manyara	7.6	8.2	7.0	13	12	13
North Unguja	8.1	8.8	7.5	16	15	17
South Unguja	8.4	9.1	7.7	10	10	9
Urban West	10.8	12.1	10.6	6	6	6
North Pemba	9.3	9.4	9.3	18	17	19
South Pemba	9.3	9.4	9.1	15	16	17

Source: 2002 Population and Housing Census of Tanzania

At the regional level, Pwani recorded the highest CDR (18 per 1000) followed by Mtwara (17) and Dar es Salaam (16), while Manyara region recorded the lowest CDR (8) followed by Arusha and Kigoma (10 per 1000). It is surprising to note that urban Dar es Salaam region is among the regions with CDR well above the national average. All regions in Tanzania Zanzibar except Urban West and South Pemba recorded CDR below 10 per 1000 thus lying well below the national average. Overall, the recorded CDRs are lower among females than those among males. It should be noted that reported deaths during the last twelve months preceding the census date are subject to either over or under reporting errors. This necessitated making adjustments to the reported deaths. Hence the CDRs

adjusted by using Preston-Coale technique are also presented in Table 8.1. This table shows that the adjusted CDRs for Tanzania Rural were higher than those for Tanzania Urban.

8.2.2 Infant Mortality Rates and under Five Mortality Rates

The infant mortality rate (IMR) and under five mortality rate (U5MR) mean a probability of dying between birth and exact age one, and a probability of dying between birth and exact age five respectively. These two mortality rates can be estimated by indirect technique that was developed by Brass and later modified by Trussell. The indirect technique was applied to make estimates by using the data on children ever born and children surviving per woman for five-year age groups from 15-19 to 45-49. Brass technique estimates the proportion of children ever born by mothers in each five age group to the number of children surviving in each age group. These proportions are subtracted from one in order to obtain proportions of children dead in each age group. Based on simulation model, Brass developed a set of multiplier/adjusting factors, which transform the proportions of children who have died into probabilities of dying at all ages. For technical details of the method, see a monograph on the 2002 Census, which is expected to be published later.

Table 8.2: Distribution of IMR and U5MR by Area and Sex

	IMR			U5MR		
Area	Total	Male	Female	Total	Male	Female
Tanzania Total	95	102	87	153	161	145
Tanzania Rural	99	106	91	162	169	154
Tanzania Urban	78	85	70	123	132	113
Mainland Total	95	102	87	154	161	145
Mainland Rural	99	106	91	161	169	154
Mainland Urban	78	85	70	123	133	114
Zanzibar Total	89	93	82	141	147	135
Zanzibar Rural	98	104	90	159	167	151
Zanzibar Urban	67	71	67	105	107	101

Source: 2002 Population and Housing Census of Tanzania

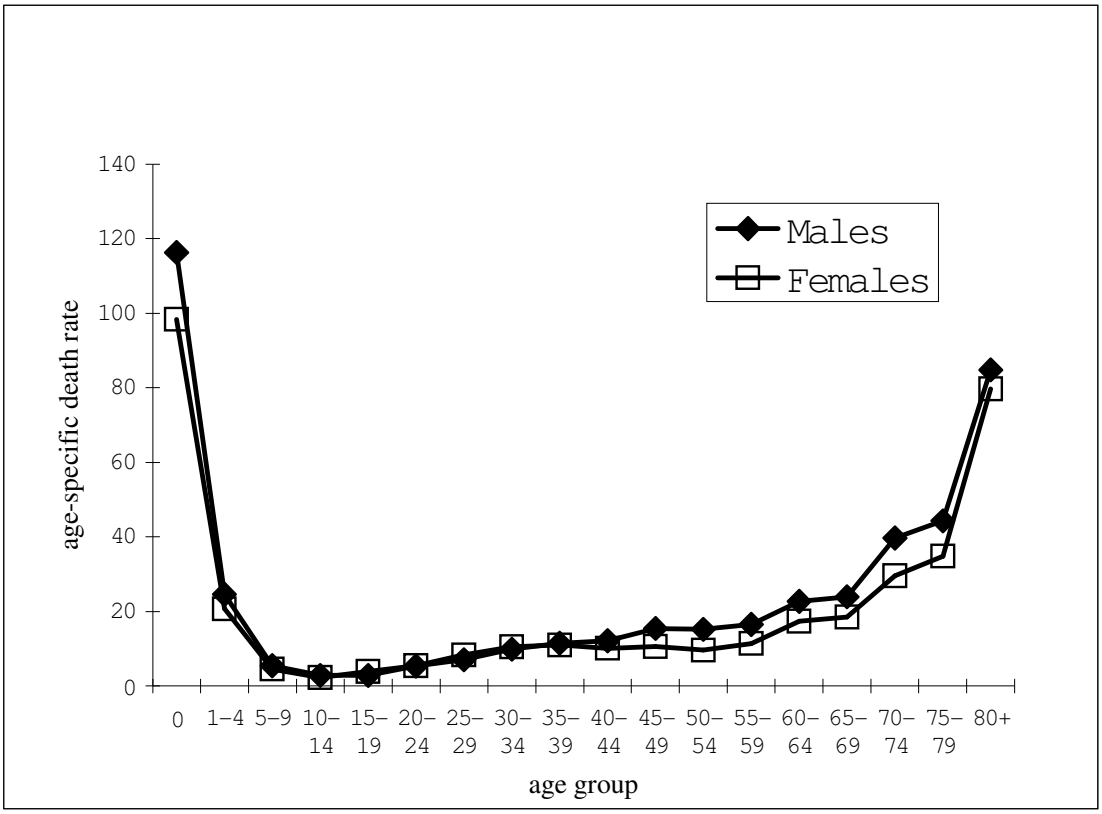
For Tanzania estimated values generated under Coale-Demeny life tables, North family was picked as basis of estimate. The IMR and U5MR were estimated from averages which fall under age groups 20-24 and 25-29. Estimates from age groups 15-19 are considered to be out of line because children born to young mothers are generally subject to unusually high mortality risks. In this respect, taking the average of age groups 20-24 and 25-29 made IMR and U5MR calculations, which refer three years back before the census.

Table 8.2 presents distribution of IMR and U5MR for Tanzania. Overall, both levels of IMRs and U5MRs are higher among males compared to those of females. Based on the past three censuses of 1978, 1988 and 2002, IMR and U5MR for Tanzania declined from 137 and 231 to 115 and 192 and down to 95 and 153 respectively. Tanzania Zanzibar seems to have recorded a remarkable decline of mortality since 1988. The IMR and U5MR for Zanzibar have declined from 120 and 202 in 1988 to 89 and 141 in 2002 respectively. These declines may be caused by various factors including improved health and environmental conditions.

8.2.3 Age-specific Death Rates

Age specific death rates (ASDRs) are obtained by dividing the number of deaths by age to the total population of that particular age and the result is multiplied by 1,000. For the calculated ASDR under age one, the specific death rate is the recorded infant mortality rate. Reported ASDRs for Tanzania are illustrated in Figure 8.1, which shows that the rates seem to follow the expected mortality pattern by age. Starting with relatively high mortality for children under one year of age, the rates decline to a minimum value in the age group 10 to 19 years and then increase with age. Nevertheless, when the graph in Figure 8.1 is carefully observed, it shows some irregularities in the adult ages. Since the increasing mortality by age is not expected to have such a zigzag pattern, this implies that the rates need some smoothing before being used to construct a life table.

Figure 8.1 Reported Age-Specific Death Rates for Tanzania



Source: 2002 Population and Housing Census of Tanzania

Death rates may be smoothened in different ways. However, the most used method is a moving average formula. Theoretically, the result should retain the original registered total number of deaths pertaining to the span of age groups being smoothened. The approach of taking logarithms of death rates before calculating the average is recommended because the shape of the graph rises after young adults aged 15 or 20 years, and the pattern of death rates by age follows an approximately exponential shape. By taking a simple arithmetic average for smoothing, this produces rates that overestimate the level of mortality. Therefore the ASDRs for Tanzania were adjusted by using a logarithmic smoothing process. Table 8.3 shows adjusted ASDRs and compared with the 1988 Census adjusted death rates.

Table 8.3: Adjusted Age-specific Death Rates for Tanzania for 1988 and 2002 Censuses

Age Group	1988			2002		
	Total	Male	Female	Total	Male	Female
0	124	130	121	101	109	93
1-4	20	22	19	22	24	20
5-9	4	4	4	5	5	6
10-14	3	3	3	3	3	3
15-19	5	6	5	4	4	5
20-24	7	8	7	6	5	7
25-29	8	8	7	9	7	11
30-34	8	9	7	12	10	14
35-39	9	10	8	14	12	15
40-44	11	12	10	15	14	15
45-49	14	16	13	15	16	15
50-54	19	20	17	17	18	15
55-59	27	29	24	19	20	18
60-64	39	42	35	23	23	22
65-69	57	61	53	30	31	29
70-74	86	91	80	38	39	36
75-79	128	135	121	48	50	44
80+	190	182	197	100	96	104

Source: 2002 Population and Housing Census of Tanzania

Comparison of adjusted ASDR between 1988 and 2002 suggests that mortality rates have declined from 124 to 101 per 1000 among children aged 0-1 year. However, between age groups 1-9 and 25-49, ASDRs are higher for 2002 census compared to 1988 census. The reason for the increase of mortality is possibly due to HIV/AIDS which affect most of the population under this age group. Comparing males and females for 2002 census, ASDRs are higher among females than men aged between age group 15-44. This pattern is different from that of 1988 census whereby ASDRs are systematically higher for men. This change of pattern is most likely due to HIV/AIDS episode which affects women more than men.

8.2.4 Life Expectancy at Birth

Estimation of life expectancy at birth gives the most useful summary measure of overall level of mortality of population. Deaths which occurred twelve months preceding to the census provide basic input in the construction of life table, that is, in calculation of life expectancy. Since the reported deaths were grossly misreported, as mentioned above, the values of life expectancy were generated under the Coale-Demeny life table model which could adjust over or under reported deaths. The inputs for this model were adjusted age-specific central death rates and adjusting factors. The age-specific central death rates were calculated through the logarithmic smoothing process and adjusting factors were computed by Preston-Coale Method. For technical details of the estimation of life expectancy, see a monograph on the 2002 Census, which is supposed to be published later.

As a result, 50.88 for the total population, 50.99 for male and 51.04 for female were obtained as life expectancy at birth for Tanzania in 2002. The values of both sexes were almost the same. Based on the past three censuses of 1978, 1988 and 2002, it was revealed that the value for the total population rose from 44 years in 1978 to 50 in 1988 and to 51 years in 2002. The slight increase of life expectancy in 2002 may probably be due to a number of factors including the effect of HIV/AIDS among the population.

8.3 Summary

The former section of this chapter has indicated the type of errors that are pertinent in the mortality data that were collected during the 2002 Population and Housing Census. There was gross under-reporting of deaths in many parts of the country that necessitated the urgency to adjust them before mortality estimates can be made.

Despite these deficiencies in the data, it has been possible to calculate and obtain the different mortality indices for Tanzania and other administrative areas. The crude death rates were adjusted by using Preston-Coale Method, so that Tanzania Rural recorded higher mortality than urban areas. Indirect methods were applied to arrive at mortality estimates. The indirect method provided findings that the infant mortality rate and the under five mortality rate had declined from 137 and 231 to 115 and 192 and down to 95 and 153 respectively. The age-specific death rates for Tanzania were adjusted by using a logarithmic smoothing process. Furthermore the life expectancy at birth was generated under the Coale-Demeny life table model, and it was revealed that the value for Tanzania rose from 44 years in 1978 to 50 in 1988 and to 51 years in 2002.

To conclude, it must be emphasized here that the slow rise in life expectancy needs to be pursued further by undertaking studies that will help to identify the underlying factors for the slow decline that has been noted in this chapter.

CHAPTER 9: MIGRATION

9.1 Introduction

The spatial mobility of a population affects not only the distribution of the population but also age and sex structure and other demographic, social and economic characteristics of the population. In the 2002 census, information on migration can be obtained on the basis of answers to the questions on (1) place of birth, (2) place of residence and (3) place of residence in 2001. These three questions were asked in the long-form questionnaire.

In the question on place of birth, the place of birth was recorded as the region where the person was born if he/she was born in the country and as the country of birth if he/she was born outside the country. The answer to the question was entered by the code for a region or a country of birth.

In the question on place of residence, the person was asked where he/she usually lived at the time of the census. The answer to this question was entered by the code for region if the person was usually living within the country, and by the country code if the person was usually living outside the country. The additional one-digit code was recorded in order to classify the place of residence into (a) rural part, (b) regional headquarter, (c) district headquarter and other urban part, and (d) outside Tanzania are also entered.

In the question on place of residence in 2001, the person was asked where he/she lived in 2001, a year before the census. The answer to this question was recorded in the similar manner as in the question on place of usual residence at the time of the census.

On the basis of the answer to the question on place of birth, it is possible to classify the population enumerated into two groups:

(1) Persons who were enumerated at the census in a region different from the region where they were born --- “inter-regional migrants”;
(2) Persons who were enumerated at the census in a region same as the region where they were born --- “non-migrants and intra-regional migrants”.

As the place of birth was identified at a regional level, it is not possible to separate migrants within a region from non-migrants. The first category (1) above is composed of “lifetime inter-regional migrants”. This may be subdivided into lifetime inter-regional migration streams by cross-classifying the population of specific regions by specific regions of birth.

Similarly, on the basis of the answer to the question on place of residence in 2001, it is possible to classify the population enumerated into two groups:

(1) Persons who were enumerated at the census in a region different from the region where they lived in 2001 --- “inter-regional migrants”;
(2) Persons who were enumerated at the census in a region same as the region where they lived in 2001 --- “non-migrants and intra-regional migrants”.

The first category (1) above is composed of “current or recent inter-regional migrants”. This may be subdivided into current or recent inter-regional migration streams by cross-classifying the population of specific regions of enumeration by specific regions of residence in 2001. Since the data on recent migration were derived from the information on place of residence in 2001, the data refer to the population aged one year and above.

As for international migration, only in-migration can be obtained. That is, migrants who were born outside the country in the case of lifetime migration, and migrants who lived outside the country in the case of current migration.

The question of place of birth was also asked in the censuses of 1978 and 1988. The place of birth was identified only at a regional level as in the case of the 2002 census. In addition to this question, the place of residence in 1977 was asked in the 1978 census, and the question on place of residence in 1978 was asked in the 1988 census. No question was asked on place of residence a year ago in the 1988 census.

9.2 Recent Migration

Data on inter-regional flows of recent migration can be derived from the population by region of enumeration at the time of the 2002 census cross-tabulated by region of residence one year before the census. The detailed data was given in Annex Table 9.A at the end of this chapter.

9.2.1 Volume and Rates of Recent Migration

Inter-regional migration in one year 2001-2002 was summarized from data in Annex Table 9.A and presented in Table 9.1 Data in this table cover only migrations between regions, and do not include movements within a region nor international migration. The data also do not include migrants below one year of age.

Table 9.1 Recent Inter-regional Migration, 2001-2002

Area	In-migrants	Out-migrants	Net migration	Turnover	Rates (%)			
					In	Out	Net	Turnover
Tanzania	1,103,229	1,103,229	0	2,206,458	3.3	3.3	0.0	6.6
Tanzania Mainland	1,044,059	1,055,251	-11,192	2,099,310	3.2	3.3	0.0	6.5
Dodoma	27,673	205,194	-177,521	232,867	1.7	12.6	-10.9	14.3
Arusha	33,748	70,926	-37,178	104,674	2.7	5.7	-3.0	8.4
Kilimanjaro	41,340	48,019	-6,679	89,359	3.1	3.6	-0.5	6.7
Tanga	32,057	45,400	-13,343	77,457	2.0	2.9	-0.8	4.9
Morogoro	51,586	42,710	8,876	94,296	3.0	2.5	0.5	5.6
Pwani	44,568	39,090	5,478	83,658	5.2	4.6	0.6	9.7
Dar es Salaam	149,453	130,552	18,901	280,005	6.2	5.4	0.8	11.6
Lindi	16,113	19,985	-3,872	36,098	2.1	2.6	-0.5	4.7
Mtwara	18,802	27,013	-8,211	45,815	1.7	2.5	-0.8	4.2
Ruvuma	12,834	49,658	-36,824	62,492	1.2	4.6	-3.4	5.8
Iringa	47,980	41,347	6,633	89,327	3.3	2.9	0.5	6.2
Mbeya	57,582	27,021	30,561	84,603	2.9	1.4	1.5	4.2
Singida	26,414	29,199	-2,785	55,613	2.5	2.8	-0.3	5.3
Tabora	44,950	38,101	6,849	83,051	2.7	2.3	0.4	5.0
Rukwa	19,974	13,351	6,623	33,325	1.8	1.2	0.6	3.1
Kigoma	69,357	30,354	39,003	99,711	4.3	1.9	2.4	6.2
Shinyanga	87,972	48,587	39,385	136,559	3.3	1.8	1.5	5.1
Kagera	52,694	25,887	26,807	78,581	2.7	1.3	1.4	4.0
Mwanza	128,728	73,500	55,228	202,228	4.6	2.6	2.0	7.2
Mara	31,661	41,198	-9,537	72,859	2.4	3.2	-0.7	5.6
Manyara	48,573	8,159	40,414	56,732	4.9	0.8	4.0	5.7
Tanzania Zanzibar	59,170	47,978	11,192	107,148	6.2	5.1	1.2	11.3
North Unguja	5,344	8,403	-3,059	13,747	4.0	6.4	-2.3	10.4
South Unguja	6,100	6,145	-45	12,245	6.7	6.7	0.0	13.4
Urban West	22,016	23,036	-1,020	45,052	5.8	6.1	-0.3	11.9
North Pemba	11,625	6,108	5,517	17,733	6.5	3.4	3.1	9.9
South Pemba	14,085	4,286	9,799	18,371	8.3	2.5	5.8	10.9

Source: Computed from the data in Annex Table 9.A.

Of the total inter-regional migration in 2001-2002, 19,540 persons were migrants from Tanzania Mainland to Tanzania Zanzibar, and 7,841 persons were migrants from Tanzania Zanzibar to Tanzania Mainland. In balance out-migrants outnumbered the in-migrants between Tanzania Mainland and Tanzania Zanzibar by 11,709 persons.

It will be seen from Table 9.1 that Dar es Salaam received about 149 thousands persons from other regions in 2001-2002 (6.2 percent of its population). However about 131 thousands persons migrated from Dar es Salaam to other regions (5.4 percent) in the same period, as a result the net migration rate was only 0.8 percent of its population. Being the next busiest commercial centre after Dar es Salaam, Mwanza recorded the second largest number of in-migrants (about 129 thousands persons or 4.6 percent of the population). Out-migrants from Mwanza to other regions numbered about 74 thousands persons (2.6 percent). The net migration rate was 2.0 percent. Other regions that recorded relatively high in-migration rates in Tanzania Mainland were Pwani (5.2 percent) and Manyara (4.7 percent). For Dodoma, while the number of in-migrants from other regions in 2001-2002 was about 28 thousands persons, the number of out-migrants to other regions was biggest among 26 regions in the country (207 thousands persons or 12.3 percent of its population), resulting in the largest net surplus of out-migration to in-migration (-180 thousands persons or -10.6 percent).

Regions in Tanzania Zanzibar except North Unguja recorded relatively high in-migration rates of over 5 percent. For North Pemba and South Pemba the out-migration rate was 3.4 percent and 2.5 percent. This resulted in relatively high net migration rates. For Urban West and South Unguja in Zanzibar the out-migration rates were also high, hence the net migration rates were close to zero percent.

9.2.2 Streams of Recent Migration

Table 9.2A to 9.2D shows main streams of recent inter-regional migration to and from selected regions for Dar es Salaam, Mwanza, Dodoma and Urban West. Dar es Salaam, Mwanza and Dodoma were chosen because Dar es Salaam and Mwanza are the two largest receiving regions and Dodoma is the largest sending region in Tanzaniz Mainland.

Dar es Salaam:

Dar es Salaam had the largest migration turnover with Pwani. Both in-migration and out-migration with Pwani were largest among 26 regions of Tanzania. The number of in-migrants from Pwani was 22.4 thousand, and the number of out-migrants from Dar es Salaam to Pwani was 24.3 thousand. This resulted in relatively small net loss. In-migration from Dodoma was the second largest (20.5 thousand), but out-migration from Dar es Salaam to Dodoma numbered only 7.5 thousand. As a result, the net gain of flow from Dodoma into Dar es Salaam was largest (13.0 thousand). In-migration from and out-migration to Morogoro were almost balanced (both 14.8 thousand) and there was no net gain or loss. Out-migration to Tanzania Zanzibar largely outnumbered in-migration, resulting in large net loss. The number of out-migrants was 8.6 thousand, as against the in-migrants of 3.7 thousand. The resulting net migration was minus 4.9 thousand.

