THE UNITED REPUBLIC OF TANZANIA

POPULATION DYNAMICS AND DEVELOPMENT IN TANZANIA

The United Republic of Tanzania

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National Bureau of Statistics

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and

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UNITED REPUBLIC OF TANZANIA, ADMINISTRATIVE BOUNDARIES

Foreword

The 2022 Population and Housing Census (PHC) for the United Republic of Tanzania was

conducted with a reference date of midnight on 22nd/23rd August 2022. This marked both the Sixth Census since the Union of Tanganyika and Zanzibar in 1964, and the first digital census in Tanzania's history. The previous censuses took place in 1967, 1978,

1988, 2002, and 2012. The Sixth Phase Government of Tanzania, led by Her Excellency Dr. Samia Suluhu Hassan, along with the Eighth Phase Government of Zanzibar, under Dr. Hussein Ali Mwinyi, fulfilled their obligation to conduct the 2022 PHC in accordance with the United Nations Principles and Recommendations for Population and Housing Census. Their commitment and support throughout the census implementation deserve our gratitude.

The 2022 PHC was conducted in accordance with the Statistics Act Cap 351, of the Revised Edition 2022 of the Tanzania Laws, specifying the Government of the United Republic of Tanzania to conduct Population and Housing Census in every ten years. It also complied with the United Nations Principles and Recommendations for conducting the 2020 Round of Population and Housing Census, such as use of advanced Information and Communication Technology (ICT) in all stages of Census implementation. The country's decision of using a more advanced technology to capture cartographic mapping data enumeration, data transmission, and processing enabled the first digital census to be conducted in Tanzania.

The 2022 PHC results would promote use of integrated plans and sustainable development also increase awareness and transparency in allocation of resources at all levels of administration based on the actual population. The Government and stakeholders would use the results in monitoring and evaluating various national, regional and international development frameworks including: the Tanzania Development Vision 2025; Zanzibar Development Vision 2050; the Third National Five-Year Development Plan 2021/22 - 2025/26 and Zanzibar Development Plan 2021/22 - 2025/26; the East African Community Vision 2050; Southern and African Development Community Vision 2050 and the African Development Agenda 2063.

Furthermore, the results would enable the country to evaluate the progress in achievement of Sustainable Development Goals (United Nations Sustainable Development Agenda 2030); goals aiming to achieve equality and eradicate poverty of all kinds including extreme

poverty by 2030 without leaving any one behind. The census data would also provide a basis for computation of several indicators such as enrolment and literacy, infant and maternal mortality, unemployment rate among others.

The Population Dynamics and Development Monograph is the twelfth in a series of major planned publications for the 2022 PHC. The major reports that have been produced so far are Administrative Units Population Distribution Reports, Age and Sex Reports and *Ripoti ya Idadi ya Watu katika Majimbo ya Uchaguzi (Constituency Population Distribution Report)* in two volumes of United Republic of Tanzania and Tanzania Zanzibar and the National and Regional Basic Demographic and Socioeconomic Profiles. The first two major reports are in three volumes for the United Republic of Tanzania, Mainland Tanzania and Tanzania Zanzibar.

The success of 2022 PHC depended on the cooperation and contributions from our development partners and agencies, national institutions, agencies and individuals. Firstly, let us extend our special gratitude to the United Nations agencies for guidance, technical support and resources through United Nations Population Fund (UNFPA), United Nations Children's Fund (UNICEF), and UN-Women. Secondly, but not in the order of priority, we also wish to extend a special gratitude to World Bank (WB); International Organization for Migration (IOM); United States Agency for International Development (USAID); Foreign, Commonwealth and Development Office (FCDO); United States Census Bureau (USCB), The Republic of South Korea, the People's Republic of China and other Development Partners for providing equipment, expertise, training and financial support in making the 2022 Population and Housing Census a success.

A special word of thanks is due to Government leaders at all levels, particularly, Minister for Finance; Minister of State - President's Office, Finance and Planning, Zanzibar; members of parliament; members of the house of representatives; councilors /shehas; regional and district commissioners of respective areas; census coordinators (National and Zanzibar); regional and district census coordinators; supervisors; enumerators; local leaders and all respondents (heads of households, members of households and other individuals). In the same way, we thank the Census Committees from national to the lowest administrative level. These are the National Central Census Committee; National Census Advisory Committee; National Census Technical Committee; Census Committees at regional, district, wards, village/mtaa and hamlet. There were also forums from Non-States Actors including Collaborators Forum, Private Sector, various institutions and the public at large. In the same

way, special word of thanks is due to religious, traditional and political leaders, non-governmental organization leaders, the media and all citizens and non-citizens in general for their participation and contributions in the successful implementation of the Census.

The 2022 Population and Housing Census could have not been a success without the Census abled Commissars. A special word of appreciation is therefore due to Honourable Anne Semamba Makinda - Census Commissar for Mainland Tanzania and Former Speaker of the National Assembly; and Honourable Ambassador Mohamed Haji Hamza - Census Commissar for Tanzania Zanzibar, for their effective leadership, tireless work and commitment in educating and sensitizing all citizens and non-citizens to participate in the Census. Thereby, resulting into a quality, smooth and timely Census exercise.

Last but not the least, we acknowledge the extraordinary efforts and commitment of the management and staff from the National Bureau of Statistics under the leadership of Dr.Amina Msengwa, the Statistician General; and staff from the Office of the Chief Government Statistician, Zanzibar under the leadership of Mr. Salum Kassim Ali; Chief Government Statistician; Dr. Albina Chuwa, former Statistician General, staff from the Ministry of Lands, Housing and Human Settlements Development; Ministry of Information, Communication and Information Technology; as well as other Government officials who worked tirelessly in ensuring that the 2022 Population and Housing Census was a success.

Kassim Majaliwa Majaliwa (MP)
Prime Minister of
The United Republic of Tanzania

Hemed Suleiman Abdulla (MRC)
Second Vice President of Zanzibar

Acknowledgement

The Government of the United Republic of Tanzania through Ministry of Finance in coordination of the National Bureau of Statistics (NBS) and Office of the Chief Government Statistician, Zanzibar (OCGS) conducted the 2022 Population and Housing Census (PHC) to provide necessary information for policy formulation, planning, monitoring and evaluation of development processes. The 2022 Census was conducted alongside other national exercises of Building Census and National Physical Addressing. The Population Census collected detailed information on demographic, social and economic data for policymaking, planning and administration. Developing sound policies and programmes aimed at fostering the welfare of a country and its population requires information on the size, distribution and characteristics is essential for describing and assessing its economic, social and demographic circumstances.