Table 9.2A Recent Migration 2001-2002, Dar es Salaam

To/From	In-migrants	Out-migrants	Net migration	Turnover	Percentage share	
					In	Out
All regions	149,453	130,552	18,901	280,005	100.0	100.0
Pwani	22,466	24,326	-1,860	46,792	15.0	18.6
Dodoma	20,503	7,504	12,999	28,007	13.7	5.7
Morogoro	14,780	14,759	21	29,539	9.9	11.3
Tanga	13,632	10,862	2,770	24,494	9.1	8.3
Mwanza	8,150	4,143	4,007	12,293	5.5	3.2
Shinyanga	7,631	9,279	-1,648	16,910	5.1	7.1
(Zanzibar)	3,742	8,622	-4,880	12,364	2.5	6.6
Urban West	1,038	4,572	-3,534	5,610	0.7	3.5

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Mwanza:

In-migration to Mwanza from other regions was the second largest following Dar es Salaam. Mwanza received the largest number of in-migrants from Dodoma. In-migration from Dodoma numbered 41.8 thousand and accounted for about one-third of the total in-migration of Mwanza. In contrast, the number of out-migrants from Mwanza to Dodoma was about 500. This produced a big net gain of migrants (41.3 thousand). Similar imbalance was observed in migration to and from Ruvuma: 11.9 thousand in-migrants as against about 200 out-migrants. There was net migration gain of 11.7 thousand. In-migrants from Mtwara to Mwanza also considerably outnumbered out-migrants, resulting in net gain of 9.3 thousand.

In-migrants from Mara numbered 19.6 thousand, the second largest next to Dodoma. Migration to and from Shinyanga showed the second largest turnover following Dodoma. There were 14.8 thousand in-migrants from Shinyanga to Mwanza, as against 24.6 thousand out-migrants from Mwanza to Shinyanga. This produced 9.8 thousand net losses. Net losses were also observed in migration to and from Kagera and Dar es Salaam.

Table 9.2B Recent Migration 2001-2002, Mwanza

To/From	In-migrants	Out-migrants	Net migration	Turnover	Percentage share	
					In	Out
All regions	128,728	73,500	55,228	202,228	100.0	100.0
Dodoma	41,787	461	41,326	42,248	32.5	0.6
Mara	19,611	12,479	7,132	32,090	15.2	17.0
Shinyanga	14,849	24,612	-9,763	39,461	11.5	33.5
Ruvuma	11,887	170	11,717	12,057	9.2	0.2
Kagera	10,714	14,943	-4,229	25,657	8.3	20.3
Mtwara	10,234	926	9,308	11,160	8.0	1.3
Dar es Salaam	4,143	8,150	-4,007	12,293	3.2	11.1

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Dodoma:

Dodoma was the largest sending region. Out-migrants from Dodoma to other regions far outnumbered in-migrants: 205.2 thousand out-migrants as against 27.7 thousand in-migrants, with net migration of minus 177.5 thousand. Of the total out-migrants to other regions, 25.6 thousand out-migrants flowed to Iringa, 23.3 thousand to Mbeya, and 20.5 thousand to Dar es Salaam. Migration with these three regions showed relatively large net minus migration.

Table 9.2C Recent Migration 2001-2002, Dodoma

To/From	In-migrants	Out-migrants	Net migration	Turnover	Percentage share	
					In	Out
All regions	27,673	205,194	-177,521	232,867	100.0	100.0
Dar es Salaam	7,504	20,503	-12,999	28,007	27.1	10.0
Arusha	3,733	3,898	-165	7,631	13.5	1.9
Morogoro	3,682	5,132	-1,450	8,814	13.3	2.5
Iringa	2,546	25,554	-23,008	28,100	9.2	12.5
Mbeya	682	23,297	-22,615	23,979	2.5	11.4

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Urban West:

Inter-regional migration of Urban West was mostly with Dar es Salaam in Tanzania Mainland and with regions within Tanzania Zanzibar. Of the total in-migrants from other regions, 4.6 thousand or 21 percent came from Dar es Salaam. In-migrants coming from four regions in Zanzibar accounted for 55 percent of the total in-migrants. On the other hand, out-migrants to four regions in Zanzibar accounted for 90 percent of the total out-migrants from Urban West to other regions. The number of in-migrants from Dar es Salaam and four regions in Zanzibar accounted for three quarters of the total in-migrants to Urban West, and out-migrants to these five regions accounted for 94 percent of the total out-migrants from Urban West. The number of in-migrants by region of origin was in the order of Dar es Salaam, North Unguja, South Unguja, North Pemba and South Pemba. The order of the number of out-migrants by region of destination was in the reverse order.

Table 9.2D Recent Migration 2001-2002, Urban West

To/From	In-migrants	Out-migrants	Net migration	Turnover	Percentage share	
					In	Out
All regions	22,016	23,036	-1,020	45,052	100.0	100.0
Dar es Salaam	4,572	1,038	3,534	5,610	20.8	4.5
N. Unguja	3,692	2,464	1,228	6,156	16.8	10.7
S. Unguja	3,492	4,054	-562	7,546	15.9	17.6
N. Pemba	2,812	6,153	-3,341	8,965	12.8	26.7
S. Pemba	2,146	7,998	-5,852	10,144	9.7	34.7

Source: The United Republic of Tanzania 2002 Population and Housing Census.

It will be also noted from data in Table 9.2D that there were relatively large net out-flows of migration from Urban West to both North Pemba and South Pemba.

9.3 Lifetime Migration

9.3.1 Volume and Rates of LifeTime Migration

Data on inter-regional flows of lifetime migration can be derived from the population by region of enumeration at the time of the 2002 census cross-tabulated by region of place of birth. The detailed data was given in Annex Table 9.B at the end of this chapter.

Table 9.3 presents regional populations by place of birth with the breakdown of those born in the same region, those born in other regions and those born outside Tanzania, based on the 2002 census. Since there were some people whose birth place was not specified, populations by birth place do not add up to the total population.

Table 9.3 Populations Born in the Same Region, Born in Other Regions and Born Outside Tanzania, by region: 2002

Region of residence	(A) Population	(B) Born in the same region	(C) Born in other regions	(D) Born outside Tanzania	Percentage of population		
					(B)/(A)	(C)/(A)	(D)/(A)
Tanzania	34,443,603	28,619,454	5,304,209	236,872	83.1	15.4	0.7
Tanzania Mainland	33,461,849	27,908,948	5,044,080	234,269	83.4	15.1	0.7
Dodoma	1,692,025	1,539,779	139,808	464	91.0	8.3	0.0
Arusha	1,288,088	1,002,335	264,978	5,012	77.8	20.6	0.4
Kilimanjaro	1,376,702	1,208,471	148,238	5,399	87.8	10.8	0.4
Tanga	1,636,280	1,480,010	132,087	5,684	90.4	8.1	0.3
Morogoro	1,753,362	1,443,663	284,542	2,395	82.3	16.2	0.1
Pwani	885,017	683,434	189,204	4,852	77.2	21.4	0.5
Dar es Salaam	2,487,288	1,243,412	1,208,479	28,100	50.0	48.6	1.1
Lindi	787,624	673,538	100,020	4,684	85.5	12.7	0.6
Mtwara	1,124,481	1,037,117	53,102	17,106	92.2	4.7	1.5
Ruvuma	1,113,715	1,009,722	85,799	7,122	90.7	7.7	0.6
Iringa	1,490,892	1,395,360	79,869	706	93.6	5.4	0.0
Mbeya	2,063,328	1,795,272	239,644	12,610	87.0	11.6	0.6
Singida	1,086,748	970,615	104,623	128	89.3	9.6	0.0
Tabora	1,710,465	1,334,090	353,132	11,563	78.0	20.6	0.7
Rukwa	1,136,354	975,488	113,954	58,135	85.8	10.0	5.1
Kigoma	1,674,047	1,557,700	85,424	19,126	93.0	5.1	1.1
Shinyanga	2,796,630	2,319,548	455,087	1,092	82.9	16.3	0.0
Kagera	2,028,157	1,767,198	201,483	32,299	87.1	9.9	1.6
Mwanza	2,929,644	2,489,986	417,872	3,085	85.0	14.3	0.1
Mara	1,363,397	1,234,160	108,263	13,926	90.5	7.9	1.0
Manyara	1,037,605	748,050	278,472	780	72.1	26.8	0.1
Tanzania Zanzibar	981,754	710,506	260,129	2,602	72.4	26.5	0.3
North Unguja	136,639	115,296	20,684	142	84.4	15.1	0.1
South Unguja	94,244	65,326	27,568	345	69.3	29.3	0.4
Urban West	390,074	216,501	170,698	1,767	55.5	43.8	0.5
North Pemba	185,326	163,320	19,728	209	88.1	10.6	0.1
South Pemba	175,471	150,063	21,451	140	85.5	12.2	0.1

Source: Computed from the data in Annex Table 9.B.

Note: Population born in the same region, population born in other regions and population born outside Tanzania do not add up to the total population due to the existence of those whose birth place was not specified.

Of the total population, those who were born in the same region as the region of residence accounted for 83.1 percent, those who were born in a region different from the region of residence 15.4 percent, and those born in foreign countries 0.7 percent. In Tanzania Mainland, 83.4 percent of the population were born in the same region as the region of residence, 15.1 percent born in other regions and 0.7 percent born in foreign countries. In Tanzania Zanzibar, the proportion of people born in the same region was lower than in Tanzania Mainland. Proportions of those born in the same region, those born in other regions and those born in foreign countries were 72.4 percent, 26.5 percent and 0.3 percent respectively.

By region, the proportion of people born in the same region as the region of residence showed over 90 percent in 8 regions, namely, Iringa (93.6 percent), Kigoma (93.0 percent), Mtwara (92.2 percent), Dodoma (91.0 percent), Ruvuma (90.7 percent), Mara (90.5 percent) and Tanga (90.4 percent).

In Dar es Salaam, a half of the region's population were born in Dar es Salaam region (50.0 percent), and nearly a half of the population were born in other regions (48.6 percent). The proportion of foreign born population was 1.1 percent. Manyara showed the second lowest proportion of population born in the region of residence in Tanzania Mainland (72.1 percent). The proportions of those born in other regions and foreign born population were 26.8 percent and 0.1 percent. In Pwani, Arusha and Tabora, about one-fifth of the population were those born in other regions.

In Tanzania Zanzibar, 55.5 percent of the population of Urban West were born in Urban West, and 43.8 percent were born in other regions. The proportion of foreign born population was 0.5 percent. In North Unguja, the proportions of those born in North Unguja, those born in other regions and those born outside Tanzania were 69.3 percent, 29.3 percent and 0.4 percent respectively. In other three regions in Tanzania Zanzibar, the proportion of people born in the same region was between 84 and 88 percent.

The number of people enumerated in a region who were born in other regions as percentage of the population of the region indicates the proportion of lifetime in-migrants from other regions. This is shown in the second column from the last in Table 9.3

The proportion of lifetime migrants in a given region can influence both socio-economic and political activities in the region. Table 9.3 shows great variation in the proportion of lifetime in-migrants in the region. The proportion of in-migrants is extremely high in urban regions like Dar es Salaam (48.6%) and Urban West (43.8%). The other regions with a proportion of in-migrants exceeding 20% of the regional

Table 9.4 Lifetime In- and Out-migrants, Net Migration and Turnover: 2002

Region	In-migrants	Out-migrants	Net migration	Turnover	Rates (%)			
					In	Out	Net	Turnover
Tanzania	5,304,209	5,304,209	0	10,608,418	15.4	15.4	0.0	30.8
Tanzania Mainland	5,044,080	5,050,913	-6,833	10,094,993	15.1	15.3	0.0	30.2
Dodoma	139,808	321,276	-181,468	461,084	8.3	17.3	-10.7	27.3
Arusha	264,978	183,250	81,728	448,228	20.6	15.5	6.3	34.8
Kilimanjaro	148,238	411,735	-263,497	559,973	10.8	25.4	-19.1	40.7
Tanga	132,087	294,130	-162,043	426,217	8.1	16.6	-9.9	26.0
Morogoro	284,542	210,282	74,260	494,824	16.2	12.7	4.2	28.2
Pwani	189,204	245,454	-56,250	434,658	21.4	26.4	-6.4	49.1
Dar es Salaam	1,208,479	237,446	971,033	1,445,925	48.6	16.0	39.0	58.1
Lindi	100,020	179,293	-79,273	279,313	12.7	21.0	-10.1	35.5
Mtwara	53,102	186,911	-133,809	240,013	4.7	15.3	-11.9	21.3
Ruvuma	85,799	138,289	-52,490	224,088	7.7	12.0	-4.7	20.1
Iringa	79,869	299,189	-219,320	379,058	5.4	17.7	-14.7	25.4
Mbeya	239,644	171,692	67,952	411,336	11.6	8.7	3.3	19.9
Singida	104,623	255,894	-151,271	360,517	9.6	20.9	-13.9	33.2
Tabora	353,132	243,720	109,412	596,852	20.6	15.4	6.4	34.9
Rukwa	113,954	75,241	38,713	189,195	10.0	7.2	3.4	16.6
Kigoma	85,424	238,345	-152,921	323,769	5.1	13.3	-9.1	19.3
Shinyanga	455,087	390,367	64,720	845,454	16.3	14.4	2.3	30.2
Kagera	201,483	176,312	25,171	377,795	9.9	9.1	1.2	18.6
Mwanza	417,872	437,209	-19,337	855,081	14.3	14.9	-0.7	29.2
Mara	108,263	299,432	-191,169	407,695	7.9	19.5	-14.0	29.9
Manyara	278,472	55,446	223,026	333,918	26.8	6.9	21.5	32.2
Tanzania Zanzibar	260,129	253,296	6,833	513,425	26.5	26.3	0.7	52.3
North Unguja	20,684	54,746	-34,062	75,430	15.1	32.2	-24.9	55.2
South Unguja	27,568	36,471	-8,903	64,039	29.3	35.8	-9.4	68.0
Urban West	170,698	51,496	119,202	222,194	43.8	19.2	30.6	57.0
North Pemba	19,728	61,199	-41,471	80,927	10.6	27.3	-22.4	43.7
South Pemba	21,451	49,384	-27,933	70,835	12.2	24.8	-15.9	40.4

Source: Computed from the data in Annex Table 9.B.

population include Manyara (26.8%), Pwni (21.4%), Arusha (20.6%), Tabora (20.6%) in Tanzania Mainland and South Unguja (29.3%) in Tanzania Zanzibar. Morogoro (15.1%), Pwani (18.3%), Lindi (10.1%), Tabora (1880%), Rukwa (10.34%), Shinyanga (11.9%), Mwanza (12.2%), Manyara (20.1%) and North and South Unguja (18.6%).

Data on lifetime inter-regional migration are presented in Table 9.4. Figures for in-migrants and out-migrants in this table were derived from the lifetime migration matrix in Annex Table 9.B. In the lifetime migration matrix, there are 520 thousand people who were classified as “Born elsewhere”. This group includes both those who were born outside Tanzania and those whose birth place was not specified. The data in Table 9.4 include only those people who had reported the region of birth, and do not include those classified as “Born elsewhere”.Table 9.5 presents the distribution of regions according to the class of magnitudes of lifetime net inter-regional migration rates.

The in-migration rate for a region is the ratio of in-migrants into the region to the population enumerated in the region, that is, it is calculated as the ratio of the number of persons enumerated in a region who were born in other regions to the population enumerated in the region.

The out-migration rate for a region is the ratio of out-migrants from the region to the population born in that region, that is, it is calculated as the ratio of the number of persons who were born in the region and were enumerated in other regions to the number of persons enumerated in the country who were born in that region.

The net migration rate for a region is the ratio of the difference of in-migrants minus out-migrants (net-migration) of the region to the population enumerated in that region. It should be noted that the net migration rate may not necessarily coincide with the difference of in-migration rate minus out-migration rate, since the populations used in denominators of in- and out- migration rates were different.

The turnover rate for a region is the ratio of the sum of in-migrants and out-migrants (turnover) of the region to the population enumerated in that region.

The lifetime in-migration rate was extremely high for Dar es Salaam (48.6 percent) and Urban West (43.8 percent). The lifetime out-migration rates for these two regions were 16.0 percent for Dar es Salaam and 19.2 percent for Urban West.

Other regions showing high lifetime in-migration rates were Manyara (26.8 percent), Pwani (21.4 percent), Arusha (20.6 percent) and Tabora (20.6 percent) in Tanzania Mainland, and South Unguja (29.3 percent) in Tanzania Zanzibar.

In contrast, the regions that showed very low lifetime in-migration rates were Mtwara (4.7 percent), Kigoma (5.1 percent) and Iringa (5.4 percent).

The region that showed the highest lifetime out-migration rate in Tanzania Mainland was Pwani (26.4 percent). This is followed by Kilimangero (25.4 percent), Lindi (21.0 percent) and Singida (20.9 percent). In Tanzania Zanzibar, all of five regions showed very high lifetime out-migration rates. The out-migration rate was 35.8 percent for South Unguja, 32.2 percent for North Unguja, 27.3 percent for North Pemba, 24.8 percent for South Pemba and 19.2 percent for Urban West.

There were 10 regions with positive lifetime net migration rates and 14 regions with negative net rates. Dar es Salaam and Urban West showed extremely high rates of lifetime net migration: 39.0 percent and 30.6 percent, respectively. Manyara also showed a high net migration rate of 21.5 percent.

In Tanzania Mainland, Kilimangero, Iringa, Mara and Singida showed high rates of net losses of lifetime migrants: -19.1 percent, -14.7 percent, -14.0 percent and -13.9 percent, respectively. In Mwanza, the lifetime in-migration rate and the out-migration rate were more or less balanced: 14.3 percent and 14.9 percent respectively. The resulting net migration rate was close to zero (- 0.7 percent).

In Tanzania Zanzibar, with the exception of Urban West, all four regions experienced net losses of lifetime migrants. In particular, North Unguja and North Pemba showed high negative net rates of lifetime migration: -24.9 percent and -22.4 percent. It may be noted that although both the in- and out-migration rates were considerably high for South Unguja, the resulting net migration rate showed a moderate negative rate.

Table 9.5 Distribution of Lifetime Net Inter-regional Migration Rates: 2002

Lifetime net migration rate		No. of regions	Regions (Net migration rates in %)
Positive (net gains)	30% and	2	Dar es Salaam (39.0%), Urban West (30.6%)
	20 – 30 %	1	Manyara (21.5%)
	10 – 20 %	0	
	0 – 10 %	7	Tabora (6.4%), Arusha (6.3%), Rukuwa (3.4%), Mbeya (3.3%), Shinyanga (2.3%), Kagera (1.2%)
Negative (net losses)	-10 – 0 %	6	Mwanza (-0.7%), Ruvuma (-4.7%), Pwani (-6.4%), Kigoma (-9.1%), South Unguja (-9.4%), Tanga (9.9%)
	-20 - -10 %	8	Lindi (-10.1%), Dodoma (-10.7%), Mtwara(-11.9%), Singida (-13.9%), Mara (-14.0%), Iringa (-14.7%), South Pemba (-15.9%), kilimangero (-19.1%)
	Under -20%	2	North Pemba (-22.4%), North Unguja (-24.9%)

Source: Compiled from data in Table 9.4.

9.3.2 Effectiveness Index and the Index of Relative Representation

The effectiveness index and the index of relative representation of lifetime inter-regional migration, together with percent shares of population, in-migrants and out-migrants of regions are presented in Table 9.6.

The effectiveness index of migration is defined for a pair of areas as the ratio of net migration to turnover (gross migration) between the two areas times 100. This may be considered a measure of the "effectiveness" of internal migration. Normally this effectiveness index would differ between areas and periods depending on the socio-economic conditions and counter-effects of in- and out-migration. This ratio ranges from 0 to 100. The higher the ratios for a pair of areas, the fewer the moves that are required to effect a given amount of population redistribution among them. A summary measure of effectiveness of inter-regional migration for a region is calculated as the ratio of net migration to turnover of the region.

The index of relative representation (*IRR*) for a region is defined as the ratio of the percent share of in-migration or out-migration of the region to the percent share of population of the region, multiplied by 100. It is a measure of migration used to estimate the share of migration to the total population size of the region. The index controls for the relative population size of the regions while examining their share of inter-regional in- and out-migration. Theoretically the IRR ranges from 0 to the infinity. If the IRR is more than 100 it signifies that the relative share of in- or out-migration of the region is higher than what it represents in the country population and vice versa.

It will be seen from Table 9.5 that the migration effectiveness index is high in urban regions like Dar es Salaam (67.2) in Tanzania Mainland and Urban West (53.6) in Zanzibar. The other non-urban region with positive net-migration that has a high effectiveness index is Manyara (45.2). The index is also high in some of the regions with negative net-migration such as Iringa (57.9), Mtwara (55.8), Kigoma (47.2), Kilimanjaro (47.1) and Mara (46.9) in Tanzania Mainland, and North Pemba (51.2) and North Unguja (45.2) in Zanzibar. The lowest migration effectiveness index is experienced in both positive and negative net migration regions such as Mwanza (2.3), Kagera (6.7) and Shinyanga (7.7).
It is observed from Table 9.5, urban regions like Dar es Salaam and Urban West show extremely high IRR of in-migration. The IRR of in-migration is 316 for Dar es Salaam and 284 for Urban West. Following Dar es Salaam, Manyara, Pwani, Tabora and Arusha are the regions in Tanzania Mainland that have relatively high IRR. Their IRR are 174, 139, 134 and 134 respectively. In Tanzania Zanzibar, South Unguja has a high IRR of in-migration following Urban West (190). These regions contribute more to in-migration than what they contribute to the total population of the country.

For out-migration, on the other hand, there are 9 regions in Tanzania Mainland that have the IRR higher than 100. They are Kilimanjaro (194), Pwani (180), Singida (153), Lindi (148), Mara (143), Iringa (130), Dodoma (123), Tanga (117) and Mtwara (108). In Zanzibar, all regions except Urban West have the IRR of out-migration considerably higher than 100. North Unguja has the IRR of 260. This is followed by South Unguja (251), North Pemba (214) and South Pemba (183). These 13 regions contribute more to out-migration than what they contribute to the national population. It is Pwani and South Unguja that contribute to both in- and out-migration than what they contribute to the total population.

Table 9.6 Effectiveness Index, Percent Shares of Population, In-migrants and Out-migrants, and Index of Relative Representation (IRR) by Region: 2002

Region of residence	Effective-ness index	Percent share (%)			IRR	
		Population	In-migrants	Out-migrants	In-migration	Out-migration
Tanzania		100.0	100.0	100.0		
Tanzania Mainland						
Dodoma	39.4	4.9	2.6	6.1	54	123
Arusha	18.2	3.7	5.0	3.5	134	92
Kilimanjaro	47.1	4.0	2.8	7.8	70	194
Tanga	38.0	4.8	2.5	5.5	52	117
Morogoro	15.0	5.1	5.4	4.0	105	78
Pwani	12.9	2.6	3.6	4.6	139	180
Dar es Salaam	67.2	7.2	22.8	4.5	316	62
Lindi	28.4	2.3	1.9	3.4	82	148
Mtwara	55.8	3.3	1.0	3.5	31	108
Ruvuma	23.4	3.2	1.6	2.6	50	81
Iringa	57.9	4.3	1.5	5.6	35	130
Mbeya	16.5	6.0	4.5	3.2	75	54
Singida	42.0	3.2	2.0	4.8	63	153
Tabora	18.3	5.0	6.7	4.6	134	93
Rukwa	20.5	3.3	2.1	1.4	65	43
Kigoma	47.2	4.9	1.6	4.5	33	92
Shinyanga	7.7	8.1	8.6	7.4	106	91
Kagera	6.7	5.9	3.8	3.3	65	56
Mwanza	2.3	8.5	7.9	8.2	93	97
Mara	46.9	4.0	2.0	5.6	52	143
Manyara	66.8	3.0	5.3	1.0	174	35
Tanzania Zanzibar						
North Unguja	45.2	0.4	0.4	1.0	98	260
South Unguja	13.9	0.3	0.5	0.7	190	251
Urban West	53.6	1.1	3.2	1.0	284	86
North Pemba	51.2	0.5	0.4	1.2	69	214
South Pemba	39.4	0.5	0.4	0.9	79	183

Source: Computed from the data in Annex Table 11.B.

Table 9.7A Lifetime Inter-regional Migration, Dar es Salaam: 2002

	In-migrants	Out-migrants	Net migration	Turnover	Percentage		Effective-ness index
					In-mig.	Out-mig.	
All regions	1,208,479	237,446	971,033	1,445,925	100.0	100.0	67.2
Pwani	201,701	51,624	150,077	253,325	16.7	21.7	59.2
Tanga	110,963	12,388	98,575	123,351	9.2	5.2	79.9
Kilimanjaro	103,592	9,512	94,080	113,104	8.6	4.0	83.2
Morogoro	97,961	27,277	70,684	125,238	8.1	11.5	56.4
Lindi	89,144	8,850	80,294	97,994	7.4	3.7	81.9
Dodoma	74,198	10,562	63,636	84,760	6.1	4.4	75.1
Mara	71,993	4,929	67,064	76,922	6.0	2.1	87.2
Urban West	8,649	12,538	-3,889	21,187	0.7	5.3	18.4

Source: The United Republic of Tanzania 2002 Population and Housing Census.

9.3.3 Streams of Lifetime Migration

Lifetime inter-regional migration in selected regions is presented in Table 9.7A to 9.7F.

Dar es Salaam

Dar es Salaam is the region that had the largest net lifetime migration. There were big gaps between the numbers of lifetime in-migrants and out-migrants. Lifetime in-migrants to Dar es Salaam considerably outnumbered lifetime out-migrants from Dar es Salaam for all regions but Manyara and Urban West. Dar es Salaam recorded the largest lifetime in-migrants from Pwani (202 thousand) and this is followed by Tanga (111 thousand), Kilimangero (104 thousand) and Morogoro (98 thousand). The number of lifetime migrants from these four regions that are connected with Dar es Salaam by highways totalled 514 thousand, accounting for 42.6 percent of total lifetime in-migrants to Dar es Salaam. In contrast the number of lifetime out-migrants from Dar es Salaam to these four regions totalled 101 thousand, which make the gain of lifetime migrants of 413 thousand.

North regions:

Data shown in Table 9.7B suggest that in three northern regions: Arusha, Manyara and Kilimangero, there were extensive lifetime inter-regional migration between themselves. In Arusha for example, about a half of the total lifetime inter-regional in- and out-migrants were from and to Kilimangero and Manyara. Lifetime in-migrants from these two regions accounted for 54 percent of the total lifetime inter-regional in-migrants in Arusha, and lifetime out-migrants from Arusha to those two regions accounted for 50 percent of the total lifetime inter-regional out-migrants from Arusha. The similar tendency was observed in Manyara. Lifetime in-migrants from Arusha and Kilimangero accounted for 39 percent of the total lifetime inter-regional in-migrants in Manyara, and lifetime out-migrants from Manyara to these two regions accounted for 77 percent of the total lifetime out-migrants from Manyara.

For Kilimangero, one half of the total lifetime inter-regional in-migrants were from Arusha and Tanga: 20 percent and 30 percent respectively, and one half of the total lifetime inter-regional out-migrants from Kilimangero were directed to Arusha and Dar es Salaam: 25 percent each.

Table 9.7B Lifetime Inter-regional Migration, Arusha, Manyara and Kilimanjaro: 2002

From/To	In-migrants	Out-migrants	Net migration	Turnover	Percentage		Effectiveness index
					In-mig.	Out-mig.	
Arusha							
All regions	264,978	183,250	81,728	448,228	100.0	100.0	18.2
Kilimanjaro	103,405	29,593	73,812	132,998	39.0	16.1	55.5
Manyara	40,657	61,950	-21,293	102,607	15.3	33.8	20.8
Singida	30,278	7,288	22,990	37,566	11.4	4.0	61.2
Manyara							
All regions	278,472	55,446	223,026	333,918	100.0	100.0	66.8
Dodoma	78,907	4,207	74,700	83,114	28.3	7.6	89.9
Arusha	61,950	40,657	21,293	102,607	22.2	73.3	20.8
Kilimanjaro	45,438	1,775	43,663	47,213	16.3	3.2	92.5
Singida	42,410	3,710	38,700	46,120	15.2	6.7	83.9
Kilimanjaro							
All regions	148,238	411,735	-263,497	559,973	100.0	100.0	47.1
Tanga	43,834	29,569	14,265	73,403	29.6	7.2	19.4
Arusha	29,593	103,405	-73,812	132,998	20.0	25.1	55.5
Dar es Salaam	9,512	102,592	-93,080	112,104	6.4	24.9	83.0
Manyara	1,775	45,438	-43,663	47,213	1.2	11.0	92.5

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Victoria Lake Regions:

Around lake Victoria there is intensive interregional migration between Mwanza and other regions like Kagera, Mara and Shinyanga. In Mwanza, for example, in-migrants from Mara, Shinyanga and Kagera accounted for 61 percent of total in-migrants, and out-migrants to these three regions accounted for 75 percent of total out-migrants.

Table 9.7C Lifetime Inter-regional Migration, Mwanza: 2002

From/To	In-migrants	Out-migrants	Net migration	Turnover	Percentage		Effectiveness index
					In-mig.	Out-mig.	
All regions	417,872	437,209	-19,337	855,081	100.0	100.0	2.3
Mara	116,408	44,788	71,620	161,196	27.9	10.2	44.4
Shinyanga	71,720	196,085	-124,365	267,805	17.2	44.8	46.4
Kagera	64,731	88,121	-23,390	152,852	15.5	20.2	15.3
Kigoma	33,064	6,585	26,479	39,649	7.9	1.5	66.8
Dodoma	26,324	4,403	21,921	30,727	6.3	1.0	71.3
Tabora	26,263	23,499	2,764	49,762	6.3	5.4	5.6
Dar es Salaam	9,101	33,042	-23,941	42,143	2.2	7.6	56.8

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 9.7D Lifetime Inter-regional Migration, Mtwara: 2002

From/To	In-migrants	Out-migrants	Net migration	Turnover	Percentage		Effective-ness index
					In-mig.	Out-mig.	
All regions	53,102	186,911	-133,809	240,013	100.0	100.0	55.8
Lindi	25,962	69,202	-43,240	95,164	48.9	37.0	45.4
Dar es Salaam	8,441	54,065	-45,624	62,506	15.9	28.9	73.0
Ruvuma	5,770	19,729	-13,959	25,499	10.9	10.6	54.7

Source: The United Republic of Tanzania 2002 Population and Housing Census.

South regions:

In Mtwara, Lindi showed the largest share of in-migrants as well as out-migrants, followed by Dar es Salaam and Ruvuma. About 76 percent of total in-migrants from other regions were from Lindi, Dar es Salaam and Ruvuma, and 77 percent of total out-migrants to other regions were to these three regions.

Zanzibar:

As shown in Table 9.6F, more than three quarters of lifetime inter-regional migration for Mainland Zanzibar occurred within Zanzibar, and lifetime migration to and from Mainland accounted for less than a quarter.

Lifetime inter-regional migration to and from Urban West is presented in Table 9.6F. Of the total lifetime migrants coming from other regions to Urban West, 76 percent are from the regions within Tanzania Zanzibar: 37 percent from North and South Unguja and 39 percent from North and South Pemba. Of the total inter-regional migrants from Urban West to other regions, 72 percent are to other regions within Tanzania Zanzibar: 50 percent to North and South Unguja and 22 percent to North and South Pemba.

Lifetime migration flows into Urban West from other regions in Tanzania Zanzibar

Table 9.7E Lifetime Inter-regional Migration, Mainland Zanzibar: 2002

From/To	In-migrants	Out-migrants	Net migration	Turnover	Percentage	
					In-mig.	Out-mig.
All regions of Tanzania	260,129	253,296	6,833	513,425	100.0	100.0
Regions in Mainland	60,914	54,080	6,834	114,994	23.4	21.4
Regions within Zanzibar	199,215	199,215	0	398,430	76.6	78.6

Source: The United Republic of Tanzania 2002 Population and Housing Census.

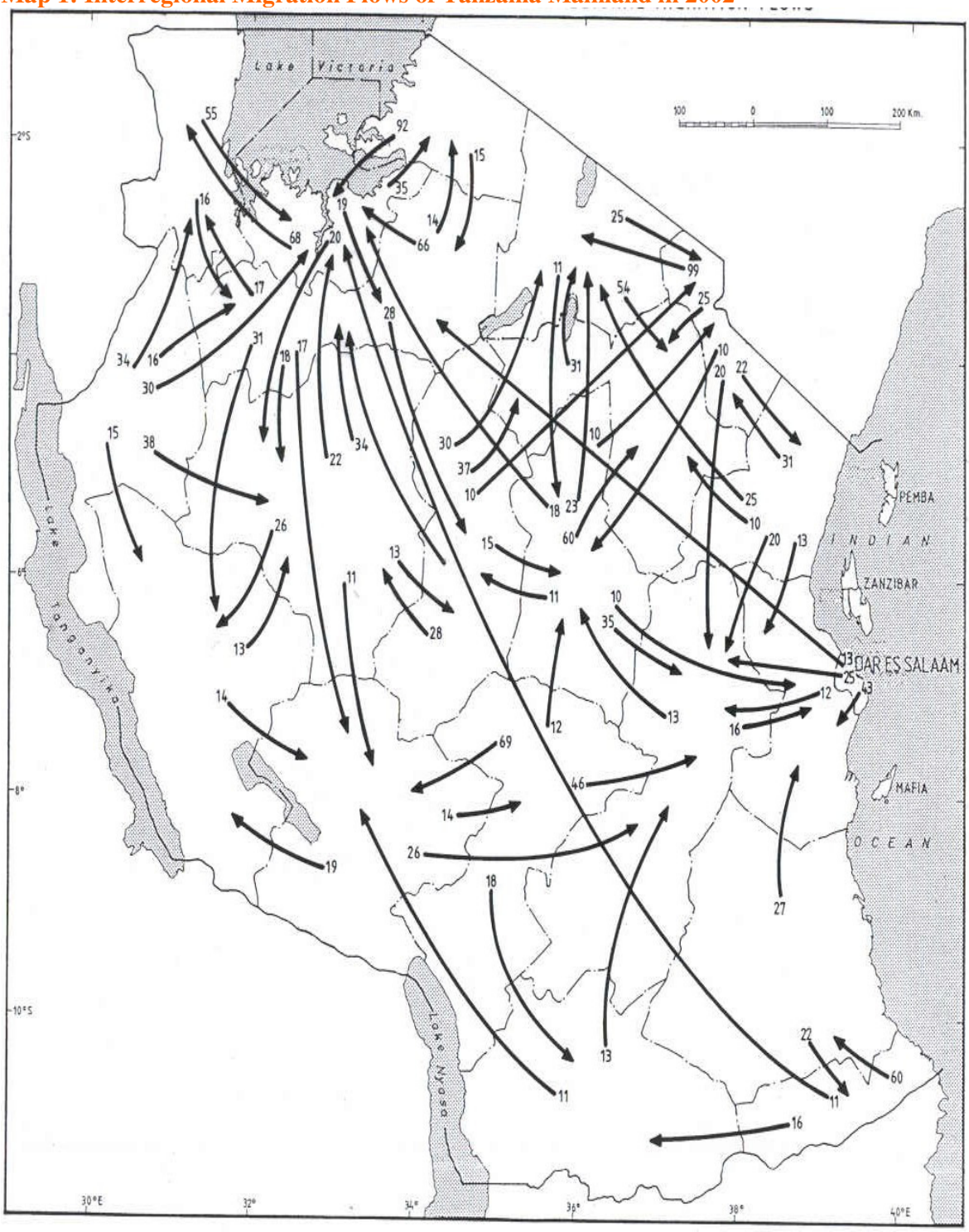
Table 9.7F Lifetime Inter-regional Migration, Urban West: 2002

From/To	In-migrants	Out-migrants	Net migration	Turnover	Percentage		Effective-ness index
					In-mig.	Out-mig.	
All regions	170,698	51,495	119,203	222,193	100.0	100.0	53.6
North Unguja	35,271	8,964	26,307	44,235	20.7	17.4	59.5
South Unguja	27,578	17,037	10,541	44,615	16.2	33.1	23.6
North Pemba	35,259	5,052	30,207	40,311	20.7	9.8	74.9
South Pemba	31,347	6,075	25,272	37,422	18.4	11.8	67.5

Source: The United Republic of Tanzania 2002 Population and Housing Census.

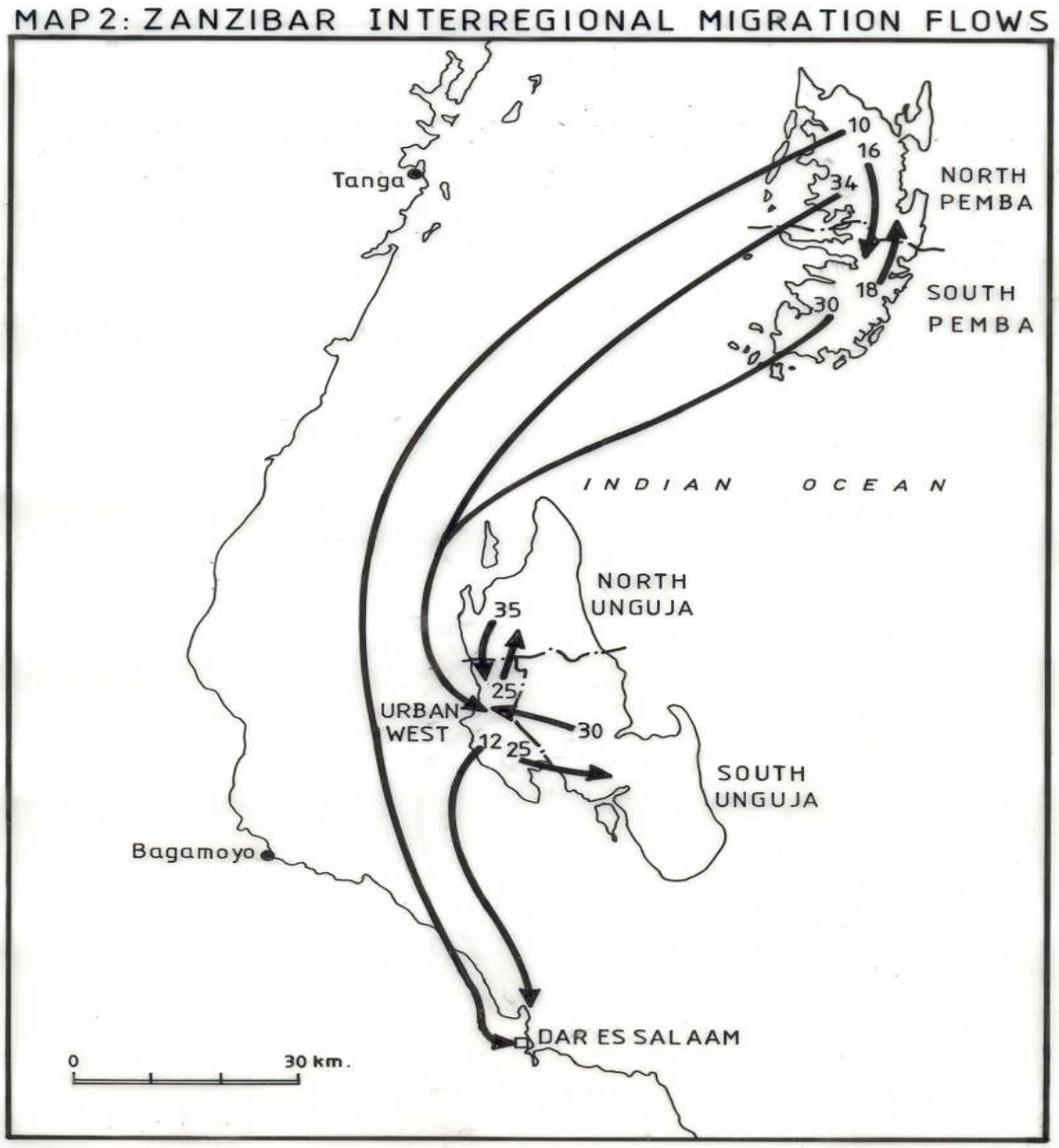
The above analysis of lifetime migration flows in Tanzania shows that migration in Tanzania is not determined by general concepts like labour reserve and population pressure only. This is because there is a

Map 1: Interregional Migration Flows of Tanzania Mainland in 2002

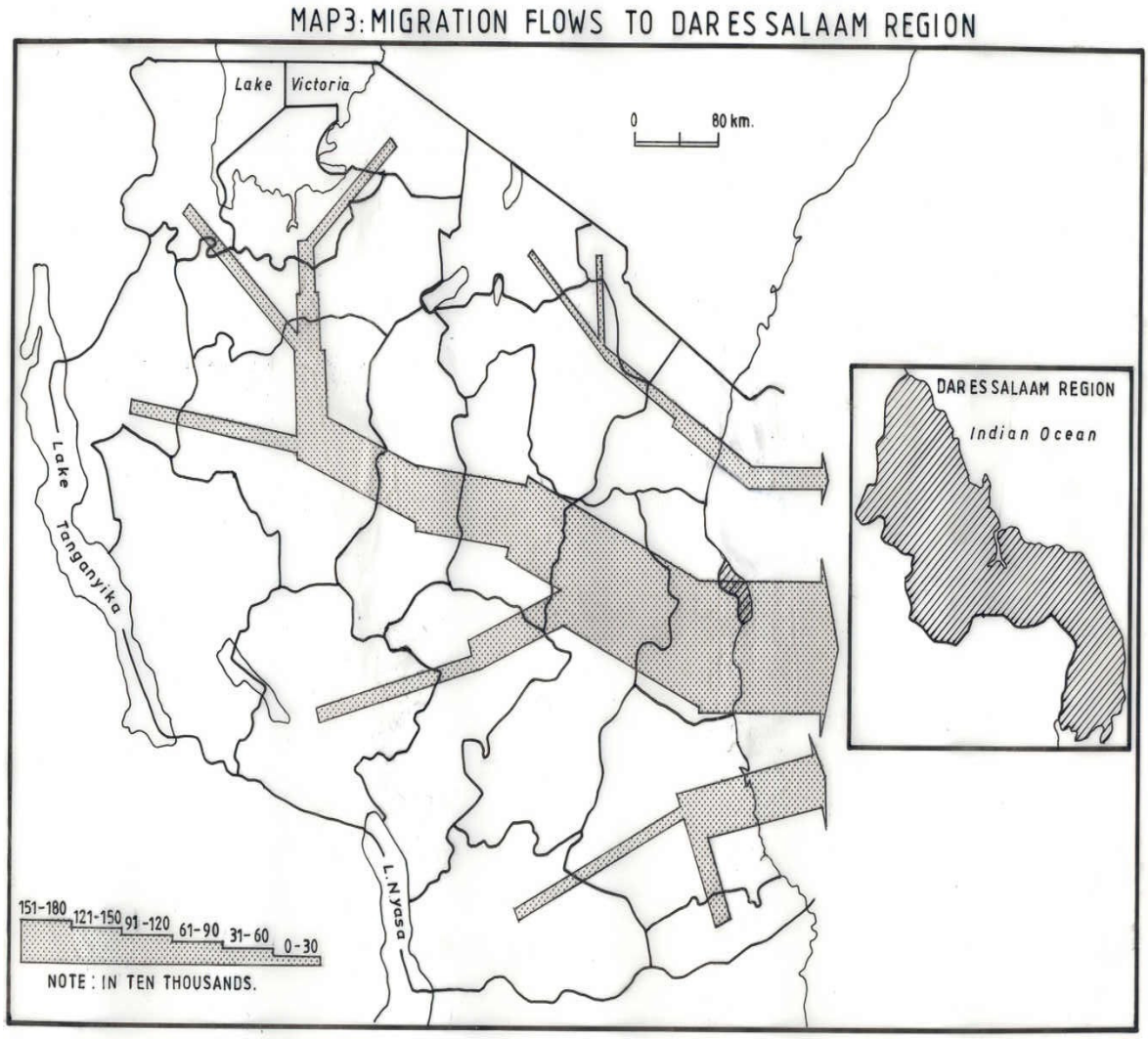


very intensive migration flows between neighbouring regions indicating that proximity is a major determinant of population redistribution in Tanzania. For example, around lake Victoria there is intensive interregional migration between Mwanza and other regions like Kagera, Mara and Shinyanga. The same process occurs in the north where there is heavy population redistribution among

regions like Arusha, Kilimanjaro and Manyara. In the south there is intensive migration flows between Lindi and Mtwara and also between Mtwara and Ruvuma. The same process occurs in the east, central, southern highlands and



western parts of the country (Map 1). Also when Map 2 is examined it shows that there is intensive interregional migration among the regions in Zanzibar. Nonetheless, long distance migration streams are observed from Mtwara region to Mwanza region and from Dar es Salaam region to Shinyanga region that is largely caused by the presence of gold mines in both Mwanza and Shinyanga regions. The other long distance migration stream is from Shinyanga to Mbeya that is largely caused by the heavy out-migration of the Sukuma to the Usangu Plains, Mbozi and Chunya districts in Mbeya region. The Sukuma have migrated in large numbers in search of lands for settlement and grazing their livestock.. The other long distance more associated with the hunt for better employment opportunities is from Tanga region to Arusha region.