The Tanzania Building Census (TBC) collected information on building structures as a basis for planning housing and human settlement programmes as well as policy development. It is also essential in public and private sector studies in urban and other non-agricultural land use, evaluation of the adequacy of housing stock and needs assessment and market projection on new housing requirements, as well as homeless living condition or those living in temporary or substandard housing. Information on physical addresses to facilitate planning and enabling digital transformation was also collected.

This report provides a detailed analysis on Population Dynamics and Development from National to regional level. It also provides detailed statistics of different indicators that facilitate making evidence-based decisions relevant to the population localities.

This report would have not been successfully completed without the technical experts willingness, commitment, time and efforts in producing the report. In particular manner, we would like to thank Prof. Akim Mturi, Internal Technical Advisor responsible for overseeing writing of the monograph; Prof. Esther W. Dungumaro, Lead Author of the Monograph; Dr. Ruth Davison Minja, Director of Population Census and Demographic Statistics; Fahima Mohamed Issa, Director of Social Statistics Department, OCGS; Seif Ahmad Kuchengo, Manager for Population Census and Vital Statistics and the National Census Coordinator; Abdul-majid Jecha Ramadhan, Tanzania Zanzibar Census Coordinator; Steven Lwendo, IT Expert in charge of the data processing and production of tables; and the National Census Technical Team; Statisticians; Demographers; Information Technology Experts and Geographic information System officers.

Our appreciation is as well extended to all the professionals, Regional and District supervisors, enumerators and field supervisors as well as the media for their dedicated work. Certainly, without their commitment and dedication, the census would not have been successful. We would also like to thank the public for cooperating throughout the entire period of the Census.

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Executive Summary

Population Dynamics Monograph from the 2022 Population and Housing Census (PHC) provides a detailed analysis of fertility, mortality, and urbanization trends, highlighting their impact on Tanzania's development. Tanzania's population dynamics have been shaped by a rapid population growth, youthful age structure, and ongoing transition in fertility and mortality rates, all of which have profound implications for the country's development. The monograph provides estimates of the potential impact of population growth on key sectors; including education, health, urbanization, economy and agriculture. The Monograph has five chapters.

Chapter One presents introduction and background of the 2022 PHC including the objectives of the 2022 Census. It provides a historical overview of the Tanzania Population and Housing Census. It also introduces fertility, mortality, and migration as drivers of population change. The chapter presents relevance of the monograph and its contents.

Chapter Two presents the population size, growth, and distribution in relation to the national development. Historically, the country has experienced a robust increase which is driven by high fertility rates and declining mortality rates, with significant urbanization trends. Tanzania's population has increased significantly from 12.3 million persons in 1967 to 61.7 million in 2022. This growth presents development opportunities, it also poses challenges related to resource management and economic stability in the face of increasing population pressures.

Chapter Three discusses the age and sex structure of the population with the aim to inform the history of population and its future outlook. Results show that the Tanzania's population pyramid over the past four decades shows a broad base structure, indicating high fertility rates. A notable change in age and sex structure are observed between 1988 and 2022. particularly a consistent male deficit in the 20–29 age group.

Chapter Four sets the stage for understanding the intricate relationships between population dynamics and development. Population is both the purpose and vehicle of development. The Chapter used RAPID model to estimate the impact of rapid population increase on education, health, economy, agriculture and urbanization sectors. The results on the health sector indicate that by the year 2050, the demand for healthcare services will increase significantly, requiring 26,541 dispensaries compared to 7,734 in 2022, and 124,192 nurses compared to 47,545 in 2022, for Mainland Tanzania requiring 25,723 dispensaries compared to 7,447 in 2022, and 109,644 nurses compared to 46,161 in 2022

and Tanzania Zanzibar requiring 1,008 dispensaries compared to 291 in 2022, and 14,548 nurses compared to 1,384 in 2022. This surge would be driven by the rapid population growth during the period. The total healthcare annual recurrent expenditure for Tanzania will cost more than four-fold which is from TZS 7,223.02 billion in 2022 to TZS 36,262.61 billion in 2050, For Mainland Tanzania the increase is also about fivefold from TZS 7,029.81 billion in 2022 to TZS 33,704.69 billion in 2050, while in Tanzania Zanzibar it is a 13 times increase from TZS 193.21 billion in 2022 to TZS 2,557.92 billion in 2050.

The results from RAPID model on education indicate that the infrastructure will be increasing in both primary and secondary schools. In addition, in secondary schools teacher demand in Tanzania is expected to increase from 92,882 in 2022 to 201,041 by 2050 for Tanzania, while for Mainland Tanzania it will be from 87,087 to 189,106 and for Tanzania Zanzibar the increase will be from 5,795 to 11,935. This increase in demand reflects the estimated growth in secondary school enrolment and indicates the need investing more on the teaching workforce. Results indicate that the annual education services expenditure will increase from TZS 103.91 billion in 2022 to TZS 478.68 billion by 2050, while for Mainland Tanzania it will be from TZS 95.93 billion to TZS 433.20 and for Tanzania Zanzibar from TZS 7.98 billion to TZS 45.48 billion for primary level. Secondary levels demonstrate a similar pattern in the increase from TZS 61.84 billion in 2022 to TZS 312.62 billion in 2050, while for Mainland Tanzania it will be from TZS 54.43 billion to TZS 249.35 billion and for Tanzania Zanzibar from TZS 7.41 billion to TZS 63.27 billion in 2050. Furthermore, the proportion of young population (18-35 years) will remain higher but slightly decline from 37.4 percent in 2022 to 34.8 percent in 2050. The proportion of population living in major cities will also decline from 39.0 percent in 2022 to 32.8 percent in 2050. Moreover, the proportion of annual new urban households shall decrease from 5.2 percent in 2022 to 2.9 percent in 2050.

The results from the RAPID model on the economy show that the country's population is expanding rapidly, leading to a rising demand for employment opportunities. However, job creation has not kept pace with this growth. Results also indicate that the number of children under 15 years of age is estimated to increase from 24.5 million children in 2022 to 36.4 million in 2050. In Mainland Tanzania the increase is from 23.8 million to 32.1 million in 2050 and for Tanzania Zanzibar is from 770,000 in 2022 to 1,060,000 in 2050. Results of analysis on agriculture indicate a reduction of the arable land per capita, in 2022 was 0.70 hectares is expected to decline up to 0.37 hectares in 2050. The trend of decreasing arable land per capita is also observed in Mainland Tanzania from 0.73 hectares to 0.38 hectares and Tanzania Zanzibar – decreasing from 0.07 hectares to 0.04 hectares. Production of major

crops (Thousands MT) would increase from 18,902,000 MT in 2022 to 35,729,000 MT in 2050, with a percentage increase of 89.0. Major crop production for Mainland Tanzania is also expected to double while the production in Tanzania Zanzibar indicates about threefold increase. However, in this aspect the increase is not steady as there are noted decrease in some years.

Chapter Five presents a summary, policy implication and recommendations for government and stakeholders on the policy options to ensure service provisions. This chapter also outlines projected trends across major sectors and provides guidance for long-term planning up to 2050.

Key Indicators

Results in Brief – RAPID Modelling

Indicator	Tanzania		Mainland Tanzania		Tanzania Zanzibar	
	2022	*2050*	*2022*	*2050*	*2022*	*2050*
Population and Health Requirements: 2022-2050						
Health Facilities						
Dispensaries	7,734	26,541	7,447	25,723	291	1,008
Health Centers	1,016	4,004	1,016	3,880	-	-
Hospitals	429	844	418	809	11	35
Health Personnel						
Doctors	7,558	25,574	7,144	18,300	414	7,274
Nurses	47,545	124,192	46,161	109,644	1,384	14,548
AMO/CO	14,084	35,928	13,717	34,984	367	944
Hospital Beds						
Number of Beds	99,537	295,263	99,599	286,171	1,339	4,269
Health Expenditure						
Annual Recurrent Health Expenditure (TZS Billions)	7,223.02	36,262.61	7,029.81	33,704.69	193.21	2,557.92
Population and Education Requirements: 2022 - 2050						
Education Requirements						
Primary Schools						
Trends in the Growth of Primary School Age Population	11.9	18.5	11.5	16.4	3.5	5.1
Number of Teachers Required	175,687	341,231	168,297	328,541	7,390	12,690
Number of Schools Required	16,777	31,867	16,177	30,852	600	1,015
Secondary Schools						
Trends in the Growth of Secondary School Age Population	5.3	10.0	5.2	9.0	1.7	2.8
Number of Teachers Required	92,882	201,041	87,087	189,106	5,795	11,935
Number of Schools Required	4,774	10,052	4,498	9,455	276	597
Government Expenditure on Education for Primary and Secondary School						
Primary Expenditure (Billions TZS)	103.91	478.68	95.93	433.2	7.98	45.48
Secondary Expenditure (Billions TZS)	61.84	312.62	54.43	249.35	7.41	63.27
Population Dynamics and Urbanization: 2022-2050						
Urbanization						

Indicator	Tanzania		Mainland Tanzania		Tanzania Zanzibar	
	2022	***2050***	***2022***	***2050***	***2022***	***2050***
Population (in 000,000)	21.8	44.2	-	-	-	-
Proportion of Population in Major Cities (in %)	39.0	32.8	-	-	-	-
Proportion of Youth Population (18 – 35 Yrs; in %)	33.7	34.8	-	-	-	-
Urban Households and Annual New Urban Households						
Urban Households (in '000,000)	5.7	16.7	-	-	-	-
Annual Increase of Urban Households (in %)	-	2.9	-	-	-	-
	Tanzania		**Mainland Tanzania**		**Tanzania Zanzibar**	
	2022	***2050***	***2022***	***2050***	***2022***	***2050***
Population and Agriculture: 2022-2050						
Arable Land Per Capita (Hectares)	0.70	0.37	0.73	0.38	0.07	0.04
Production of Major Crops (Thousand MT)	18,902	35,729	18,511	37,698	391	1,217

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Abbreviation/Acronym

AEP	Alternative Education Pathways
AMO	Assistant Medical Officer
BEST	Basic Education Statistics
CO	Clinical Officer
CPR	Contraceptive Prevalence Rate
ESDP	Education Sector Development Plan
FCDO	Foreign, Commonwealth and Development Office
FYDP	Five-Year Development Plan
GDP	Gross Domestic Product
GER	Gross Enrolment Rate
HPP	Health Policy Project
ICT	Information and Communication Technology
LGSs	Local Government Authorities
MMR	Maternal Mortality Ratio
MoFP	Ministry of Finance and Planning
MT	Metric Tonnes
NEP	National Employment Policy
OCGS	Office of the Chief Government Statistician, Zanzibar
OECD	Organization for Economic Co-operation and Development
PO-RALG	President's Office, Regional Administrative and Local Government
PTR	Pupil-Teacher Ratio
PHC	Population Housing Census
RAPID	Resources for the Awareness of Population Impacts on Development
SDGs	Sustainable Development Goals
SOEs	State-Owned Entities
SSP	Safe Schools Programme
TDHS	Tanzania Demographic Health Survey
TDV	Tanzania Development Vission
TFYD	Third National Five -Year Development Plan
TULab	Tanzania Urbanization Laboratory
TZS	Tanzanian Shilling
UDP	Urbanization and Development Policy
UNFPA	United Nations Population Fund
USCB	United States Census Bureau
UN-Habitat	United Nations Human Settlements Programme
URT	United Republic of Tanzania
USAID	United States Agency for International Development
ZADEP	Zanzibar Development Plan

Concept and Definition

Age-Dependency Ratio is the ratio of people in the “dependent” ages (those under age 15 and age 65 or above) to the “working age population” (age 15-64 years).

Age-Sex Structure is the composition of a population as determined by the number of males and females in each age category, popularly presented as population pyramid.

Annual health expenditure refers to the total amount of money spent on healthcare services for each individual in a given population in a year. This expenditure include government spending, out-of-pocket expenses, health insurance premiums and private sector spending.