9.4 International Migration

International migration is as the type of migration that involves crossing international borders. Data on international migration can be derived in the 2002 census by comparing the place of enumeration with place of birth or place of residence in 2001. Since the 2002 census of Tanzania enumerated those who were in Tanzania on a de facto basis, data on emigrants or Tanzanian residing outside the country at the time of the census cannot be derived. The analysis in this section will therefore deal with immigrants only, and concentrate on those who were enumerated in the census and were born outside the country.

The 2002 census shows that there were 236,872 immigrants in Tanzania in 2002. Out of these 2,602 persons (1.1 percent) were residing in Zanzibar and 234,173 persons (98.9 percent) in Tanzania Mainland. As indicated in Table 9.x the spatial distribution of these immigrants differed from one region to another. There is a big concentration of immigrants in regions that border refugee generating countries (Democratic Republic of Congo, Burundi and Rwanda) such as Rukwa (24.5 percent), Kagera (13.6 percent) and Kigoma (8.1 percent). The other regions with a big concentration of immigrants, which hosted refugees in the past, are Mtwara (7.2 percent) and Tabora (4.9 percent) that shows that some refugees have not returned to the country of origin or due to the government policy of settling refugees who have stayed for quite a long time in more inland regions.

Other areas with a big concentration of immigrants include commercial centres such as Dar es Salaam City (11.9 percent) and Mbeya (5.3%). In the case of Zanzibar there is a large concentration of immigrants in Urban West where Zanzibar town is located. As a whole there is a low concentration of immigrants in inland regions such as Singida and Manyara (Table 9.x).

Table 9.x shows that those born outside Tanzania account for 0.7 percent of the total population of Tanzania. By region, Rukwa recorded the highest proportion of immigrants (5.1 percent), followed by Kagera (1.6 percent) and Mtwara (1.5 percent). For Dar es Salaam the proportion of immigrants in the population was 1.1 percent.

Table 9.x Distribution of Immigrants in Tanzania by Region: 2002

Region	Immigrants	Percentage distribution	Percentage of population
Tanzania	236,872	100.0	0.7
Tanzania Mainland	234,269	98.9	0.7
Dodoma	464	0.2	0.0
Arusha	5,012	2.1	0.4
Kilimanjaro	5,399	2.3	0.4
Tanga	5,684	2.4	0.3
Morogoro	2,395	1.0	0.1
Pwani	4,852	2.0	0.5
Dar es Salaam	28,100	11.9	1.1
Lindi	4,684	2.0	0.6
Mtwara	17,106	7.2	1.5
Ruvuma	7,122	3.0	0.6
Iringa	706	0.3	0.0
Mbeya	12,610	5.3	0.6
Singida	128	0.1	0.0
Tabora	11,563	4.9	0.7
Rukwa	58,135	24.5	5.1
Kigoma	19,126	8.1	1.1
Shinyanga	1,092	0.5	0.0
Kagera	32,299	13.6	1.6
Mwanza	3,085	1.3	0.1
Mara	13,926	5.9	1.0
Manyara	780	0.3	0.1
Zanzibar	2,602	1.1	0.3
North Unguja	142	0.1	0.1
South Unguja	345	0.1	0.4
Urban west	1,767	0.7	0.5
North Pemba	209	0.1	0.1
South Pemba	140	0.1	0.1

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Data on immigrants by country of origin (country of birth) are given in Table 9.y. It shows that the majority immigrants in Tanzania are from the Great Lakes Region (64.2 percent). This high proportion of immigrants from the Great Lakes Region is due to the presence of refugees from Burundi (29.2 percent), Rwanda (7.9 percent) and the Democratic Republic of Congo (9.7 percent). The other factor, which has led to a higher proportion of immigrants, is the good commercial and political relation among the East African Community countries such as Kenya (12.6 percent) and Uganda (4.7 percent).

Another regional zone with the highest proportion of immigrants in Tanzania is the Central Africa (27.2 percent). There are two factors that have led to a high proportion of immigrants from Central

Africa. The predominance of immigrants from Mozambique (17.9 percent) indicates that there are still refugees residing in Tanzania despite the fact there is a political stability in Mozambique. Secondly, proximity and intensive trade relationships between these countries has encouraged some business men/women to reside in neighbouring countries for a reasonable period of time. The other African regional zones like Southern Africa and other Africa contribute a small proportion immigrants (1.0 percent) may be due to long distance that acts as a barrier to migration.

The contribution of immigrants to Tanzania by other continents is relatively low except for Asia (4.0 percent). This is because Asia has a reasonable proportion of Asian communities that have settled in East Africa since the 19th Century when they came to build the Mombasa-Uganda railway. Their presence still attracts relatives from Asia and other parts of the world to settle in East Africa. The proportion of immigrants from Europe is about 2.0 percent while the proportion of immigrants from North America is about 0.6 percent. Last but not least, the proportion of immigrants from other countries is less than 1 percent (Table 9.y).

Table 9.y Immigrants by Country of Birth: 2002

Country of birth	Number	Percentage	Zone and country	Number	Percentage
Total	236,872	100.0			
Great Lakes	152,017	64.2	Asia	9,575	4.0
Burundi	69,210	29.2	India	6,848	2.9
Kenya	29,861	12.6	Pakistan	562	0.2
Republic of Congo	23,021	9.7	Other Asian countries	2,165	0.9
Rwanda	18,777	7.9	Europe	4,693	2.0
Uganda	11,148	4.7	United Kingdom	941	0.4
Eastern Africa	1,677	0.7	Germany	835	0.4
Somalia	688	0.3	Nordic countries	638	0.3
Comoro	505	0.2	Italy	497	0.2
Seychelles	316	0.1	Other European countries	1,783	0.8
Mauritius	167	0.1	North America	1,370	0.6
Central Africa	64,438	27.2	USA	1,115	0.5
Mozambique	42,465	17.9	Canada	255	0.1
Zambia	12,949	5.5	Other countries	993	0.4
Malawi	7,083	3.0			
Angola	1,055	0.4			
Zimbabwe	718	0.3			
Mauritius	167	0.1			
Southern Africa	1,462	0.6			
South Africa	603	0.3			
Namibia	546	0.2			
Botswana	120	0.1			
Lesotho	117	0.0			
Swaziland	77	0.0			
Other African countries	813	0.3			

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 9.z presents the number of immigrants residing in selected regions by main countries where they were born. It shows that in the regions near the border of the country most of immigrants came from the neibouring countries. In 4 regions in the western part of Tanzania, i.e. Rukwa, Kigoma, Kagera and Tabora, the majority of immigrants came from Burundi and the Republic of Congo. For example,

of 58,135 immigrants in Rukwa, 67.4 percent were from Burundi and 26.9 percent from the Republic of Congo; of 19,126 immigrants in Kigoma, 65.0 percent and 30.9 percent were from Burundi and the Republic of Congo respectively; of 32,299 immigrants enumerated in Kagera 54.0 percent were from Rwanda, 14.5 percent from Burundi and 28.2 percent from Uganda; and for Tabora 94.4 percent of immigrants were from Burundi. These reflect the influx of large number of refugees from neibouring countries in the past.

In the northern part of the country, the majority of immigrants enumerated in Mara were from Kenya. In regions of the southern part: Mbeya, Ruvuma and Mtwara, the majority of immigrants were from Mozambique, Zambia and Malawi.

For Dar es Salaam as the largest commercial center immigrants came from not only neighbouring counties but also from different parts of the world.

Table 9.z Immigrants in Selected Regions by Country of Birth: 2002

Region of residence and country of birth	Number	Percentage
Rukwa	58,135	100.0
Of which: From Burundi	39,194	67.4
From Rep. of Congo	15,660	26.9
Kagera	32,299	100.0
Of which: From Rwanda	17,443	54.0
From Uganda	9,106	28.2
From Burundi	4,687	14.5
Dar es Salaam	28,100	100.0
Of which: From Mozambique	7,840	27.9
From India	4,252	15.1
From Kenya	3,832	13.6
From Malawi	2,760	9.8
From European countries	2,497	8.9
Kigoma	19,126	100.0
Of which: From Burundi	12,435	65.0
From Rep. of Congo	5,915	30.9
Mtwara	17,106	100.0
Of which: From Mozambique	16,659	97.4
Mara	13,926	100.0
Of which: From Kenya	13,052	93.7
Mbeya	12,610	100.0
Of which: From Zambia	8,337	66.1
From Malawi	3,111	24.7
Tabora	11,563	100.0
Of which: From Burundi	10,916	94.4
Ruvuma	7,122	100.0
Of which: From Mozambique	6,326	88.8

Source: The United Republic of Tanzania 2002 Population and Housing Census.

9.5 Summary

The analysis of migration data shows that about 4,671,641 lifetime migrants were involved as in-migrants and out-migrants giving a turnover of about 9.345,282. Moreover, the contribution of each region to internal migration indicates great differentials. Dar es Salaam as the primate city with a huge industrial and commercial base dominates the internal migration in the country. Almost the same strength in internal migration is displayed by Zanzibar town (located in Urban West) in Zanzibar. The other regions with positive net migration include Arusha, Morogoro, Mbeya, Rukwa, Kagera and Tabora. These regions have positive net migration because they have plenty of land for settlement and other economic activities such as large plantations, mining and industries. The rest of the regions have a negative net migration due to lack of employment opportunities, population pressure coupled with environmental degradation. Other migration indicators such as the Index of Relative Representation (IRR) and Migration Effectiveness Index (MEI) have proved these migration characteristics.

The interregional migration streams indicate that there is intensive migration flows or population redistribution between neighbouring regions because of proximity and close ethnic relationships. Nonetheless, long distance migration is observed between regions such as Mtwara and Mwanza, Dar es Salaam and Shinyanga due to the presence of precious minerals such gold. Also there is very intensive interregional migration among neighbouring regions in Zanzibar. Above all, as indicated above Dar es Salaam as the primate city of the country has managed to pull migrants from nearly all regions in the country. Moreover, the analysis of current lifetime migrants shows that there were about 701,911 current migrants out of the total of 4,442,527 lifetime migrants. The level of current migrants to the total migrants showed very little differentials between in-migration and out-migration regions.

It has been observed that the majority of international migrants in Tanzania are from the Great Lakes Region and Central Africa, which is largely the result of the presence of refugees, proximity and both strong ethnic and commercial relations. There are a reasonable proportion of international migrants from Asia because of the presence of Asian communities in major urban centres of the country. Other sources of international migrants include Europe and America.

10.1 Introduction

The concept "urbanization" has been invariably discussed from several perspectives. However, there seems to be an agreement on certain variables that characterize urbanization which include demographic changes, concentration of economic and commercial activities within limited geographic space triggered by industrialization, spatial expansion of settlements and changes in people's life styles. Unlike in industrialized countries where urbanization was fuelled by industrialization, the kind of urbanization experienced in many of the non-industrialized countries portrays the character of rapid population increase due to natural increase and migration as well as the uncontrolled expansion of towns with limited economic opportunities and narrow productive bases. Some of the features that characterized urbanization in these countries include growth and expansion of informal settlements, farming.

In the 2002 Population and Housing Census, the urban areas are defined as the localities that are identified as urban areas by the district authority. There is no clear and uniform definition applied by various districts in the country. Appendix 10.1 gives classification of human settlements in Tanzania as stipulated in the official National Human Settlements Development Policy of Tanzania 2000 and Appendix 10.2 gives a list of urban localities in each district in the 2002 census.

It should be noted that in the 1988 Population Census, identification as well as the size of the urban localities was not addressed by the Bureau of Statistics as it was for the 1967 and 1978 Censuses. The Ministry responsible for Human Settlements Development used the 1988 census reports giving population by ward type (pure rural, pure urban and mixed) and names of urban localities by ward and districts, to determine the total urban population in the whole country and the population in each urban centre defined to be an urban area. The assignment of urban population portion in a mixed ward was mainly based on guesstimate.

10.2 Brief History of Urbanization in Tanzania

Compared to developed countries or many other developing countries, Tanzania has a fairly short history of urbanization. Urbanization was given impetus due to the caravan trade of the Arabs.

In the east coast of Africa urbanization is recorded to date back to the fifteenth century. During the early sixteenth century, for example, Zanzibar was recognized as a seaport where merchant ships from Europe called in during voyages to and from the East. The town of Zanzibar, the then centre of a Regime in the coast, administered by the Sultan of Muscat is recorded to have been organized in collecting all revenues and dues for submission to the sultan of Muscut as early as the eighteenth century. By 1859 Zanzibar town is reported to have been a town then bigger than Mombasa in Kenya.

There were few small trading centres during the Arab trade. Kilwa and Bagamoyo are also towns of comparatively long history. Bagamoyo is recorded to be a major nineteenth century caravan centre, port and the most important market centre on the coast, second only to Zanzibar. During this period, retail trade and other commercial activities were established with the arrival of an Indian community.

During the nineteenth century, Tabora, Mpwapwa and Ujiji came to prominence as urban centers partly as a result of the westward penetration of Arab trading activities in East Africa.

With the coming of Germans in the 1880's, Bagamoyo became the seat of their administration till 1891 when this was moved to Dar es Salaam, then regarded as a "small town". Tanga, Lindi and

Kigoma/Ujiji on Tanzania Mainland also rose to prominence, but these towns and others during both Arab and German colonial rule were growing very slowly and had small populations.

By the time of the First World War, 1914-1918, towns had been more widespread as German rule entranced administrative structures, as well as the development of commerce and monetary economy. This situation was enhanced during the British Colonial rule after the war. By 1957 the following were Provinces in the country with their capitals in brackets: Central Province (Dodoma), Eastern Province (Dar es Salaam), Lake Province (Mwanza), Northern Province (Arusha), Western Province (Tabora), Southern Province (Mtwara), Southern Highlands Province (Mbeya), and Tanga Province (Tanga). A Township Ordinance was passed early during the British rule, involving gazettement of towns with townships being so proclaimed to have boundaries. Town Authorities could fix and levy rates and rents and had comprehensive laws pertaining to health and government.

Urban centres sprung as satellites of large scale farming areas like Mbeya in 1935 and mining sites like Chunya in 1938. Ports like Mtwara in 1949 and Tanga in addition to administrative centres as well as railway stations like Korogwe and Kilosa that were facilititating commerce also started to grow.

For the whole colonial period, including the 40 years of British rule, urban areas grew at a slow rate. The main reason was that urbanization, as a way of life was considered suitable only for the alien population. Restrictions on the internal movement of the indigenous population played another important role in slowing down urbanization. However, rapid urbanization began to be experienced after independence in 1961.

The distribution and spread of the majority of big settlements follow the trunk road network and the two railway lines in the country. These urban areas are found mainly along the following:

(a) Dar es Salaam –Mbeya –Tunduma all weather road and the Dar es Salaam –Mbeya –Tunduma stretch of the Tanzania –Zambia-Railway line.
(b) The Dar es Salaam –Tanga and Moshi-Arusha all weather road;
(c) Dar es Salaam –Dodoma all weather road, with a break between Dodoma and Singida where urban localities are few.
(d) From Singida to Mwanza the number and concentration of urban localities increases along the same Dar es Salaam – Mwanza road.

The western part and central western part of the country as well as several districts in the southern part of the country have fewer urban localities compared to the rest of the country. These same areas coincide with zones of low resource endowment with poor and underdeveloped infrastructure.

10.3 Trend in Urbanization

Table 10.1 shows the urbanization trend in the country over the period of 1967-2002. The urban population of Tanzania as a whole increased from 787 thousands in 1967 to 7.9 million in 2002, an increase of over ten times during the period of 35 years. As the urban population increased at a much faster rate than the total population, the percentage share of the urban population in the country's total population has been increasing steadily over this period.

Table 10.1 Total Population, Urban Population and Percentage Urban: 1967, 1978, 1988 and 2002

Year	United Republic of Tanzania			Tanzania Mainland			Tanzania Zanzibar		
	Total	Urban	Percentage	Total	Urban	Percentage	Total	Urban	Percentage
1967	12,313,469	786,567	6.4	11,958,654	685,092	5.7	354,8	101,475	28.6
1978	17,512,610	2,412,900	13.8	17,036,499	2,257,921	13.3	476,1	154,979	32.6
1988	23,095,882	4,247,272	18.4	22,455,207	4,043,684	18.0	640,6	203,813	31.8
2002	34,443,603	7,943,561	23.1	33,461,849	7,554,838	22.6	981,7	388,723	39.6

Source: The United Republic of Tanzania Population and Housing Censuses, 1967, 1978, 1988 and 2002.

The urbanization showed a different trend between Tanzania Mainland and Tanzania Zanzibar. The speed of urbanization was much faster in Tanzania Mainland than in Tanzania Zanzibar. In fact, while the urban population of Tanzania Zanzibar increased 3.8 times during a 35 year period between 1967 and 2002, the urban population of Tanzania Mainland increased 11 times during the same period.

Table 10.2 gives a comparison of percentages of people living in urban areas in selected African countries. As each country uses its own definition of the urban areas, an international comparison of urban population should be looked at with caution. As shown in this table, Tanzania remains one of the less urbanized countries. It is less urbanized than Zambia, Moroco and Egypt.

Table 10.2 Percentage of People Living in Urban Areas in Tanzania and Other Selected African Countries 1960-69 and 1989 – 2002

Country	Percent in urban areas	
	1965-1969	1989-2002
Tanzania	6.2	23.1
Uganda	7.0	14.5
Burundi	2.2	7.8
Malawi	5.0	19.6
Zambia	20.0	39.4
Morocco	32.3	50.3
Egypt	46.4	44.0

Source: The 2002 Population and Housing Census.

UN Demographic Year Book 1970, Table 5 Population by Urban/Rural Population by Urban/Rural Residence 1965-69.

UN Demographic Year Book 1998, Table 6 Urban and Total Population by Sex 1978 – 1998.

Figure 10.1 Trends of rate of urbanization (%) for past, present and future, United Republic, Mainland and Zanzibar

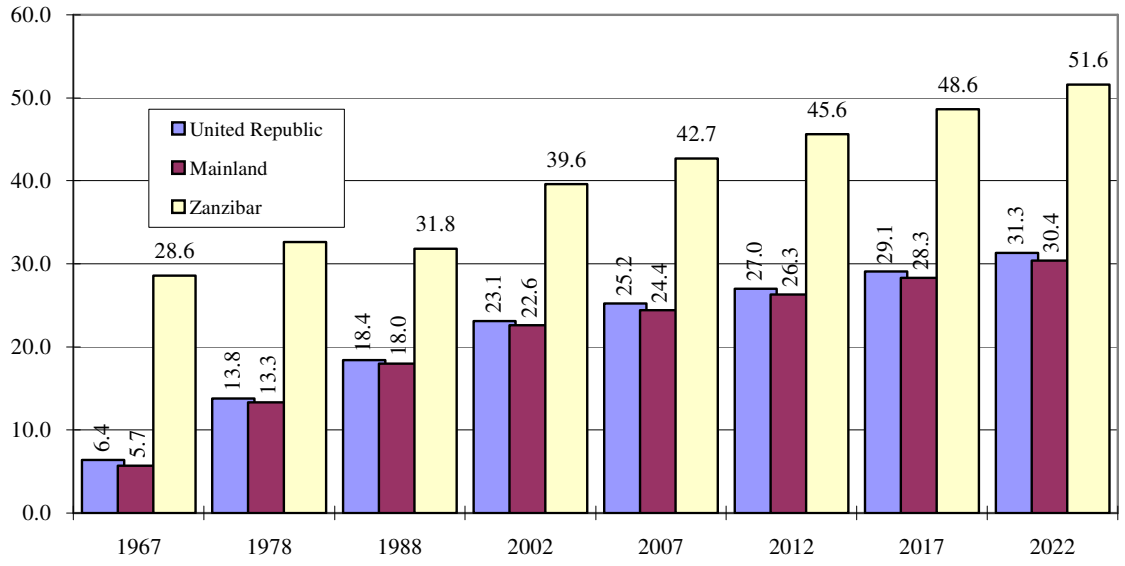


Figure 10.1 showa trends of the rate of urbanization or the proportion of urban population in total population for 1957, 1978, 1988 and 2002, and estimated rate of urbanization for 2007, 2012, 2017 and 2022. The estimation was made by logistic model assuming that the logisitic change from 1988 to 2002 continues for future.