Elderly Population according to the international definition, elderly is a person aged 65 years or above. However, according to the Tanzania National Ageing Policy, elderly is a person aged 60 years or above.

Government Expenditure on Education is a vital component of any country's development strategy and proper allocation and efficient use of funds are key to ensuring that all citizens have access to quality education which in turn drives social, economic and national progress.

Master Plan refers to a comprehensive, long-term planning document that provides a strategic framework for development and growth of a project, community, or organization. It outlines goals, objectives, and the necessary steps to achieve them, ensuring that all stakeholders are aligned and informed throughout the process.

Policy refers to a deliberate system of guidelines or principles that govern decisions and actions within an organization, government, or institution. It serves as a framework for making consistent and rational choices regarding specific issues or objectives.

Population growth is the rate at which a population is increasing (or decreasing) in a given year due to natural increase and net migration.

Population per AMO/CO refers to a number of people served by a single Assistance Medical Officer or Clinical Officer in a given population or area.

Population per dispensaries refers to a number of people served by each dispensary in a specific area.

Population per doctor refers to a number of people served by a single doctor in a given area.

Population per health centre refers to a number of people served by each health centre in a specific area.

Population per hospital bed refers to number of populations served by each hospital bed in a specific area.

Population per hospital refers to a number of people served by each hospital in a specific area.

Population per nurse refers to a number of people served by a single nurse in a given population or area.

Population Pyramid is a graphically displays population's age and sex composition.

Primary Education is a seven-year for Mainland Tanzania and six- year for Tanzania Zanzibar education cycle after Pre-Primary Education. It is compulsory and free to all children aged six to twelve and seven to thirteen years old for Tanzania Zanzibar and Mainland Tanzania respectively.

Pupil/Student Teacher Ratio (PTR) Average number of pupils/students per teacher in a given level of education.

RAPID Model refers to a tool for projecting the social and economic consequences of rapid population growth, particularly in urban settings. It is a tool that helps policymakers understand the social and economic impacts of population growth on various sectors, such as health, education, labour, urbanization, and agriculture.

Recurrent expenditure is a portion of the government's budget that includes wages, salaries, interest costs, and other recurring expenses.

Roadmap refers to a strategic planning tool that provides a high-level overview of a project, initiative, or product development process. It outlines the goals, major milestones, and key steps necessary to achieve desired outcomes.

Rural area encompasses low-density populations engaged primarily in agriculture, facing significant infrastructural challenges and classified administratively as non-urban areas.

School-age Population It is the number of persons in the officially defined school age-group, whether enrolled in school or not in a specified area.

Secondary school Education consists of two sequential cycles, the first cycle is a four-year programme of Ordinary Level (O-Level) secondary education and the second cycle is a two-year programme of Advanced Level (A-Level) secondary education.

Urban areas often encompass administrative centers, towns, and cities where the majority of the population engages in non-agricultural activities. In a broader sense, urban areas are defined as places with a minimum population threshold, often set at 50,000 inhabitants in various contexts.

Urbanization is the process through which large numbers of people move from rural areas to urban centres and urban centres to large centres, resulting in the growth of cities and the increasing concentration of populations in urban environments.

Urban Planning Act refers to a legislative framework that governs the planning, development, and management of urban areas. It establishes guidelines and procedures for the orderly and sustainable development of land in cities and towns, ensuring that urban growth is well-coordinated and meets the needs of the community.

Working Age Population is the population aged 15 - 64 years.

Chapter One
Introduction

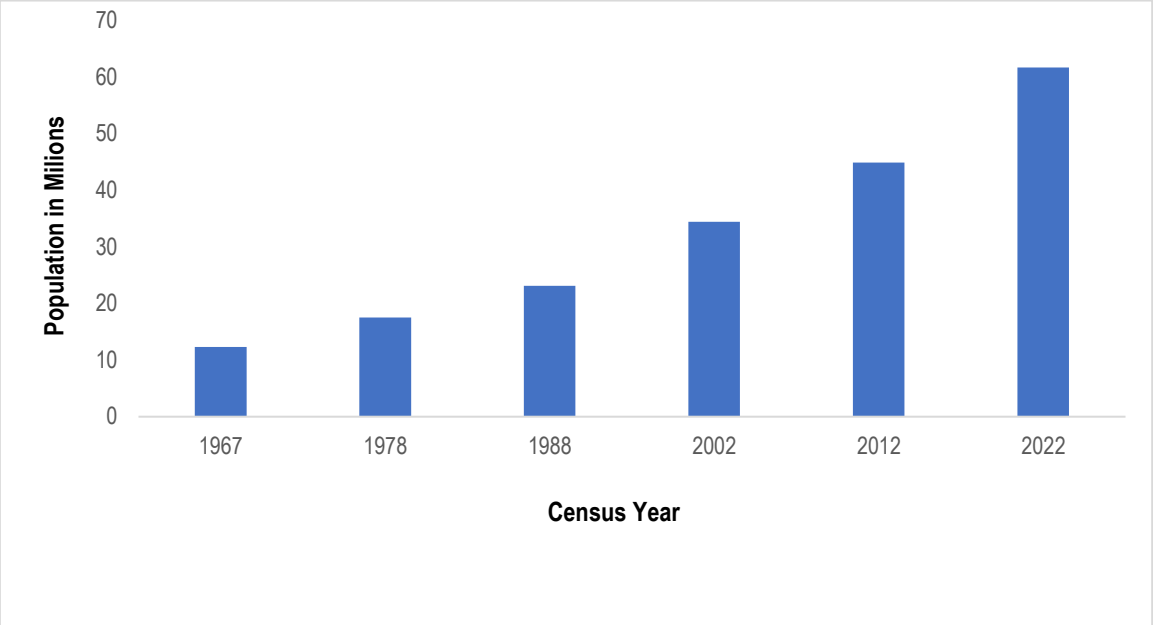
1.1 Background on the 2022 Population and Housing Census

The 2022 Population and Housing Census (PHC) was carried out per the Statistics Act CAP 351, which mandates the National Bureau of Statistics (NBS), in collaboration with the Office of the Chief Government Statistician (OCGS) Zanzibar, to conduct population and housing censuses in the United Republic of Tanzania every ten years. This was the sixth population census conducted since the union of Tanganyika and Zanzibar in 1964. It was implemented following international standards, particularly the United Nations Principles and Recommendations for population counts. The previous population censuses were conducted in 1967, 1978, 1988, 2002 and 2012.