10.4 Level of Urbanization in Regions

Dar es Salaam Region is the most urbanized region in the country with 93.9 percent of its population being urban. This is followed by Urban West in Tanzania Zanzibar where Zanzibar Municipality is located with 81.9 percent of the region's total population being urban. The third highly urbanized region is Arusha with 31.3 per cent of its population being urban. Most of the rest of the regions are at very low levels of urbanization, with the nine regions having less than 15 percent of their regional population living in urban areas: Singida (13.6 percent), Manyara (13.6 percent), Tabora (12.9 percent), Dodoma (12.6 percent), Kigoma (12.1 percent), Shinyanga (9.2 percent), Kagera (6.2 percent), South Unguja (5.2 percent) and North Unguja (1.7 percent). Apart from Dar es Salaam and Urban West Zanzibar regions being highly urbanized far above the national average of 23.1 percent, no other region in the country has reached 33 percent level of urbanisation. Only two regions: Arusha (31.3

Table 10.3 Urbanization Levels of Regions In Tanzania 1978-2002.

Total Population and Urban Population 2002, Percent Urban 1978, 1988, 2002 and 2002 and Change in Percentage Urban Population 1978 and 2002 by Regions

Regions	2002			1988	1978	Change in % Urban (1978-2002)
	Total Population	Urban Population	Percentage	Percentage	Percentage	
Tanzania	34,443,603	7,943,561	23.1	18.8	13.8	9.3
Tanzania Mainland	33,461,849	7,554,838	22.6	17.9	13.3	9.3
Tanzania Zanzibar	981,754	388,723	39.6	31.8	32.6	7.0
Dodoma	1,692,025	213,243	12.6	11.2	8.8	3.8
Arusha	1,288,088	403,597	31.3	12.4	8.0	23.4
Kilimanjaro	1,376,702	288,091	20.9	15.2	7.5	13.4
Tanga	1,636,280	301,196	18.4	17.6	14.1	4.3
Morogoro	1,753,362	473,849	27.0	21.1	14.4	12.6
Pwani	885,017	186,861	21.1	15.4	7.2	13.9
Dar es Salaam	2,487,288	2,336,055	93.9	88.6	91.3	2.7
Lindi	787,624	126,396	16.0	15.3	10.1	6.0
Mtwara	1,124,481	228,539	20.3	14	12.0	8.3
Ruvuma	1,113,715	169,670	15.2	11.9	7.7	7.5
Iringa	1,490,892	256,332	17.2	10	9.1	8.1
Mbeya	2,063,328	421,145	20.4	18.2	9.0	11.5
Singida	1,086,748	148,667	13.7	8.8	9.5	4.2
Tabora	1,710,465	219,884	12.9	14.3	13.1	-0.3
Rukwa	1,136,354	200,122	17.6	14.2	11.8	5.9
Kigoma	1,674,047	202,807	12.1	12.8	9.9	2.2
Shinyanga	2,796,630	256,052	9.2	6.8	4.2	4.9
Kagera	2,028,157	126,750	6.2	5.5	3.4	2.9
Mwanza	2,929,644	601,257	20.5	18.6	10.2	10.3
Mara	1,363,397	253,606	18.6	10.5	7.3	11.3
Manyara	1,037,605	140,719	13.6	-	-	-
North Unguja	136,639	2,340	1.7	-	7.5	-5.8
South Unguja	94,244	4,865	5.2	12.7	7.3	-2.1
Urban West	390,074	319,481	81.9	6.5	77.8	4.1
North Pemba	185,326	30,579	16.5	8.1	18.4	-1.9
South Pemba	175,471	31,458	17.9	23.2	15.5	2.5

Source: National Bureau of Statistics.1978,1988 and 2002 Censuses of Population and Housing.

percent) and Morogoro (27.0 percent) have the proportion of their urban population above the national figure of 23.1 per cent. Most of other regions have between 15.0 to 21.1 percent of their population being urban.

Four regions according to Table 10.3.had their level of (percent) urban population to total regional population stagnating or even declining between 1978 and 2002: Tabora (-0.3%), North Pemba (-1.9%), South Unguja (-2.1%) and North Unguja (-5.8%). Economic decline or stagnation partly

accounts for this trend.Regions that registered an increase of more than 10 percent for this indicator over the same time period are Arusha (+23.4%), Pwani (+13.9%), Kilimanjaro (+13.4%), Morogoro (+12.6%), Mbeya (+11.5%), Mara (+11.3%) and Mwanza (+10.3%).

10.5 Summary

Among African countries, United Republic of Tanzania indicated relatively low level in urbanization. Among regions of Tanzania Dar es Salaam in Mainland and Urban West in Zanzibar presented more than 80 percent in rate of urbanaization. Other twenty four regions, except for Arusha where rate of urbnization recorded 31.3 percent, indicated the level of under 30 percent.

CHAPTER 11: HOUSEHOLDS AND HOUSING

11.1 Introduction

This chapter analyses data and information derived from the 2002 Population and Housing Census, focusing mainly on questions on housing and household characteristics. With regard to housing conditions, the following nine questions were asked in the long questionnaire in the 2002 census:

(1) Building materials used for roofing of the main building;
(2) Building materials used for the walls of the main building;
(3) Building materials used for the floor of the main building;
(4) Number of rooms in the household used for sleeping;
(5) Main source of energy for cooking;
(6) Main source of energy for lighting;
(7) Main source of drinking water;
(8) Kind of toilet facilities;
(9) Ownership of selected assets.

From the results obtained, there are all indications, which show that the answers were genuine and accurate given the fact that questions posed under this section were impersonal and that in many cases the enumerators could easily verify the responses.

The development of human settlements in the country has neither been adequate nor sustainable for both rural and urban areas. The two main objectives of the 2000 National Human Settlements Development Policy are adequate and affordable shelter for all and sustainable human settlement. Shelter is seen in its entirety to include dwellings and necessities linked to them such as sanitation, drainage facilities and other utility services (water and electricity).

The main task of the Government over the last one and half decades has been to provide an enabling environment to promote the development and provision of housing to its people in both rural and urban areas. This is in line with the 1996 Istanbul Declaration and the Global Plan of Action on Shelter and Human Settlements, otherwise referred as the Habitat Agenda.

The Government, through the responsible Ministries demonstrated its commitment to implement the Habitat Agenda, inter alia, by putting in place the 2002 National Human Settlements Development Policy for the Tanzania Mainland as well as the establishment of the policy for Tanzania Zanzibar. As a step forward, the Government also formulated the National Housing Programme in 2002 to implement the policy. Whereas the Policy provides a framework for action, the Programme presents a road map for all actors and stakeholders towards the attainment of the goal.

The strategies are underway to review the available housing policy which lead as guide lines to proper development plan for the dwelling facilities. This will be a step foreword for the implementation of the 1996 Istanbul Declaration and the Global Plan of Action on Shelter and Human Settlements.

11.2 Households

11.2.1 Definitions

Private household: A private household is a group of persons who lived together and shared living expenses. Usually these were husband, wife and children. Other relatives, boarders, visitors and servants were included as members of the household, if they were present in the household on the census night.

If one person lived and ate by himself/herself, then he/she was a one-person household even if he/she stayed in the same house with other people. Household members staying in more than one house were enumerated as one household if they ate together.

Collective or institutional households: A collective or institutional household comprised groups of persons in camps, boarding schools, hospitals, hotels, prisons and so on. Only the persons who spent the census night in such places were enumerated.

Head of household: A head of household in the context of the 2002 census is a person among the household members who is acknowledged by other members of the same household as their head**.** This individual is the spokesperson of the household members and is the one who often makes the decision concerning the welfare of the members of the household.

11.2.2 Number of Households

According to the 2002 census, there were 7,062 thousands private households in Tanzania in 2002. A total of 33,451 thousands persons, or 97.1 percent of the total population lived in private households, and the remaining 993 thousands persons, or 2.9 percent in collective households.

During 14 years between the 1988 and 2002 censuses, the number of private households increased by 59.8 percent, while the population in private households increased by 45.9 percent. The speed of increase in households was faster than population.

Table 11.1 Number of Households and Household Members: 2002

Type of households	Households	Household members
Total	7,098,213	34,443,603
Private households	7,062,146	33,451,050
Collective households	36,067	992,553

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 11.2 Number of Private Households and Members of Private Households: 1988 and 2002

	1988	2002	% increase
Private households	4,419,540	7,062,176	59.8
Members of private households	22,934,040	33,451,050	45.9

Source: The United Republic of Tanzania Population and Housing Censuses, 1988 and 2002.

11.2.3 Size of Households

Table 11.3 and Figure 11.1 show the average size of private households for Tanzania by area in the 1978, 1988 and 2002 censuses. The average size of households for Tanzania as a whole in 2002 was 4.7 persons, compared to 5.2 persons in 1988. Differences exist between rural and urban areas. The average household size for Tanzania in rural areas was 4.9 persons while that of the urban areas was 4.2 persons. The average size of urban households tends to be smaller than that of rural households. This is partly explained by continued rural-urban migration, which compels movers to break away from large rural households. Upon reaching the destination, which is often the urban centers, the migrants usually establish their own households.

By area, the average household size in Tanzania Mainland was similar to the country as a whole. However, in Tanzania Zanzibar, the household sizes in both rural and urban areas were comparatively higher than those of their counterparts in Tanzania Mainland. This is true also at national level. The

average household size for Zanzibar was 5.2 persons per household, as compared to 4.7 persons in Tanzania Mainland or Tanzania as a whole. It may be also noted that in Zanzibar, in contrast to Tanzania Mainland, the average household size in urban areas (5.3 persons per household) was bigger than in rural areas (5.1 persons).

When comparing the 1988 and 2002 census results, one outstanding feature observed was that while there has been a decline in household sizes in both rural and urban areas of the Mainland, the opposite has been the case with respect to Zanzibar. Zanzibar has recorded quite a noticeable increase in the average household sizes between 1988 and 2002. In 1988, the average household size stood at 4.7 persons per household in Zanzibar; while in 2002 the figure had gone up to 5.2 persons per household. Similarly, the average household sizes in Zanzibar rural areas as well as in Zanzibar urban areas increased from 4.5 persons and 4.9 persons in 1988 to 5.1 persons and 5.3 persons respectively.

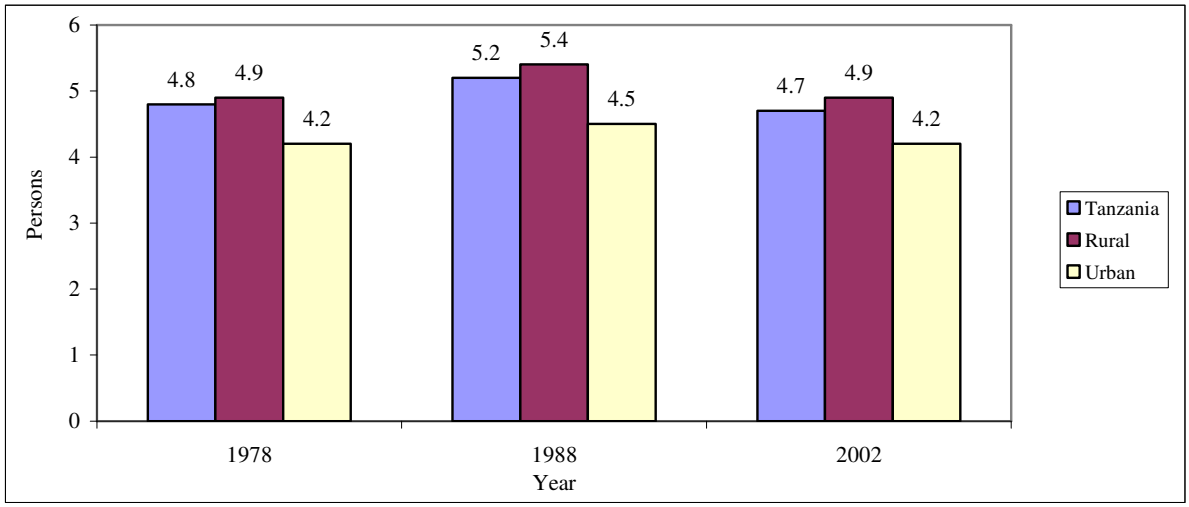
Table 11.3 Average Household Sizes for Tanzania by Area: 1978, 1988 and 2002

(Number of persons per household)

	1978	1988	2002
Tanzania	4.8	5.2	4.7
Rural	4.9	5.4	4.9
Urban	4.2	4.5	4.2
Mainland	4.8	5.2	4.7
Rural	5.0	5.4	4.9
Urban	4.2	4.4	4.1
Zanzibar	4.2	4.7	5.2
Rural	4.2	4.5	5.1
Urban	4.2	4.9	5.3

Source: The United Republic of Tanzania Population and Housing Censuses of 1978, 1988 and 2002.

Figure 11.1 Average Household Size of Tanzania in Rural and Urban Areas, 1978, 1988 and 2002



Source: The United Republic of Tanzania Population and Housing Censuses of 1978, 1988 and 2002.

Table 11.4 shows the distribution of private households by size of household. While the 3-person households account for the largest proportion of the total private households for the whole country and for Tanzania Mainland, the 4-person households account for the largest proportion for Zanzibar.

One-person households occupy a high proportion of 17.2 percent of total private households in urban areas, as compared to 9.1 percent in rural areas.

The proportion of 5 or more person households is 46.0 percent in the country as a whole. By area, the proportion is higher in Zanzibar (53.5 percent) than in Tanzania Mainland (45.8 percent). By rural and urban areas, the proportion is higher in rural areas (48.9 percent) as compared to urban areas (38.0 percent).

Table 11.4 Percentage Distribution of Private Households by Size of Household: 2002 (%)

Size of household	Tanzania		Mainland		Zanzibar	
	Households	Members	Households	Members	Households	Members
Rural + Urban	100.0	100.0	100.0	100.0	100.0	100.0
1 person	11.2	2.4	11.3	2.4	10.0	1.9
2 persons	13.1	5.6	13.1	5.7	10.5	4.1
3 persons	15.0	9.7	15.0	9.7	12.8	7.5
4 persons	14.7	12.7	14.8	12.7	13.2	10.3
5 persons	12.9	13.9	12.9	14.0	12.5	12.2
6-7 persons	20.0	27.0	19.9	27.0	21.4	26.5
8-9 persons	7.3	13.1	7.2	13.0	11.1	18.2
10-11 persons	3.1	7.0	3.1	6.9	5.1	10.2
12 persons and more	2.7	8.7	2.7	8.7	3.4	9.2
Rural	100.0	100.0	100.0	100.0	100.0	100.0
1 person	9.1	1.9	9.1	1.9	8.9	1.8
2 persons	12.2	5.0	12.2	5.1	10.7	4.2
3 persons	14.8	9.2	14.8	9.2	13.3	7.9
4 persons	15.1	12.5	15.1	12.5	14.0	11.0
5 persons	13.6	14.1	13.6	14.1	13.1	12.9
6-7 persons	21.3	27.6	21.2	27.6	21.8	27.5
8-9 persons	7.7	13.4	7.6	13.3	11.0	18.3
10-11 persons	3.3	7.1	3.3	7.0	4.4	9.0
12 persons and more	3.0	9.2	3.0	9.3	2.7	7.3
Urban	100.0	100.0	100.0	100.0	100.0	100.0
1 person	17.2	4.2	17.4	4.3	11.8	2.2
2 persons	15.5	7.5	15.7	7.7	10.2	3.9
3 persons	15.6	11.3	15.7	11.5	12.0	6.8
4 persons	13.7	13.3	13.8	13.5	12.0	9.1
5 persons	11.0	13.3	11.0	13.4	11.6	11.0
6-7 persons	16.3	24.8	16.1	24.8	20.6	24.9
8-9 persons	6.1	12.3	5.8	12.0	11.2	17.9
10-11 persons	2.6	6.6	2.5	6.4	6.1	12.0
12 persons and more	2.0	6.9	1.9	6.6	4.6	12.0

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 11.5 gives average household sizes for regions in 2002. The average size of private households varied from region to region, ranging from 3.7 persons per household in Mtwara to 6.2 persons per household in Shinyanga. Tabora and South Pemba recorded the second largest average size of private households of 5.8 persons per household following Shinyanga. Mwanza (5.7 persons per household), North Pemba (5.5 persons), Kigoma and Mara (both 5.4 persons) also recorded relatively high average size of private households. Average household size for Dar es Salaam was 4.5 persons per household, slightly lower than the national average of 4.7 persons, and that for Urban West was 5.1 persons per household that was higher than the national average.

Table 11.5 Average Household Sizes, by Region: 2002 (Number of persons per household)

Region	Average size	Region	Average size	Region	Average size
Tanzania	4.7	Mtwara	3.7	Mwanza	5.7
Tanzania Mainland	4.7	Ruvuma	4.7	Mara	5.4
Dodoma	4.4	Iringa	4.2	Manyara	5.1
Arusha	4.4	Mbeya	4.1	Tanzania Zanzibar	5.2
Kilimanjaro	4.5	Singida	4.9	North Unguja	4.8
Tanga	4.5	Tabora	5.8	South Unguja	4.6
Morogoro	4.4	Rukwa	5.0	Urban West	5.1
Pwani	4.3	Kigoma	5.4	North Pemba	5.5
Dar es salaam	4.1	Shinyanga	6.2	South Pemba	5.8
Lindi	4.0	Kagera	4.7		

Source: The United Republic of Tanzania 2002 Population and Housing Census.

11.2.4 Headship of Households

Table 11.6 gives proportions of male and female heads of private households in the 1988 and 2002 censuses.

Traditionally, in most Tanzanian societies, men have predominantly been the heads of the households, in both rural and urban areas being not an exception. According to the 2002 Population and Housing Census, there were more male-headed households (67.3 percent) compared to female-headed ones (32.7 percent) in Tanzania. By area, the proportion of female heads of households in Zanzibar (29.8 percent) is lower than the proportion of female heads in Tanzania Mainland (32.8 percent). This is due to cultural difference in two areas.

Between rural and urban areas, the proportion of female-headed households is marginally higher in urban areas (33.6 percent) compared to rural areas (32.4 percent). This is the case in Tanzania Mainland too. In Zanzibar, on the contrary, the proportion of female-headed households is lower in urban areas (28.7 percent) than in rural areas (30.5 percent).

Table 11.6 Proportions of Male and Female Heads of Private Households: 1988 and 2002

(%)

Area	Total	Male	Female
1988			
Tanzania	100.0	70.0	30.0
Rural	100.0	70.4	29.6
Urban	100.0	68.4	31.6
2002			
Tanzania	100.0	67.3	32.7
Rural	100.0	67.6	32.4
Urban	100.0	66.4	33.6
Mainland	100.0	67.2	32.8
Rural	100.0	67.6	32.4
Urban	100.0	66.2	33.8
Zanzibar	100.0	70.2	29.8
Rural	100.0	69.5	30.5
Urban	100.0	71.3	28.7

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 11.7 Age and Sex Distribution of Heads of Private Households: 2002 (%)

Age	Both sexes	Male	Female
Total	100.0	100.0	100.0
Under 20	2.4	1.9	3.3
20-24	8.3	7.8	9.4
25-29	14.0	14.5	12.8
30-34	14.2	15.1	12.2
35-39	12.1	12.8	10.8
40-44	10.5	10.8	9.9
45-49	8.0	8.0	8.0
50-54	7.6	7.3	8.2
55-59	5.3	5.2	5.6
60-64	5.4	5.1	6.1
65-69	4.0	3.8	4.5
70-74	3.5	3.2	4.1
75-79	2.1	2.0	2.2
80 and over	2.6	2.4	3.0

Source: The United Republic of Tanzania 2002 Population and Housing Census.

When compared with the 1988 census results, the proportion of female-headed households dropped from 33 percent in 1988 to 30 percent in 2002. The same trend has also been observed in both rural and urban areas, where the proportion of female-headed households decreased from 33 percent and 32 percent in 1988 to 31 percent and 29 percent in 2002 respectively.

The age distribution of heads of private households is given in Table 11.7. Looking at the age distribution of heads of households in Tanzania, the higher proportion of household headship occurs in the age groups from 25-29 to 40-44 years for both male and female. The peak of the age distribution of household heads occurs in the age group 30-44 for male heads; while for female heads is in age group of 25-29.

11.2.5 Headship Rates

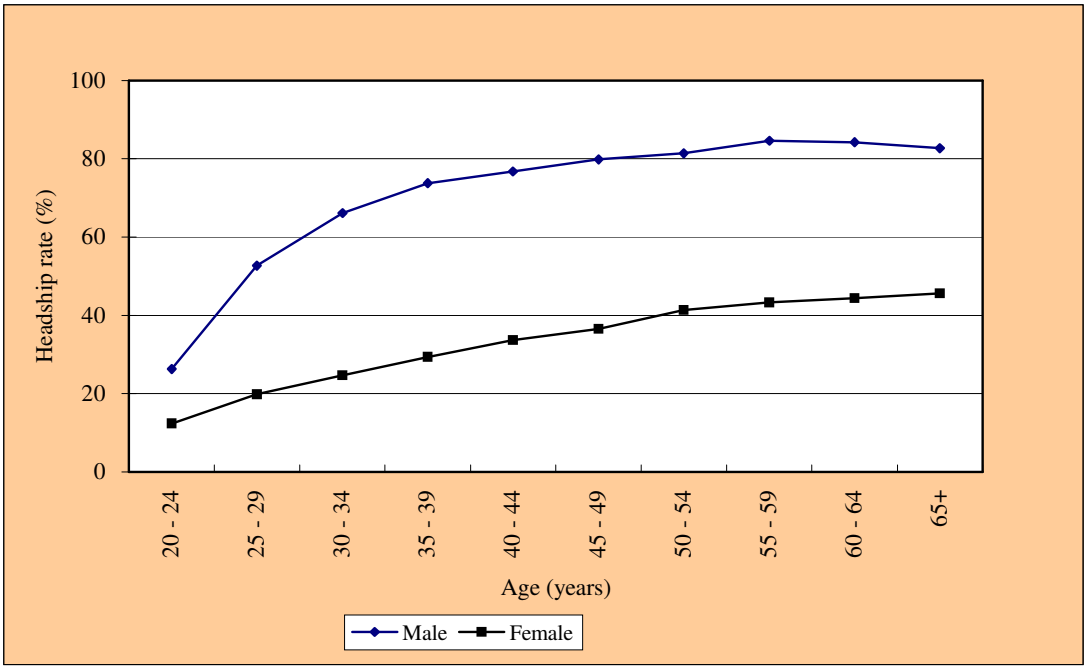
Table 11.8 and Figure 11.2 present headship rates by age and sex. The headship rate is a ratio of the number of heads of households in a given age and sex group to the number of persons in that group, multiplied by 100. The general trend observed is that the headship rate rises according to age both for male and female.

Table 11.8 Headship Rates by Age and Sex: 2002 (%)

Age	Both sexes	Male	Female
20 and over	44.2	62.7	27.3
20-24	18.6	26.3	12.4
25-29	35.2	52.7	19.9
30-34	44.9	66.2	24.7
35-39	51.3	73.8	29.4
40-44	55.1	76.8	33.7
45-49	57.6	79.8	36.6
50-54	60.8	81.4	41.4
55-59	63.6	84.6	43.3
60-64	63.3	84.2	44.4
65 and over	63.6	82.7	45.6

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Figure 11.2 Headship Rates by Age and Sex:2002



Source: The United Republic of Tanzania 2002 Population and Housing Census.

11.3 Housing Conditions

11.3.1 Size of Housing

A room in the census was defined as a part of a dwelling unit enclosed by four wall, floor and roof. A dwelling unit with no portion was considered as having one room. In the 2002 census, information on the number of rooms used for sleeping was collected.

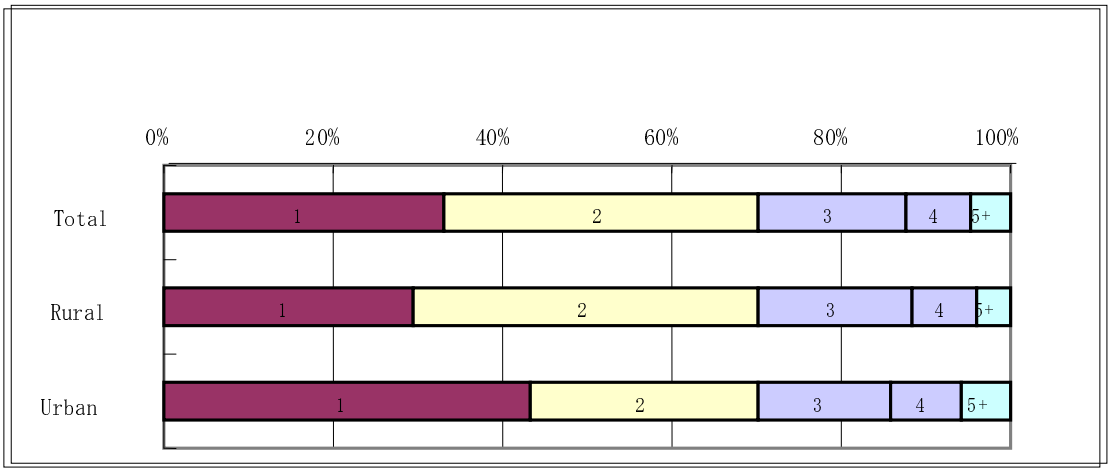
Table 11.9 and Figure 11.3 below give the percentage distribution of private households by number of rooms for sleeping; it is revealed that most of the household in Tanzania have two rooms (36.8 percent) followed by one room (33.2 percent) and then three rooms (17.5 percent). Moreover, only about 1 percent of the households have seven or more rooms. This pattern is somewhat different from the one observed in 1988 census whereby the highest proportion of households were using four rooms followed by two rooms and then three rooms.

Table 11.9 Percentage Distribution of Private Households by Number of Rooms for Sleeping: 2002 (%)

Number of rooms	Tanzania			Tanzania Mainland			Tanzania Zanzibar		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	33.2	29.6	43.4	33.6	29.8	44.4	18.6	18.7	18.5
2	36.8	40.5	26.6	36.9	40.5	26.6	35.2	40.4	26.8
3	17.5	18.2	15.9	17.2	17.8	15.3	30.7	31.9	28.9
4	7.8	7.6	8.3	7.7	7.6	8.0	9.9	6.7	15.1
5	2.4	2.2	3.0	2.3	2.2	2.8	3.9	1.6	7.6
6	1.2	1.1	1.6	1.2	1.1	1.6	1.2	0.5	2.3
7 and more	1.0	0.9	1.2	1.0	0.9	1.3	0.4	0.2	0.8

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Figure 11.3 Distribution of private households by number of rooms: 2002



Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 11.10 presents the percentage distribution of private households by number of rooms for sleeping, by size of households for the country as a whole, and Table 11.10 gives the average household size by number of rooms for sleeping by areas.

More than half of the 6 and 7 person households lived in houses with one or two rooms for sleeping (58.7 percent). For 8 and 9 person households, 10 and 11 person households and households with 12 or more members, the proportions living in houses with one or two rooms for sleeping were 44.2 percent, 34.7 percent and 25.6 percent, respectively.

It will be seen from Table 11.11 the average household size increases according to size of dwelling units.

Table 11.10 Percentage Distribution of Private Households by Number of Rooms for Sleeping, by Size of Households: 2002 **(%)**

Number of rooms	Size of household (number of persons in the household)									
	Total	1	2	3	4	5	6, 7	8, 9	10, 11	12+
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	33.2	66.2	52.3	43.4	32.8	24.4	16.7	10.0	7.7	6.3
2	36.8	22.9	32.9	37.8	42.7	44.5	42.0	34.2	27.0	19.3
3	17.5	7.0	9.6	12.6	16.2	20.1	25.1	29.8	28.3	20.9
4	7.8	2.5	3.5	4.2	5.8	7.5	10.8	16.5	21.5	21.4
5	2.4	0.7	0.9	1.0	1.4	2.0	3.0	5.2	8.3	12.6
6	1.2	0.3	0.4	0.5	0.7	0.9	1.4	2.6	4.4	9.0
7 and more	1.0	0.4	0.4	0.4	0.5	0.6	0.9	1.7	2.8	10.5

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 11.11 Average Size of Households by Number of Rooms for Sleeping: 2002

(%)

Number of rooms	Tanzania			Tanzania Mainland			Tanzania Zanzibar		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Total	4.7	4.9	4.2	4.7	4.9	4.1	5.2	5.1	5.3
1	3.3	3.7	2.6	3.3	3.7	2.6	2.7	2.8	2.6
2	4.8	4.8	4.5	4.8	4.8	4.4	4.6	4.7	4.6
3	5.7	5.7	5.6	5.7	5.7	5.6	6.1	6.3	5.9
4	6.6	6.6	6.4	6.5	6.6	6.4	7.3	7.6	7.1
5	7.5	7.8	7.1	7.5	7.8	7.0	8.0	8.8	7.8
6	8.1	8.6	7.2	8.1	8.6	7.2	8.3	8.6	8.2
7 and more	9.5	10.6	7.4	9.5	10.6	7.4	8.1	9.7	7.5

Source: The United Republic of Tanzania 2002 Population and Housing Census.

11.3.2 Building Materials of Housing

In the 2002 Population and Housing Census, the information on building materials used to construct the main elements of the building, namely, the roofs, walls, and the floors was collected.

(1) Roofing Materials of the Main Building

Table 11.12 presents percentage distribution of private households by materials used for roofing of the main building. Materials for roofing identified in the 2002 census were: iron sheet, tiles, concrete, asbestos, grass, grass and mud, and others.

The census results revealed that iron sheets were the most commonly used as a roofing materials accounting for 46.3 percent, followed by grass (41.1 percent) and grass and mud (11.2 percent) in that order. This was an improvement when compared with the 1978 results where only 24.0 percent of the households lived in the houses roofed by iron sheet; this reflects a great improvement in the use of iron sheets at all levels.

The analysis by rural and urban areas revealed that urban areas recorded higher percentage (85.8 percent) compared to 32.1 percent in rural areas, whereas grass were still the predominant roofing materials for houses in rural areas. A little over a half of the private households (52.5 percent) live in houses using grass for roofing and 14.7 percent in houses roofed with grass/mud in rural areas. This was an improvement when compared with the 1978 results, whereby houses roofed with grass and grass/mud accounted for 60.0 percent and 12.1 percent respectively.

Table 11.12 also shows that in Tanzania Mainland iron sheets are the leading roofing material (45.9 percent), which is slightly lower than the national proportion. This was followed by grass (41.2 percent) and grass/mud (11.5 percent). In Tanzania Zanzibar, the proportion of the private households living in houses roofed with iron sheets was 59.4 percent, which is considerably higher than the proportion in Tanzania Mainland. The proportion of households living in houses roofed by grass was 38.1 percent, slightly lower than in Tanzania Mainland. It will be noted that the proportion living in houses roofed with grass/mud was almost nil in Tanzania Zanzibar.

Table 11.12 Percentage Distribution of Private Households by Building Materials Used for Roofing: 2002 (%)

	Tanzania			Tanzania Mainland			Tanzania Zanzibar		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Iron sheet	46.3	32.1	85.8	45.9	31.8	86.0	59.4	45.2	82.0
Tiles	0.5	0.2	1.1	0.4	0.2	1.1	0.8	0.3	1.6
Concrete	0.4	0.0	1.4	0.4	0.0	1.4	0.8	0.0	2.0
Asbestos	0.3	0.1	0.7	0.2	0.1	0.7	0.6	0.7	0.4
Grass	41.1	52.5	9.3	41.2	52.5	9.2	38.1	53.4	13.9
Grass and mud	11.2	14.7	1.5	11.5	15.0	1.6	0.1	0.2	0.0
Others	0.3	0.4	0.1	0.3	0.4	0.1	0.2	0.2	0.0

Source: The United Republic of Tanzania 2002 Population and Housing Census.

(2) Wall Materials of the Main Building:

Table 11.13 below presents the percentage distribution of households by building materials used for walls of their main building. Materials for walls identified in the 2002 census were: stone, cement bricks, sun-dried bricks, baked bricks, poles and mud, timbers, grass, and others.

The results from the 2002 census show that a significant proportion of households in Tanzania (34.4 percent) lived in the houses with mud and poles walls, followed by sun-dried bricks (33.0 percent). It was also observed that only 15.5 percent of the households lived in the houses with cement bricks walls.

Comparing rural and urban areas with respect to walling materials used, in urban areas, a higher proportion of households live in houses used cement bricks (49.7 percent). While in rural areas, 41.8 percent of households lived in houses using pole and mud for walls. It is interesting to note that only 3.2 percent of the private households lived in the houses with cement bricks walls in rural areas of total Tanzania.

Tanzania Mainland portrays more or less the same pattern as that of the total Tanzania with respect to walling materials used as indicated in Table 11.10 below for both rural and urban areas.

Table 11.13 Percentage Distribution of Private Households by Building Materials Used for Walls: 2002 (%)

	Tanzania			Tanzania Mainland			Tanzania Zanzibar		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Stone	0.9	0.6	1.8	0.5	0.2	1.3	17.2	17.7	16.4
Cement bricks	15.5	3.2	49.7	14.9	2.9	48.9	35.4	14.6	68.3
Sun-dried bricks	33.0	37.2	21.4	33.8	38.0	22.1	3.8	4.9	2.2
Baked bricks	14.0	14.5	12.6	14.3	14.8	13.0	0.3	0.3	0.2
Poles and mud	34.4	41.8	13.9	34.2	41.4	13.9	42.2	60.7	12.8
Timbers	0.5	0.6	0.3	0.5	0.6	0.4	0.0	0.1	0.0
Grass	1.1	1.4	0.1	1.1	1.4	0.1	1.1	1.7	0.1
Others	0.6	0.7	0.2	0.6	0.7	0.2	0.0	0.0	0.0

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Tanzania Zanzibar is slightly different from Tanzania Mainland; results revealed that stones were among common constructing materials for walls. While in Tanzania Mainland the use of stones as materials for walls was marginally small, 17.7 percent of private households in urban areas and 16.4 percent in rural areas in Tanzania Zanzibar lived in houses using stones as constructing materials for

walls. Sun-dried bricks recorded only 3.8 percent in Tanzania Zanzibar compared with 33.8 percent of the private houses living in houses with sun-dried bricks walls in Tanzania Mainland.
Compared to the 1978 census results, in general, there has been a very little improvement in terms of walling materials used in the country; for in a span of twenty four years, the percentage of households living in houses with walls built of poles and mud have decreased from 50 percent to 34.4 percent only. Nonetheless, Zanzibar recorded some appreciable improvement during the period, with proportion of houses whose walls were built of poles and mud declining from 74 percent to 42.2 percent in 1978 to 2002 census.

(3) Floor Material of the Main Building

Table 11.14 below presents the percentage distribution of households by building materials used for floor of their main building. Materials for floor identified in the 2002 census were: cement, mud, timber, tiles, and others.

The census results revealed that mud was by far the most predominant flooring material (73.0 percent) in the country, followed by cement floor (26.4 percent). Timber floor and tiles were less than one percent. The pattern of flooring materials in Tanzania Mainland does not differ much from that of the country as a whole compared to Tanzania Zanzibar.

The most predominant flooring material used in rural areas was still mud, which recorded 88.8 percent. In urban areas, however, cement was the most predominant flooring material (70.5 percent). This prototype is also observed in Tanzania Mainland and Tanzania Zanzibar, which recorded 70.0 percent and 84.2 percent respectively. This indicates that Zanzibar has a higher proportion of households with houses having cement as flooring material than Mainland.

Table 11.14 Percentage Distribution of Private Households by Building Materials Used for Floor: 2002 (%)

	Tanzania			Tanzania Mainland			Tanzania Zanzibar		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Cement	26.4	10.5	70.5	25.6	10.0	70.0	53.3	33.8	84.2
Mud	73.0	88.8	28.9	73.7	89.3	29.4	45.8	65.3	14.8
Timber	0.4	0.5	0.2	0.4	0.5	0.2	0.2	0.4	0.0
Tiles	0.1	0.0	0.2	0.1	0.0	0.2	0.3	0.0	0.8
Others	0.2	0.2	0.1	0.2	0.2	0.1	0.4	0.5	0.1

Source: The United Republic of Tanzania 2002 Population and Housing Census.

(4) Building Materials of Housing by Region

Percentage distribution of private households by main building materials used for roof, wall and floor, by region is shown in Table 11.15. As revealed in the table, traditional building materials were predominantly used in most of the regions: “grass” and “grass and mud” for roof, “sun-dried bricks”, “baked bricks” and “poles and mud” for wall, and “mud” for floor. Only in Dar es Salaam and Urban West, modern building materials such as “iron sheets” for roof, “cement bricks” for wall and “cement” for floor were widely used for housing.

Dar es Salaam recorded the highest percentage of private households using iron sheets for roof (90.4 percent), followed by Kilimangaro (88.5 percent) and Urban West (78.6 percent). Arusha and South Pemba showed relative high percentages of iron sheets (63.6 percent and 60.4 percent respectively). Cement bricks were predominantly used as materials for wall in Dar es Salaam (87.7 percent) and Urban West (69.6 percent). In Kilimanjaro, while a very high percentage of households using iron sheets for roof of their housing was recorded, use of poles and mud as building materials for wall was

more prevalent than cement bricks and percentage of mud floor was higher than cement floor. It was a similar case for Arusha. While a relatively high percentage of households using iron sheets for roof was recorded, the percentage of households using poles and mud for wall was higher than cement bricks, and the percentage of mud floor was considerably higher than cement floor.

Table 11.15 Percentage Distribution of Private Households by Building Materials of Housing, by Region: 2002

Region	Roof			Wall				Floor	
	Iron sheet	Grass	Grass & mud	Cement bricks	Sun-dried bricks	Baked bricks	Poles & mud	Cement	Mud
Tanzania Total	46.3	41.1	11.2	15.5	33.0	14.0	34.4	26.4	73.0
Tanzania Mainland	45.9	41.2	11.5	14.9	33.8	14.3	34.2	25.6	73.7
Dodoma	38.6	8.6	51.1	7.8	51.0	13.0	23.1	14.6	84.8
Arusha	63.6	25.8	8.1	21.4	10.7	3.8	59.8	34.1	65.2
Kilimanjaro	88.5	8.9	0.9	29.5	15.7	10.9	33.4	45.2	53.8
Tanga	44.7	45.6	5.7	14.6	8.7	3.3	71.4	24.3	75.2
Morogoro	44.6	50.2	3.9	10.6	21.8	22.0	43.1	22.9	76.4
Pwani	33.0	63.0	3.6	11.8	3.7	0.4	77.2	18.9	80.2
Dar es Salaam	90.4	3.6	0.2	87.7	2.4	0.1	7.9	86.3	12.8
Lindi	20.1	77.8	1.8	4.5	11.2	2.7	78.0	9.0	90.7
Mtwara	25.3	70.9	3.5	5.1	25.4	4.1	64.2	9.6	90.1
Ruvuma	39.6	57.9	2.3	1.2	15.1	67.5	14.8	20.2	79.0
Iringa	45.9	46.4	7.1	1.6	48.8	34.0	14.5	25.4	73.8
Mbeya	48.2	48.0	3.3	2.1	46.2	39.4	11.2	23.2	76.4
Singida	24.1	3.8	71.3	3.2	74.1	2.5	18.5	9.4	89.9
Tabora	23.2	61.2	15.1	5.0	54.2	1.7	38.2	13.8	85.7
Rukwa	21.4	73.8	4.3	1.2	51.6	35.6	10.4	14.2	85.4
Kigoma	30.5	62.6	6.4	2.6	31.5	31.6	32.4	12.1	87.2
Shinyanga	31.2	38.9	29.4	6.5	76.6	0.9	15.1	12.3	87.0
Kagera	53.9	43.3	2.5	2.0	15.5	12.5	64.2	13.6	85.6
Mwanza	49.0	43.7	6.9	13.4	67.6	2.6	14.4	25.3	73.9
Mara	37.6	53.7	8.5	6.3	33.4	14.9	44.9	19.9	79.6
Manyara	34.8	43.8	20.9	2.2	20.3	16.7	58.6	15.3	84.2
Tanzania Zanzibar	59.4	38.1	0.1	35.4	3.8	0.3	42.2	53.3	45.8
North Unguja	41.6	55.4	0.1	26.2	6.9	0.1	42.0	27.4	71.2
South Unguja	48.5	49.4	0.0	9.9	5.5	0.5	27.7	49.8	48.0
Urban West	78.6	18.6	0.0	69.6	2.3	0.1	11.8	80.6	18.5
North Pemba	37.0	61.4	0.3	6.4	3.5	0.3	81.1	29.9	69.8
South Pemba	60.4	37.6	0.2	7.4	4.0	0.7	85.0	37.7	61.9

Source: The United Republic of Tanzania 2002 Population and Housing Census.

11.3.3 Main Source of Energy Used

(1) Main Source of Energy Used for Lighting

This information was collected from eight main sources of energy used for lighting; namely; electricity, pressure lamp, hurricane lamp, firewood, candle, wick lamp, solar and others.

Of the eight energy sources, wick lamp is by far the most commonly used one in the whole country, about two thirds (64.3 percent) of the households in Tanzania utilize this source. The next in importance as the main source of energy used for lighting in the country is hurricane lamp (19.0 percent), followed by electricity (10.1 percent) and firewood (4.9 percent) in that order.

The pattern is somewhat different between rural and urban areas. In the rural areas 77.1 percent of the private households use wick lamp, 14.1 percent use hurricane lamp, 6.3 percent use firewood and only 1.3 percent use electricity for lighting as compared to urban areas where 34.7 percent use electricity, 32.7 hurricane lamp, 28.7 wick lamp, and less than one percent use firewood for lighting. These results revealed that kerosene is a main source of energy for lighting in both rural and urban areas, and the use of electricity is mainly confined to urban areas.

The pattern of distribution of households with respect to the use of three main sources of the energy for lighting, namely, wick lamp, hurricane lamp and electricity, is more or less the same in Tanzania Mainland and Tanzania as a whole.