Like previous censuses, the 2022 PHC was conducted on a *de-facto* basis, meaning people were enumerated based on their place of residence on the census night of 22nd/23rd August, 2022. All persons within the country during the reference night, regardless of their citizenship, were enumerated. Although the enumeration was scheduled to last for seven days, it was completed in nine days. Unlike previous population censuses, the 2022 PHC introduced mobile technology in the population census enumeration and information collection, making it the first digital census in Tanzania.

Information from the censuses shows that Tanzania's population grew from 12.3 million in 1967 to 61.7 million in 2022. The average annual population growth rate increased from 2.7 percent during the 2002-2012 intercensal period to 3.2 percent during the 2012-2022 intercensal period.

Figure 1.1: The Tanzania Population Count During the Population Censuses



1.2 Objectives of the 2022 PHC

The main objective of the 2022 PHC is to provide the Government and other stakeholders with accurate information on population size, distribution, composition, socio-economic characteristics, and housing conditions. This information supports policy formulation, development planning, evidence-based decision making and service delivery, ultimately improving the quality of life for Tanzanians. It is also facilitates monitoring and evaluation of population and socio-economic programmes in the country.

The specific objectives of the 2022 PHC were to:

- Enhance the availability and accessibility of accurate, timely, and reliable demographic, socio-economic, and environmental data;
- Promote better understanding of stakeholders on socio-economic, demographic characteristics and environment of the Tanzanian population as well as population growth patterns and trends;
- Promote the utilization of disaggregated socio-economic and demographic data at lower administrative levels;
- Strengthen the capacity of NBS and OCGS in population and housing census planning, data collecting, processing, analysing, dissemination, utilization and archival; and
- Establish a comprehensive buildings and National Physical Addresses database to facilitate evidence-based decision-making, to improve social services provision, expand the tax base, and inform development programmes in general.

1.3 Relevance of the Monograph

The overarching rationale of this monograph rests on identifying the impacts of demographic change on human development, through a transformation in the economy and social service provision. Ever since the Rio Declaration in 1992, positioned human beings at the centre of development and therefore policies and actions are expected to promote more sustainable patterns of production and consumption to improve living standards in tandem with nature (Otieno et al, 2017).

This monograph provides insights into population dynamics and development in Tanzania, focusing on;

- Population size, growth and distribution as key parameters of population change and spatial distribution, all of which are closely linked to national developmental challenges and solutions (Samways, 2022).
- Age-sex structure analysis using population pyramids and broad age groups to assess historical trends of the country population and predict future outlook.

The adverse effects of rapid population growth on social and economic development are increasing the attention of political leaders. As a result, there is growing attention to integrate population analysis and planning with the other dimensions of social and economic development to support socio-economic development initiatives. Development planners recognizing the challenge of assessing the socio-economic effects of population dynamics in isolation. Rather, effective development planning requires identifying and achieving a population growth rate that aligns with the expansion of fundamental production factors and available levels of technology. This ensures that the government retains sufficient funds to provide essential social and infrastructural services (UNESCO, 1973). Bloom and Canning (2000) note that understanding population dynamics in a country is crucial for resource allocation and socio-economic planning. This monograph will play an important role in increasing the use of census data in population and development.

This monograph employs a Spectrum software, a demographic modelling tool to analyse population trends. The RAPID model which is one of the models in the spectrum software, is employed to demonstrate how rapid population growth increases the demand for education, healthcare, labour markets, and agriculture services. Further, the model examines the population dynamics and development using information from the 2022 PHC. Data from government reports and other published documents have been used in order to meet requirements of the models. Furthermore, the monograph attempts to project future

labour, education, healthcare, urbanization, agriculture as well as economic development needs.

This monograph recognizes the necessity of considering achievements of the Sustainable Development Goals 2030, Africa Development Agenda (Agenda 2063), East Africa Vision (2050), Five-Year Development Plan (2021/22-2025/26) and various sector strategic plans against education, health, urbanization, agriculture and economic development in the country. The 2022 PHC data provides an opportunity for understanding where we are in implementing policies and strategies on population dynamics and development.

1.4 Components of Population Change

Population change refers to the dynamics of population growth and decline over time. The main components of population change are births, deaths and migration.

1.4.1 Fertility

Fertility is regarded as a positive force in population dynamics because it ensures biological replacement and the continuation of human society. Further, fertility levels determine the age structure of a population, which influences social, economic and demographic characteristics of the population.

1.4.2 Mortality

Mortality refers to deaths that occur in a population of a particular place or situation. Three indicators commonly used are crude death rate, age-specific death rates and life expectancy. Life expectancy at birth (e_0) provides the most useful summary measure of the overall level of mortality in a population at a point in time.

1.4.3 Migration

Migration is, first and foremost, a normal human activity as human beings have always moved from one country, locality and place of residence to settle in another. It is thus conceived of as the process of a person or people travelling to a new place or country, for work, residence, or other reasons. It significantly influences population dynamics.

1.5 Contents of this Monograph

In addition to this introduction chapter, this Volume has five other Chapters. Chapter two is on population size, growth and distribution, analysing situation of current status of population size, growth, distribution and implications on the development aspect. Chapter three is on age and sex structure of the population. It dwells on the trend in age-sex structure

of the population, which is the cumulative result of past trends in fertility, mortality and migration. Chapter four presents population and development, specifically on the impact of population growth on the sectors of agriculture, economy, health, education, as well as urbanization. Finally, chapter five presents summary, conclusion, policy implications and policy recommendations. The chapter presents key findings on population dynamics and selected pertinent aspects, aiming at informing the government and stakeholders on the policy options to realise socio-economic development in the country.