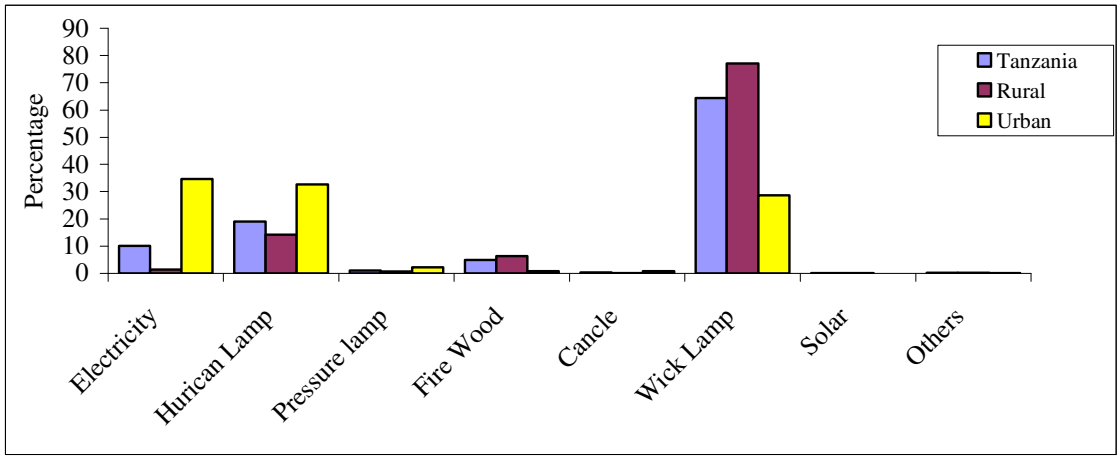
Tanzania Zanzibar however, the analysis revealed that a relatively higher proportion (23.9 percent) of the private households has access to electricity compared to Tanzania Mainland (9.7 percent). The proportions of private households having access to electricity in rural and urban areas of Zanzibar were 5.2 percent and 53.5 percent compared to 1.2 percent and 34.0 percent in Tanzania Mainland respectively.

Table 11.16 Percentage Distribution of Private Households by Main Source of Energy for Lighting: 2002 (%)

	Tanzania			Tanzania Mainland			Tanzania Zanzibar		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Electricity	10.1	1.3	34.7	9.7	1.2	34.0	23.9	5.2	53.5
Hurricane lamp	19.0	14.1	32.7	19.2	14.2	33.5	12.4	11.7	13.4
Pressure lamp	1.0	0.6	2.2	1.0	0.6	2.3	0.5	0.4	0.7
Firewood	4.9	6.3	0.8	4.9	6.4	0.8	1.8	2.3	0.9
Candle	0.3	0.2	0.7	0.3	0.2	0.7	0.4	0.1	0.8
Wick lamp	64.3	77.1	28.7	64.4	77.1	28.6	61.0	80.2	30.6
Solar	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
Others	0.2	0.3	0.1	0.2	0.3	0.1	0.0	0.0	0.0

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Figure 11.4 Percentage Distribution of Source of Energy for Lighting



Source: The United Republic of Tanzania, 2002 Population and Housing Census.

(2) Main Source of Energy for Cooking

The information of the main sources of energy for cooking was collected during the 2002 census. The sources collected include electricity, kerosene/paraffin, gas, firewood, charcoal and others. Table 11.17 and Figure 11.5 below present the distribution of private households by main sources of energy for cooking.

The results revealed that firewood is the main source of energy used for cooking in Tanzania, which was recorded 77.4 percent of the private households, followed by charcoal (16.7 percent). However only less then one percent of the private household used electricity for cooking.

In the rural areas, 95.6 percent of the households use firewood as the main source of energy for cooking, while in the urban areas, charcoal comes first which indicated that more than a half of the households used charcoal (52.9 percent).

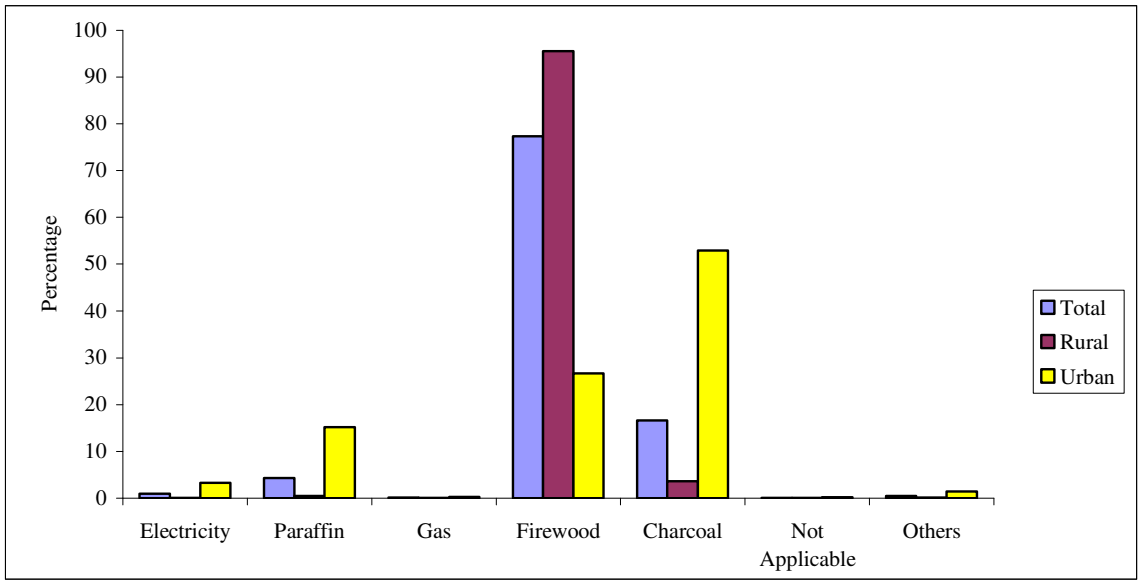
Both Tanzania Mainland and Tanzania Zanzibar portray more or less similar pattern as that of the whole country with respect to the main sources of energy used for cooking. This is the case for rural areas of Mainland and Zanzibar as well. There is no difference in the pattern of the main sources of energy for cooking between the rural areas of Mainland and Zanzibar. About 95 percent of the private households in rural areas use firewood as the main source of energy for cooking both in Tanzania Mainland and Tanzania Zanzibar. However, the pattern is somewhat different between the urban areas of the two areas. While the most predominant source of energy for cooking is charcoal followed by firewood in the urban areas of Tanzania Mainland, the most predominant one is firewood followed by charcoal in the urban areas of Tanzania Zanzibar. The proportions of households using charcoal and kerosene/paraffin are higher and the proportion using firewood is lower in the urban areas of Tanzania Mainland as compared to the urban areas of Tanzania Zanzibar.

Table 11.17 Percentage Distribution of Private Households by Main Source of Energy for Cooking: 2002 (%)

	Tanzania			Tanzania Mainland			Tanzania Zanzibar		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Electricity	0.9	0.1	3.3	0.9	0.1	3.3	1.2	0.2	2.8
Kerosene/Paraffin	4.3	0.5	15.2	4.4	0.4	15.5	2.7	0.6	6.0
Gas	0.1	0.1	0.3	0.1	0.1	0.3	0.1	0.1	0.2
Firewood	77.4	95.6	26.7	77.4	95.6	25.9	76.1	94.9	46.4
Charcoal	16.7	3.6	52.9	16.6	3.6	53.3	19.2	3.9	43.3
Other	0.5	0.1	1.4	0.5	0.1	1.4	0.6	0.2	1.1
Not Applicable	0.1	0.0	0.2	0.1	0.0	0.2	0.0	0.0	0.1

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Figure 11.5: Percentage Distribution of the Main Source of Energy for Cooking



Source: The United Republic of Tanzania 2002 Population and Housing Census.

(3) Main Source of Energy, by Region

Supply of electricity is still quite limited in Tanzania except Dar es Salaam and Urban West. About a half of private households used electricity as main source of energy for lighting in Dar es Salaam and Urban West (45.1 percent and 47.3 percent of households respectively). Even in Dar es Salaam 30.2 percent of private households were using hurricane lamps for lighting and 19.9 percent using wick lamps. In Urban West 37.0 percent of households were using wick lamps and 13.0 percent using hurricane lamps. In other regions, wick lamps were most predominantly used as source of energy for lighting.

As to the main source of energy for cooking, firewood was most widely used for cooking in all regions but Dar es Salaam. In Dar es Salaam the percentage of private households using firewood, as a main source of energy for cooking was only 12.3 percent and charcoal was most widely used (54.0 percent). The percentage of households using kerosene/paraffin as main source of energy for cooking was 26.3 percent in Dar es Salaam. The percentage of kerosene/paraffin was 19.7 percent in Arusha following Dar es Salaam, but the percentage using kerosene/paraffin for cooking was very low in all other regions. In Urban West, while the percentage of households using kerosene/paraffin as main source of energy for cooking was only 6.1 percent, the percentages of firewood and charcoal were 50.0 percent and 40.0 percent respectively. It can be also noted in Table 11.18 that the percentage of private households using firewood for cooking was extremely high in regions of Tanzania Zanzibar except Urban West.

Table 11.18 Percentage Distribution of Private Households by Main Source of Energy for lighting and cooking, by region: 2002 (%)

Region	Energy for lighting			Energy for cooking		
	Electricity	Hurricane lamp	Wick lamp	Kerosene/ Parafin	Firewood	Charcoal
Tanzania Total	10.1	19.0	64.3	4.3	77.4	16.7
Tanzania Mainland	9.7	19.2	64.4	4.4	77.4	16.6
Dodoma	6.0	13.4	68.4	0.7	86.0	12.6
Arusha	16.1	31.1	41.5	19.7	66.8	8.8
Kilimanjaro	17.4	33.4	45.0	6.9	83.4	7.4
Tanga	10.2	9.8	76.1	1.4	82.3	14.9
Morogoro	8.6	18.0	69.0	1.9	76.0	20.8
Pwani	5.7	11.7	78.6	1.7	82.9	14.3
Dar es Salaam	45.1	30.2	19.9	26.3	12.3	54.0
Lindi	4.2	8.7	80.5	0.3	91.8	7.1
Mtwara	3.0	13.6	75.3	0.5	91.4	7.5
Ruvuma	3.8	33.5	56.7	0.5	87.2	11.8
Iringa	6.8	36.3	50.6	1.2	88.6	9.5
Mbeya	6.2	21.3	67.7	1.0	84.6	13.5
Singida	3.7	10.4	74.4	0.3	90.1	9.2
Tabora	4.4	7.0	82.2	0.3	83.9	15.3
Rukwa	3.5	10.4	80.3	0.3	85.2	14.0
Kigoma	3.1	13.4	70.8	0.4	85.3	13.7
Shinyanga	3.5	10.3	81.2	0.6	86.6	11.8
Kagera	2.9	8.3	82.5	0.4	90.5	8.8
Mwanza	5.6	24.2	66.5	3.0	72.0	23.8
Mara	5.4	26.2	65.0	1.5	83.4	14.5
Manyara	4.4	17.3	61.1	3.6	86.1	8.9
Tanzania Zanzibar	23.9	12.4	61.0	2.7	76.1	19.2
North Unguja	3.3	4.1	89.7	0.6	96.9	2.2
South Unguja	9.5	10.9	77.2	0.4	96.0	3.0
Urban West	47.3	13.0	37.0	6.1	50.0	40.0
North Pemba	7.1	13.9	76.1	0.4	93.2	6.0
South Pemba	13.0	17.9	66.7	0.5	90.0	8.6

Source: The United Republic of Tanzania 2002 Population and Housing Census.

11.3.4 Main source of drinking water

The importance of water as a basic need for human life and also as an important element for promoting social and economic development needs no explanation. Adequate access to clean and safe water and better sanitation contributes to improved health status of the society, among other things reducing exposure to water and airborne diseases.

Main source of water identified in the census included piped water, protected well, unprotected well, protected spring, unprotected spring, river/stream, pond/dam, lake, rain water, water vendors and other sources.

The overall goal of the Government as stipulated in the current water policies is to ensure that all Tanzanians have access to clean and safe water within reasonable distance. However, according to the 2002 census results presented in Table 11.19 and Figure 11.6 below, the proportion of the private households that indicated piped water as the main source of drinking water was 34.4 percent. This is a

slight increase from 31.6 percent in 1988. The proportion of protected well and protected spring was 13.4 percent and 6.1 percent respectively. If these three sources are combined, the proportion of households that used these as main sources of drinking water accounts for 53.8 percent. On the other hand, the proportion of households using unprotected wells and unprotected springs as main sources of drinking water was 26.0 percent and 5.0 percent respectively. Moreover, there were significant percentage of the households that depends their drinking water on sources such as river/stream, pond/dam and lake.

Rural households were worse off in access to clean and safe water as compared to urban households; only 42.4 percent of the households had access to water from piped system, protected well and protected spring compared to over 85.8 percent for urban households.

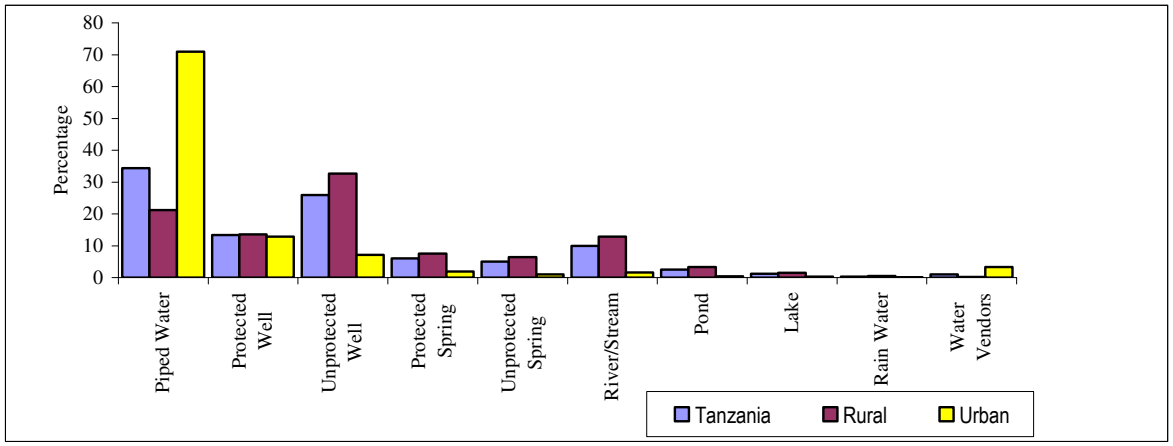
A significant proportion of households in the rural areas indicated that more than 50 percent depended on unprotected wells, river/stream, and lake. Generally these sources of drinking water are considered as unclean water sources mainly because they are not subjected to any form of treatment and are more exposed to pollutant material.

Table 11.19 Percentage Distribution of Private Households by Main Source of Drinking water: 2002 (%)

	Tanzania			Tanzania Mainland			Tanzania Zanzibar		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Total	100	100	100	100	100	100	100	100	100
Piped water	34.4	21.3	71.0	33.5	20.5	70.0	69.0	53.4	93.8
Protected well	13.4	13.5	12.9	13.7	13.8	13.3	2.5	2.1	3.0
Unprotected well	26.0	32.7	7.2	25.9	32.5	7.4	26.8	42.3	2.3
Protected spring	6.1	7.6	1.9	6.2	7.7	2.0	0.7	1.1	0.1
Unprotected spring	5.0	6.4	1.0	5.1	6.5	1.1	0.5	0.7	0.1
River/Stream	9.9	12.9	1.6	10.2	13.2	1.7	0.1	0.1	0.0
Pond/Dam	2.5	3.3	0.5	2.6	3.3	0.5	0.0	0.1	…
Lake	1.2	1.5	0.4	1.3	1.6	0.4	…	…	…
Rain water	0.4	0.5	0.1	0.4	0.5	0.1	0.0	0.1	
Water vendors	1.1	0.2	3.3	1.1	0.2	3.4	0.4	0.2	0.7
Others									

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Figure 11.6: Percentage Distribution of Main Source of Drinking Water



Source: The United Republic of Tanzania 2002 Population and Housing Census.

However, in Tanzania Zanzibar about 71.5 percent of the households had access to piped water or protected well. This reveals that there are a higher proportion of households having access to piped water and protected well water compared to Tanzania Mainland.
One of the most notable features revealed in Table 11.16 below is that more than 90 percent of the households in urban areas of Tanzania Zanzibar had access to piped water (safe water).

Urban West recorded the highest percentage of private households using water from the piped system for drinking (91.4 percent). North Unguja (79.3 percent), Dar es Salaam (72.6 percent), Arusha (68.5 percent) and Kilimanjaro (65.4 percent) followed Urban West in this order. If water piped water and water from protected well and spring are considered to be safe water for drinking, the percentage of private households having access to safe water for drinking was highest in Urban West (95.2 percent), followed by Dar es Salaam (88.2 percent), North Unguja (80.6 percent), Kilimanjaro (77.2 percent) and Arusha (76.1 percent). Tabora, Pwani and Lindi recorded very low percentages of households having access to safe water for drinking (22.1 percent, 27.5 percent and 29.5 percent respectively). More than two thirds of the private households in Tabora and more than a half of the households in Pwani and Lindi used unprotected well and spring as main source of water for drinking.

Table 11.20 Percentage Distribution of Private Households by Main Source of Drinking Water, by Region: 2002

(%)

Region	Piped Water	Protected well and spring	Unprotected well and spring	River /Stream	Pond/dam and lake
Tanzania Total	34.4	19.4	31.0	9.9	3.8
Tanzania Mainland	33.5	19.9	31.1	10.2	3.9
Dodoma	45.6	10.4	35.8	6.8	0.8
Arusha	68.5	7.6	9.0	10.7	3.6
Kilimanjaro	65.4	11.8	8.8	11.6	0.8
Tanga	34.1	15.9	27.2	19.5	2.9
Morogoro	36.7	24.4	22.3	15.6	0.5
Pwani	18.2	8.8	57.1	5.1	10.1
Dar es Salaam	72.6	15.6	7.7	0.2	0.0
Lindi	12.7	16.9	55.2	13.7	1.2
Mtwara	31.0	6.0	37.7	6.1	9.4
Ruvuma	30.4	28.5	32.7	7.6	0.7
Iringa	38.5	18.9	27.5	14.1	0.3
Mbeya	40.1	18.1	29.2	11.8	0.6
Singida	15.3	22.8	46.3	12.7	2.7
Tabora	10.5	11.7	67.0	5.6	4.5
Rukwa	16.7	37.7	29.0	13.9	2.6
Kigoma	33.4	25.3	18.9	19.2	2.7
Shinyanga	9.5	27.8	37.5	14.0	7.6
Kagera	13.7	33.8	29.7	15.8	6.5
Mwanza	20.0	33.2	36.5	1.8	7.8
Mara	14.2	21.0	42.2	6.6	15.6
Manyara	26.8	12.3	39.0	11.5	6.6
Tanzania Zanzibar	69.0	3.1	27.3	0.1	0.0
North Unguja	79.3	1.2	18.2	0.3	0.0
South Unguja	60.3	1.8	38.0	0.0	0.0
Urban West	91.4	3.8	4.2	0.0	0.0
North Pemba	36.8	3.6	59.6	0.0	0.0
South Pemba	44.9	3.9	50.7	0.2	0.3

Source: The United Republic of Tanzania 2002 Population and Housing Census.

11.3.5 Type of toilet facility

Sanitation conditions of any human settlement have direct impact on the environment and on the health standards of the people who live in the neighborhood.

Information on human waste disposal confined itself to the following types of toilets, namely; traditional pit latrine, ventilated pit latrine, flush toilet, and other types. The census findings on toilets facilities are presented in Table 11.21.

Table 11.21 Percentage Distribution of Private Households by Type of Toilet Facilities: 2002

(%)

	Tanzania			Tanzania Mainland			Tanzania Zanzibar		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Flush toilet	3.6	0.4	12.5	3.4	0.4	11.9	12.6	3.3	27.3
Pit latrine (traditional)	85.7	86.9	82.3	86.6	87.9	83.0	50.4	41.4	64.7
Ventilated improved pit latrines	1.4	0.6	3.6	1.4	0.6	3.6	2.5	1.6	4.0
Other type	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
No facility	9.2	12.0	1.6	8.6	11.1	1.5	34.4	53.6	3.9

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 11.21 shows that the most commonly used toilet facility in the country as a whole was still the traditional pit latrine that accounted for 85.7 percent of the total private households. This result is concurrent with Tanzania Mainland where 86.9 percent of households used the traditional pit latrine. However, in Tanzania Zanzibar, although the most commonly used toilet facility was the traditional

Table 11.22 Percentage Distribution of Private Households by Type of Toilet Facilities, by Region: 2002 (%)

Region	Flush toilet	Pit latrine (traditional)	Ventilated improved pit latrine	No facility
Tanzania Total	3.6	85.7	1.4	9.2
Tanzania Mainland	3.4	86.6	1.4	8.6
Dodoma	2.3	85.7	1.0	10.9
Arusha	7.1	72.9	0.8	19.1
Kilimanjaro	6.3	90.6	0.6	2.5
Tanga	4.7	82.2	1.8	11.2
Morogoro	3.9	90.2	1.9	4.0
Pwani	1.1	87.0	0.5	11.4
Dar es Salaam	14.3	82.9	1.3	1.4
Lindi	0.8	91.5	0.4	6.3
Mtwara	0.5	93.6	0.4	5.5
Ruvuma	1.2	94.7	2.9	1.2
Iringa	2.3	95.6	1.4	0.6
Mbeya	1.8	94.3	1.5	2.3
Singida	0.7	88.1	0.6	10.5
Tabora	1.1	79.5	0.9	18.5
Rukwa	1.0	91.2	1.6	6.2
Kigoma	0.9	95.2	0.7	3.1
Shinyanga	1.2	82.4	0.9	15.5
Kagera	0.8	90.6	2.1	6.5
Mwanza	3.6	81.7	2.5	12.2
Mara	1.9	75.4	2.2	20.3
Manyara	0.6	76.0	0.3	22.8
Tanzania Zanzibar	12.6	50.4	2.5	34.4
North Unguja	2.9	44.4	1.2	51.3
South Unguja	4.4	71.7	0.8	23.0
Urban West	25.5	68.1	3.1	3.2
North Pemba	3.3	22.6	1.4	72.6
South Pemba	5.0	28.5	4.8	61.7

Source: The United Republic of Tanzania 2002 Population and Housing Census.

pit latrine, the proportion was 50.4 percent, much lower than Tanzania Mainland. By rural and urban areas, the proportion of the private households using traditional pit latrine in the rural areas was higher than the urban areas (86.9 percent in rural and 82.3 percent in urban areas). The situation of Tanzania Mainland is similar to the whole country (87.9 percent in rural and 83.0 percent in urban areas). Whereas in Tanzania Zanzibar, the difference in the proportion of households using the traditional pit latrine between rural and urban areas was larger: 41.4 percent and 64.7 percent respectively.