Chapter Two

Population Size, Growth and Distribution

2.1 Overview

Population size, growth, and distribution are key parameters of population change, whereas changes in population size, growth rates, age structures, and spatial distribution are closely linked to national developmental challenges and solutions (Samways, 2022; UNDP, 2019). Studying population dynamics is essential for understanding how populations respond to development. For instance, rapid population growth could magnify development challenges, as a rising population would increases demand for jobs, water, food, energy, clothing, housing, infrastructure, health, and education (Cilliers, 2021). Therefore, policy responses aimed at sustainable development must address challenges associated with this demographic phenomenon. Thus, the chapter presents information of Tanzania's current population size, growth, and distribution.

2.2 Population Size

Population size refers to the total number of individuals living in a specific area at a given time. It is a fundamental demographic metric used to analyze characteristics of a population at the level of a community, city, regional or national. Population size influences socio-economic factors such as labour markets, resource allocation, and public services. It plays a critical role in policymakers to make informed decisions on infrastructure, healthcare, education, and social services delivery. Additionally, it is a critical parameter for nature and scope of ecological interactions, evolutionary processes, and conservation strategies. It helps in understanding how populations adapt to environmental changes.

Population size and growth rate are among key population indicators which reveal annual population increases. The indicators help decision makers to review socioeconomic goals and targets on time, taking into consideration the expected socio-economic pressures resulting from population increase. Population size also plays a critical role in innovation and technological advancement. Larger populations enhance market opportunities, foster collaboration and increase human capital, as well as creating challenges in management and sustainability. Thus, balancing these factors is essential for harnessing full potential of population growth in driving technological advancements.

2.2.1 The National Population

According to the 2022 Population and Housing Census, Tanzania had a total population of 61,741,120 persons, comprising 30,053,130 males and 31,687,990 females. Whereby

59,851,347 persons were residing in Mainland Tanzania (29,137,638 males and 30,713,709 females) and 1,889,773 persons were residing in Tanzania Zanzibar (915,492 males and 974,281 females). The population size has significant implications for not only development but also its survival in a country. For instance, populations are more vulnerable to extinction due to factors like inbreeding and random environmental events (e.g., natural disasters). Limited genetic diversity in small populations can also affect adaptability.

Conversely, larger populations experience challenges such as resource depletion or increased competition among individuals. Therefore, it is necessary to understand these population dynamics for effective conservation efforts and effectiveness in managing species and environments.

Since gaining independence, Tanzania's population has grown substantially, driven by high fertility rates, declining mortality rates, together with significant urbanization trends. These changes present both opportunities and challenges in a country, as it navigates economic development and resource management to cope with increasing population pressures.

2.2.2 Population Size by Regions in Tanzania

The United Republic of Tanzania is composed of Mainland Tanzania (currently with 26 regions) and Tanzania Zanzibar (with five regions). Table 2.1 presents regional population distribution based on 2002, 2012, and 2022 censuses and their respective annual average intercensal population growth rates. It is observed that, in the 2012 and 2022 censuses, Dar es Salaam region had the largest population, growing from 4.4 million in 2012 to 5.4 million in 2022, accounting for 9.7 percent and 8.7 percent of the country’s total population respectively. The region with the smallest population is Kusini Unguja with a population of 195,873, equivalent to 0.3 percent of the country’s total population.

Table 2.1: Population Size and Percentage Change by Regions; 2002 – 2022 PHCs

Place of Residence	Population				
	2002 Census	2012 Census	Percentage Change 2002-2012	2022 Census	Percentage Change 2012-2022
Tanzania	**34,446,603**	**44,928,923**	**30.4**	**61,741,120**	**37.4**
Mainland Tanzania	33,461,849	43,625,354	30.4	59,851,347	37.2
Tanzania Zanzibar	981,754	1,303,569	32.8	1,889,773	45.0
Dodoma	1,692,025	2,083,588	23.1	3,085,625	48.1
Arusha	1,288,088	1,694,310	31.5	2,356,255	39.1
Kilimanjaro	1,376,702	1,640,087	19.1	1,861,934	13.5
Tanga	1,636,280	2,045,205	25.0	2,615,597	27.9
Morogoro	1,753,362	2,218,492	26.5	3,197,104	44.1
Pwani	885,017	1,098,668	24.1	2,024,947	84.3
Dar es Salaam	2,487,288	4,364,541	75.5	5,383,728	23.4
Lindi	787,624	864,652	9.8	1,194,028	38.1
Mtwara	1,124,481	1,270,854	13.0	1,634,947	28.6
Ruvuma	1,113,715	1,376,891	23.6	1,848,794	34.3
Iringa	1,490,892	941,238	-36.9	1,192,728	26.7
Mbeya	2,063,328	1,708,548	-17.2	2,343,754	37.2
Singida	1,086,748	1,370,637	26.1	2,008,058	46.5
Tabora	1,710,465	2,291,623	34.0	3,391,679	48.0
Rukwa	1,136,354	1,004,539	-11.6	1,540,519	53.4
Kigoma	1,674,047	2,127,930	27.1	2,470,967	16.1
Shinyanga	2,796,630	1,534,808	-45.1	2,241,299	46.0
Kagera	2,028,157	2,458,023	21.2	2,989,299	21.6
Mwanza	2,929,644	2,772,509	-5.4	3,699,872	33.4
Mara	1,363,397	1,743,830	27.9	2,372,015	36.0
Manyara	1,037,665	1,425,131	37.3	1,892,502	32.8
Njombe	-	702,097	NA	889,946	26.8
Katavi	-	564,604	NA	1,152,958	104.2
Simiyu	-	1,584,157	NA	2,140,497	35.1
Geita	-	1,739,530	NA	2,977,608	71.2
Songwe	-	998,862	NA	1,344,687	34.6
Mjini Magharibi	390,074	593,678	52.2	893,169	50.4
Kaskazini Pemba	185,326	211,732	14.2	272,091	28.5
Kusini Pemba	175,471	195,116	11.2	271,350	39.1
Kaskazini Unguja	136,639	187,455	37.2	257,290	37.3
Kusini Unguja	94,244	115,588	22.6	195,873	69.5