The use of flush toilets and that of ventilated improved pit latrines (V.I.P) is still very low; only 3.6 percent and 1.4 percent of the households used these types of facilities respectively. Nonetheless, the proportion of households using flush toilets in Tanzania Zanzibar is higher than in Tanzania Mainland. It was revealed that 12.6 percent of the private households in Tanzania Zanzibar used flush toilets as compared to only 3.6 percent in Tanzania Mainland.

However, what is most striking from the analysis is that over one third (34.4 percent) of the private households in Tanzania Zanzibar indicated to have no toilets. This portrays a higher proportion compared to Tanzania Mainland that had only 9.2 percent of the total private households. These

situations were mainly found in the rural areas. More than a half of households (53.6 percent) in rural areas of Tanzania Zanzibar reported that there was no toilet facility.

Compared to the 1988 census, we can safely say that there has been very little change in the type of toilet facilities used in the country over the last decades or so. The use of traditional pit latrines still dominates, while that of flush toilets has remained disappointedly low

Table 11.22 below presents percentage distribution of private households by type of toilet facilities, by region in 2002. It can be observed from the table that the percentage of private households using traditional pit latrines was significantly high in all regions of Tanzania Mainland. In Tanzania Zanzibar, both North and South Pemba and North Unguja recorded relatively high percentage of households without toilet facility.

Urban West recorded the highest percentage of households using flush toilets (25.5 percent), followed by Dar es Salaam (14.3 percent). In Arusha and Kilimanjaro the percentage of households using flush toilets was 7.1 percent and 6.3 percent respectively. For all other regions, the percentage of flush toilets was below 5 percent. The percentage of flush toilets was lower than one percent in 5 regions: Mtwara , Manyara, Singida, Kagera and Kigoma. Use of ventilated improved pit latrine was very low.

11.4 Ownership of Selected Assets

The ownership of household items may be taken as an approximate measure of a household's wealth or in other words an indicator for poverty monitoring. The question concerning ownership of assets by households restricted itself to seven main items, namely, radio, telephone, bicycle, hand hoe, wheelbarrow charcoal/electric iron, and electricity. The results of the private households owned these items were shown in Table 11.23 below.

Radio: About a half of private households owned a radio (51.2 percent). By areas, the ownership rate was 74.7 percent in Tanzania Zanzibar, which was considerably higher than that of Tanzania Mainland (50.6 percent). There was also difference in the proportion owning a radio between rural and urban areas. The proportion was 44.5 percent in rural areas as against 69.8 percent in urban areas.

Telephone: Ownership of telephone was still limited in Tanzania. The proportion of private households owning telephone was only 3.8 percent in the country as a whole, 3.6 percent in Tanzania Mainland and 19.9 percent in Tanzania Zanzibar. There was a considerable difference in the proportion owning telephone between rural and urban areas. While 12.6 percent of private households owned telephone in urban areas, the ownership rate was less than one percent in rural areas (0.6 percent).

Bicycle: As a mode of transport, the bicycle is more prevalent among households. The proportion of private households owning a bicycle was 33.8 percent in the country as a whole, 33.5 percent in Tanzania Mainland and 45.4 percent in Tanzania Zanzibar. The proportion owning a bicycle was 36.1 percent as against 27.3 percent in urban areas.

Hand hoe: The proportion of private households owning a hand hoe was 77.2 percent. By nature the proportion owning a hand hoe was higher in rural areas than urban areas (84.3 percent vs. 57.4 percent).

Wheelbarrow: Wheelbarrow was owned by 15.6 percent of private households in the country. The ownership rate of wheelbarrow was 34.9 percent in Tanzania Zanzibar, which was higher than 15.0 percent in Tanzania Mainland. By rural and urban areas, there was a significant difference in ownership. While the proportion of private households owning wheelbarrow was 46.1 percent in urban

areas, it was only 4.6 percent in rural areas. Such difference was observed in Tanzania Zanzibar as well as in Tanzania Mainland.

Charcoal/electric iron: A rather small proportion of private households owned a charcoal/electric iron. The proportion was only 4.3 percent for the whole country: 3.1 percent in rural areas and 7.5 percent in urban areas.

Electricity: Less than one-tenth of private households have access to electricity (9.5 percent). There were significant differences between Tanzania Mainland and Tanzania Zanzibar, and between rural and urban areas. The proportion of households having access to electricity was higher in Tanzania Zanzibar than in Tanzania Mainland. The proportion was 23.6 percent in Tanzania Zanzibar as against 9.1 percent in Tanzania Mainland. While the proportion of households having access to electricity was 32.3 percent in urban areas, it was only 1.3 percent in rural areas.

Table 11.23 Proportion of Private Households Owning Selected Assets: 2002

(%)

	Tanzania			Tanzania Mainland			Tanzania Zanzibar		
Assets	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Radio	51.2	44.5	69.8	50.6	44	69.3	74.7	69.4	83.2
Telephone	3.8	0.6	12.6	3.6	0.6	12.3	9.2	2.4	19.9
Bicycle	33.8	36.1	27.3	33.5	36	26.4	45.4	43.9	47.7
Hand hoe	77.2	84.3	57.4	77.2	84.1	57.5	75.9	89.7	54.2
Wheel barrow	15.6	4.6	46.1	15	4.3	45.5	34.9	19.1	59.9
Charcoal/electric iron	4.3	3.1	7.5	4.3	3.2	7.7	2.3	1.4	3.7
Electricity	9.5	1.3	32.3	9.1	1.2	31.5	23.6	5	53.2

Source: The United Republic of Tanzania 2002 Population and Housing Census.

Table 11.24 presents proportions of private households owning selected assets, by region. There were wide regional variations in the proportion owning these assets. Dar es Salaam and Kilimanjaro in Tanzania Mainland and Urban West and South Unguja in Tanzania Zanzibar recorded relatively high proportion of private households owning radios. For telephone, only Dar es Salaam and Urban West recorded relatively high ownership rates (20.4 percent and 18.2 percent respectively). The proportion of households owning telephone was below 5 percent in all other regions. In Lindi, Mtwara, Rukwa and Kagera the proportion owning telephone was below one percent.

For bicycles, over a half of the private households owned bicycles in Shinyanga, Tabora, South Unguja and Urban West. The percentage was relatively low in Dar es Salaam (15.0 percent). The proportion of private households owning hand hoes was generally quite high, but it was relatively low in Kilimanjaro, Dar es Salaam and Urban West (54.6 percent, 55.5 percent and 56.9 percent respectively). The proportion of households owning wheel barrows was relatively high in Dar es Salaam and Urban West (66.1 percent and 58.7 percent respectively).

For charcoal or electric irons, the ownership rate was generally low. Only Kilimanjaro recorded the ownership rate of 14.9 percent, followed by Arusha (9.6 percent) and Dar es Salaam (9.0 percent). All the remaining regions recorded the proportion of households owning irons below 5 percent.

For electricity the proportion of private households with supply of electricity was 47.2 percent in Urban West and 42.3 percent in Dar es Salaam. The proportion was 16.1 percent in both Arusha and Kilimanjaro. The proportion was below 10 percent in all other regions, and Mtwara and Kigoma recorded the lowest proportion of 2.8 percent.

Table 11.24 Proportion of Private Households Owning Selected Assets, by Region: 2002

(%)

Region	Radio	Telephone	Bicycle	Hand hoe	Wheel barrow	Charcoal or electric iron	Electricity
Tanzania Total	51.2	3.8	33.8	77.2	15.6	4.3	9.5
Tanzania Mainland	50.6	3.6	33.5	77.2	15.0	4.3	9.1
Dodoma	43.8	1.7	28.1	84.4	7.9	3.2	5.7
Arusha	59.0	7.3	19.8	68.0	28.2	9.6	16.1
Kilimanjaro	72.4	4.7	23.4	54.6	10.4	14.9	16.1
Tanga	51.3	3.0	29.2	79.8	12.2	2.7	9.2
Morogoro	47.9	2.0	35.0	80.3	9.4	1.9	7.7
Pwani	60.3	2.2	35.3	85.2	10.5	2.1	4.7
Dar es Salaam	75.2	20.4	15.0	55.5	66.1	9.0	42.3
Lindi	39.8	0.5	33.1	87.5	5.5	0.8	3.3
Mtwara	34.9	0.7	35.6	84.5	7.6	0.8	2.8
Ruvuma	47.6	1.0	29.8	72.8	8.6	2.8	3.8
Iringa	43.7	1.6	31.8	71.4	9.6	4.5	6.2
Mbeya	46.2	1.7	27.0	75.4	9.1	3.8	5.6
Singida	36.3	1.0	27.4	86.5	5.2	2.3	3.7
Tabora	42.7	1.3	56.2	82.1	6.4	4.3	4.2
Rukwa	34.8	0.8	31.9	84.7	6.4	2.5	3.2
Kigoma	44.6	1.1	32.7	87.0	8.6	1.0	2.8
Shinyanga	46.6	1.3	58.9	85.0	6.7	4.4	3.3
Kagera	45.3	0.9	33.4	84.6	6.9	2.4	2.8
Mwanza	63.4	3.3	49.4	78.9	17.3	3.9	5.1
Mara	50.9	1.4	39.3	74.8	9.8	3.8	5.1
Manyara	37.7	1.5	29.8	84.9	11.8	4.0	4.1
Tanzania Zanzibar	74.7	9.2	45.4	75.9	34.9	2.3	23.6
North Unguja	67.5	1.6	42.0	93.4	27.7	1.0	3.0
South Unguja	82.3	2.1	55.2	88.2	32.4	2.2	9.0
Urban West	83.3	18.2	50.2	56.9	58.7	3.8	47.2
North Pemba	62.2	3.4	44.7	88.8	9.6	1.0	6.7
South Pemba	68.8	5.0	30.5	84.8	11.6	1.2	12.6

Source: The United Republic of Tanzania 2002 Population and Housing Census.

11.5 Summary

This chapter has dwelt on two main areas of the 2002 Population and Housing Census; namely household characteristics and housing conditions.

Analysis of the private households reflects a marked increase in the number of households over the 14-year intercensal period from 1988 to 2002, an increase of 59.8 percent. Whereas the number of households has increased, the size or the number of people per household has decreased. The average household size has declined from 5.2 persons per household in 1988 to 4.9 persons per household in 2002 census. The decline is even bigger in the urban areas, dropping from 4.5 persons per household in 1988 to 4.2 persons per household in 2002.

However, in the case of Zanzibar, the average household size has increased from 4.7 persons per household in 1988 to 5.3 persons per household in 2002. It might be coursed by immigration due to increasing of the private investments.

Another notable feature concerning households is that there was a slight rise in the proportion of female-headed households: from 30.0 percent in 1988 to 32.7 percent in 2002. Urban areas have a slightly larger proportion of female-headed households (33.6 percent) than rural areas (32.4 percent).

About the condition of the dwelling units, the durability and quality of the houses were looked at in terms of the building materials used for the main elements of houses, namely, the roof, the walls and the floor. The availability of social amenities in or around the house was also considered. It is evident from the census results that some improvement in housing condition and also in access to basic social services has been made although not to a pace that would match the growth in population.

One general observation made is that, there has been a rise in the proportion of households living in dwelling units built with modern or conventional building materials. Distribution of households by the materials used for the main building show that 46.3 percent have metal roof, 15.5 percent have walls materials built with cement bricks and 26.4 percent have cement floor.

Nonetheless, majority of dwelling units in Tanzania are still constructed of walls materials made of mud and pole (34.4 percent), while roofing is also to a very big extent, and particularly in the rural areas 67.5 percent of the houses of the private households roofed with thatch/grass/mud. Flooring is still predominantly by soil (73.0 percent).

Concerning social amenities, the results have revealed that there has been no significant improvement in the proportion of households with access to piped water: only a slight rise from 31.5 percent in 1988 to 34.4 percent in 2002.

The main source of energy for cooking shows that the majority of households in rural areas continued to depend on firewood, and charcoal and firewood in urban areas. Thus this will pose environmental degradation.

As for lighting, the most common source of energy in both rural and urban areas is kerosene, although there has been a small increase in the use of electricity, particularly in the urban areas. The proportion of households using electricity for lighting has not been impressive. Overall, only one-tenth of the Tanzanian households were using electricity. The rural areas were worse off compared to the urban areas. Whereas 9.2% of the urban households were using electricity for lighting, only less than one percent of the rural households were enjoying this facility. Tanzania Zanzibar's position in this aspect was better than that of Tanzania Mainland.

Annex 1 : SAMPLING USED IN THE 2002 CENSUS

A1.1 Introduction

The 2002 Census of Tanzania was the fourth to be conducted since the Independence of Tanzania Mainland and Zanzibar Revolution in 1961 and 1964 respectively. The other three censuses were carried out in 1967, 1978 and 1988.

Two types of questionnaires were used in the 2002 Population and Housing Census. These were:

- Short questionnaire with 8 questions for all households; and
- Long questionnaire with additional 29 questions for a sample of households.

The following 8 questions appeared in both short and long questionnaires:

Name, relationship to head of household, sex, age, disability, citizenship, marital status, and total number of household members by sex.

In addition, the long questionnaire includes 29 extra questions on the following topics:

- Survival of parents
- Place of Birth
- Place of residence
- Education
- Economic status
- Fertility
- Mortality
- Housing conditions and ownership of selected assets.

A1.2 Sample Design

As in the 1988 census, results from the 2002 Population and Housing Census are presented at district level, broken into rural and urban parts.

As in earlier censuses, the Institutional Enumeration Areas such as hospitals, guest houses, schools etc. were not included in the sample design for 2002 Population and Housing Census.

A sample of households for the long questionnaire was selected by cluster sampling using the Census Enumeration Area (EA) as cluster. That is, a sample of EAs was first selected, and then all households within each selected EA were enumerated with the long questionnaire. The size of the EA was about 800 people in rural areas and about 400 people in urban areas on average.

Each of the 123 districts was divided into urban and rural parts. A sample of EAs was selected in each district for rural and urban parts separately. The number of EAs to be selected was allocated according to the following criteria:

Table 1A.1 Allocation of Sample EAs

Number of EAs in a district	Number of sample
Rural part of the district:	
Less than 30	All EAs
30-199	30
200-399	40
400 and more	50
Urban part of the district:	
Less than 50	All EAs
50 or more	50
Municipalities of Mwanza, Zanzibar and Dar es Salaam	70 each

Within rural/urban part of each district, a sample of EAs was selected at random with equal probability by systematic sampling. Thus the sampling ratio varied according to rural and urban parts of districts. By the use of systematic sampling, good geographical spread of the sample within each district was achieved.

The number of EAs selected in the sample and the number of selected EAs that were used in the actual census are shown in Table 1A.2 below.

Table 1A.2 Number of Selected EAs and Used EAs

Area	Total EAs [a)]	Selected EAs	Used EAs
Tanzania			
Total	55,822	9,992	9,907
Rural	33,749	4,744	4,692
Urban	19,073	5,248	5,215
Tanzania Mainland			
Total	50,760	9,462	9,377
Rural	32,505	4,988	4,955
Urban	18,255	4,474	4,422
Tanzania Zanzibar			
Total	2,062	530	530
Rural	1,244	270	270
Urban	818	260	260

a) Excludes institutional EDs such as those covering hospitals, guest houses, schools, fishing and mining camps, etc.

A1.3 Estimation

Most of the tables from the detailed questionnaire will be of a form where the cells contain the number of persons in the different categories (educational attainment, number of children, occupation, etc). Usually there is also a basic sex-age breakdown.

Let X_c^b be the number of persons in category c of a variable in sex-age group b in the rural/urban part of a district. An estimate $\hat{X}_c^b$ of X_c^b was computed by the following formula:

$$\hat{X}_c^b = \frac{M}{m}\sum_{i=1}^{m} x_{ci}^b$$

where,

x_{ci}^b : Number of persons in category c of a variable in sex-age group b in the ith sample EA in the rural/urban part of a district

M : Number of EAs in the rural/urban part of the district

m : Number of sample EAs in the rural/urban part of the district

Estimates at a regional level were derived by summing up district estimates over all districts within the region. National level estimates were the sum of regional estimates.

The linear estimates thus obtained were adjusted by using ratio estimation in order to result in the same age and sex composition as the results on a complete basis. Let denote the population in sex-age group b derived on a complete basis by X^b, and the estimate of number of persons in sex-age group b obtained on the basis of data from long questionnaires by $\hat{X}^b$. The estimate $\hat{X}^b$ may not coincide with X^b. The final estimate for X_c^b was derived by multiplying the ratio of X^b to $\hat{X}^b$ into the linear estimate $\hat{X}_c^b$.

A1.4 Sampling Errors

Census data based on the long questionnaire is subject to sampling errors. Sampling errors of estimates for selected variables were estimated. For the sake of simplicity, sampling errors were calculated by using a formula for linear estimates without taking into account the ratio estimation.

Variance of the estimate $\hat{X}$ of a given variable X was calculated first at a district level for rural and urban parts separately, using the following formula.

$$V(\hat{X}) = M^2(1-f)\frac{1}{m(m-1)}\sum_{i=1}^{m}(x_i - \bar{x})^2$$

where,

$V(\hat{X})$: Variance of the estimate $\hat{X}$

x_i : Value of the variable X in the ith sample EA, e.g., the number of literate persons in the ith sample EA

$\bar{x}$: Mean of x_i within the district, i.e. an average of x_i for m sample EAs in that district

f: Sampling fraction, i.e. m/M

M : Number of EAs in the rural/urban part of the district

m : Number of sample EAs in the rural/urban part of the district

Variance of the estimate at a regional level was calculated for rural and urban parts separately as the sum of district level variances within the region, and variance of the national estimate was the sum of regional level variances. Variance for the total of rural and urban areas was the sum of variances for rural and urban parts.

The standard error is the standard deviation of the estimates, namely the square root of variance and the relative standard error is the coefficient of variation (C.V.) of the estimate, i.e. the ratio of standard error to the estimate as expressed in percentage. Standard errors and the coefficients of variation for selected items at a national level are shown in Annex Table 1A.

The sampling error of the estimate is considered approximately twice the standard error.

Annex Table 1A Sampling Errors of Data for Selected Items

Item	Estimate	Standard error	C.V. (%)
Literacy			
Illiterate	10,258,371	65,550	0.6
Literate	17,573,982	207,402	1.2
Education			
Now attending	6,830,856	46,018	0.7
Partly attended	2,486,045	17,267	0.7
Completed	9,399,373	93,088	1.0
Never attended	9,116,080	63,234	0.7
Economic activity			
Economically active	15,951,395	138,610	0.9
Employed	15,507,463	154,322	1.0
Worded paid, non seasonal	1,035,385	18,536	1.8
Worked paid, seasonal	242,332	10,199	4.2
Worked unpaid, non seasonal	525,374	24,443	4.7
Worked unpaid, seasonal	353,989	20,913	5.9
Worked for own benefit fulltime	11,649,011	147,014	1.3
Worked for own benefit seasonal	1,701,372	60,585	3.6
Unemployed	443,932	11,859	2.7
Seeking for work	238,804	6,682	2.8
Not worked, but not actively seeking for work	205,128	6,612	3.2
Not active	11,694,333	106,822	0.9
Employment status			
Employer	13,277	981	7.4
Employee	1,418,464	24,360	1.7
Own-account	12,480,015	118,316	0.9
Family worker	735,459	26,205	3.6
Apprentice	30,662	1,145	3.7
Occupation			
Professional	110,231	5,061	4.6
Techbnican and associate professional	373,681	9,216	2.5
Clerk	138,420	8,960	6.5
Service and shop sales worker	529,377	16,694	3.2
Street vendor	658,813	20,599	3.1
Crafts and related worker	486,699	16,662	3.4
Farmer	10,567,659	124,359	1.2
Livestock keeper	314,691	14,554	4.6
Elementary worker	878,237	35,330	4.0
Industry			
Agriculture	10,515,752	137,084	1.3
Forestry, fishing, hunting, livestock and related worker	1,397,555	40,451	2.9
Manufacturing	275,973	6,612	2.4
Raw food sales	177,740	6,076	3.4
Trade and commerce	935,622	36,725	3.9
Public administration and education	627,523	11,053	1.8