***Note**: -Did not exist*

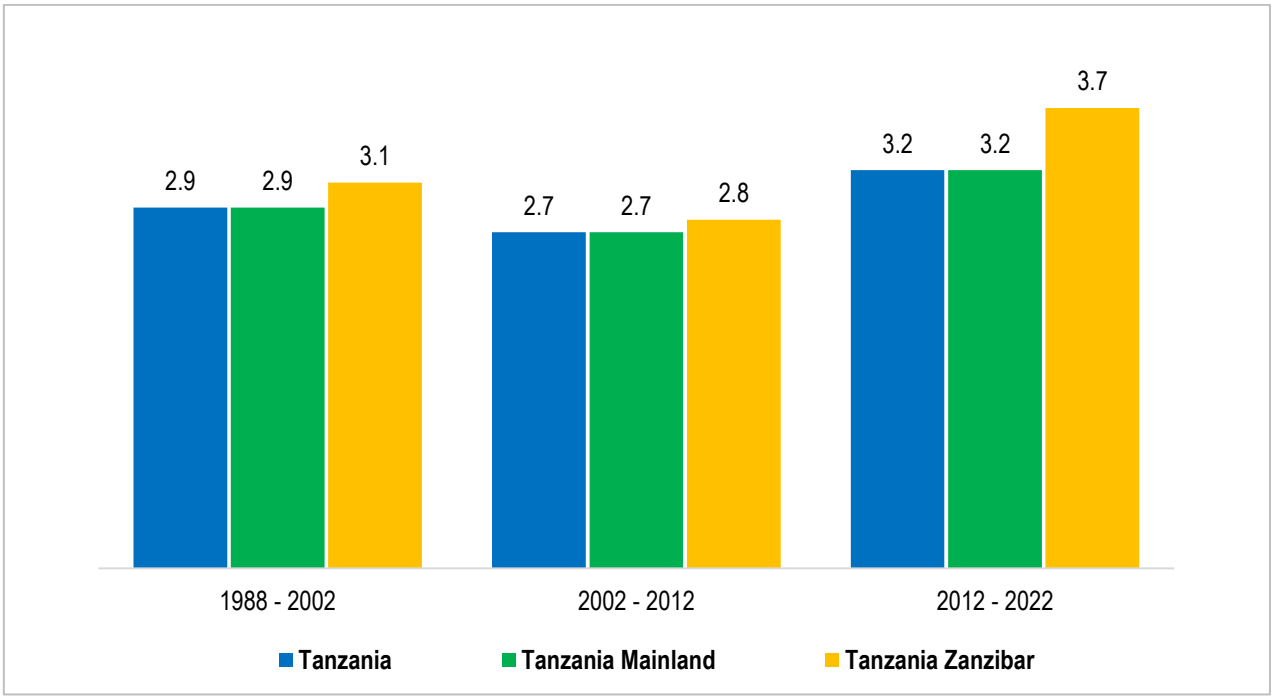
2.3 Population Growth

Rapid population growth can strain resources, infrastructure and the environment, while slower or negative growth may lead to demographic imbalances, labour shortages and

economic concerns. Managing population growth effectively is crucial for sustainable development to ensure balanced resource distribution and economic stability.

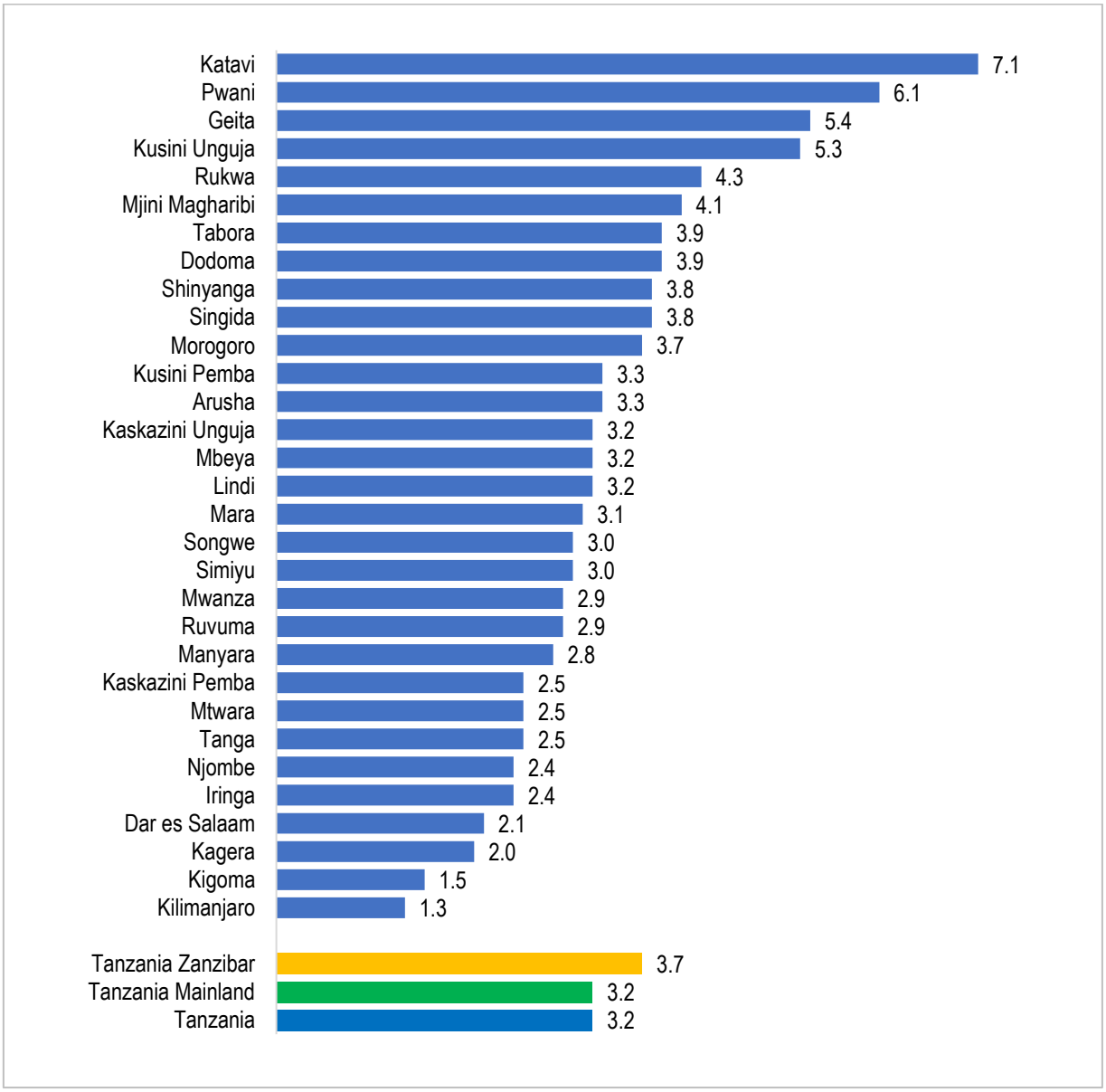
During the 2012-2022 intercensal period, Tanzania's population grew at an annual average growth rate of 3.2 percent. Tanzania Zanzibar recorded the highest annual average growth rate of 3.7 percent in the same period, whereas Mainland Tanzania experienced a 2.7 percent growth rate during the 2002 – 2012 intercensal period (Figure 2.1).

Figure 2.1: Trends in the Average Annual Growth Rates, Tanzania, 1988 – 2022 PHCs



Across Tanzania's Mainland regions, the average annual population growth rate in the recent intercensal period ranged from 1.3 percent in Kilimanjaro to 7.1 percent in Katavi (Figure 2.2). In Tanzania Zanzibar, Kaskazini Unguja recorded the lowest average annual growth rate of 3.2 percent, while Kusini Unguja had the highest, at 5.3 percent. This trend indicates that population growth rate in Tanzania Zanzibar exceeds that of Mainland Tanzania. Furthermore, the data reveals that 13 regions in the country had an average annual growth rate above the national level of 3.2 percent, while 15 regions recorded rates below the national average level.

Figure 2.2: Average Annual Growth in Tanzania Rate by Regions 2012 – 2022 PHCs



2.4 Population Distribution

Population distribution refers to the way people are spread across a given area, influenced by factors such as climate, natural resources, economic opportunities, and historical development. Regions with favourable weather conditions and strong economic opportunities, tend to have higher population densities, whereas regions with harsh environments and limited opportunities often experience low population densities. Understanding population distribution is essential for effective planning in infrastructure, resource allocation, and social services delivery, ensuring that communities are supported according to their specific needs.

2.4.1 Rural and Urban Population

The rural population refers to individuals living in non-urban areas, typically characterized by open spaces, agricultural activities, and lower population density. These areas often comprise smaller communities where livelihoods depend on agriculture or natural resources. Conversely, the urban population comprises individuals residing in cities and towns, where population density is high, economies are diverse, and services and amenities are widely available. Urban areas offer better education and job opportunities, and better social services making them attractive destinations for migrants for rural to urban migration. Understanding the differences between rural and urban populations is essential for effective policy-making, resource allocation, and managing challenges associated with rapid urbanization.

Table 2.2 shows the steady increase in Tanzania's urban population across census years. The urban population has risen from 5.7 percent in 1967 to 34.4 percent in 2022, though the majority of the country's population remains rural. The high rate of urbanization presents challenges for infrastructure and services provision, requiring the government to plan accordingly.

Table 2.2: Percentage Distribution of Tanzania Population by Place of Residence; 1967 – 2022 PHCs

Census Year	Rural			Urban		
	Tanzania	Tanzania Mainland	Tanzania Zanzibar	Tanzania	Tanzania Mainland	Tanzania Zanzibar
1967	93.6	94.3	71.4	6.4	5.7	28.6
1978	86.2	86.7	67.4	13.8	13.3	32.6
1988	81.6	82.0	68.2	18.4	18.0	31.8
2002	76.9	77.4	60.4	23.1	22.6	39.6
2012	70.4	70.9	53.7	29.6	29.1	46.3
2022	65.1	65.6	51.0	34.9	34.4	49.0

Moreover, the rapid urbanization in Tanzania is reshaping social interactions, economic activities, and environmental conditions in cities and towns (Gwaleba, 2018). Addressing the complex issues, urban planning and management practices continue to evolve to address direct and indirect urban growth impacts, aiming for socially responsible, economically sound and environmentally friendly development in the long run.

2.4.2 The Most Populous Regions in Tanzania

Tanzania's population distribution across its administrative regions is influenced by geographic features, economic activities, and historical development. In the 1988 and 2002 Population Housing Censuses, Mwanza, Shinyanga, Mbeya, Dar es Salaam, and Kagera were the most populous regions. Collectively, these regions accounted for over one-third of the total population (Table 2.3). The most populous regions in 2012 PHC were Dar es Salaam, Mwanza, Kagera, Tabora, and Morogoro. However, in the 2022 PHC, Dodoma replaced the Kagera region in the top five. Dodoma, as the capital city, experienced a significant population increase due to the relocation of the government functions and services from Dar es Salaam during the fifth Government Regime.

On the other hand, Arusha, Kigoma, Kilimanjaro, Ruvuma, and Manyara have considerably large populations, driven by tourism, agriculture, trade, and favourable climatic conditions. Katavi, Rukwa, Lindi, and Mtwara located in southern and southwestern of the country, are less populated compared to the northern and central regions. These regions often face geographic isolation and limited access to major urban centers, making them less favourable for migration and human settlements.

Table 2.3: Five Most Populous Regions in Tanzania 1988 – 2022 PHC

1988 Population Census			2002 Population Census			2012 Population Census			2022 Population Census		
Population	Region	Rank	Population	Region	Rank	Population	Region	Rank	Population	Region	Rank
1,876,635	Mwanza	1	2,929,644	Mwanza	1	4,364,541	Dar es Salaam	1	5,383,728	Dar es Salaam	1
1,763,800	Shinyanga	2	2,796,630	Shinyanga	2	2,772,509	Mwanza	2	3,699,872	Mwanza	2
1,476,278	Mbeya	3	2,487,288	Dar es Salaam	3	2,458,023	Kagera	3	3,391,679	Tabora	3
1,360,865	Dar es Salaam	4	2,063,328	Mbeya	4	2,291,623	Tabora	4	3,197,104	Morogoro	4
1,313,594	Kagera	5	2,028,157	Kagera	5	2,218,492	Morogoro	5	3,085,625	Dodoma	5
Percentage of the Total Population 34.7			Percentage of the Total Population 36.8			Percentage of the Total Population 32.3			Percentage of the Total Population 31.3		

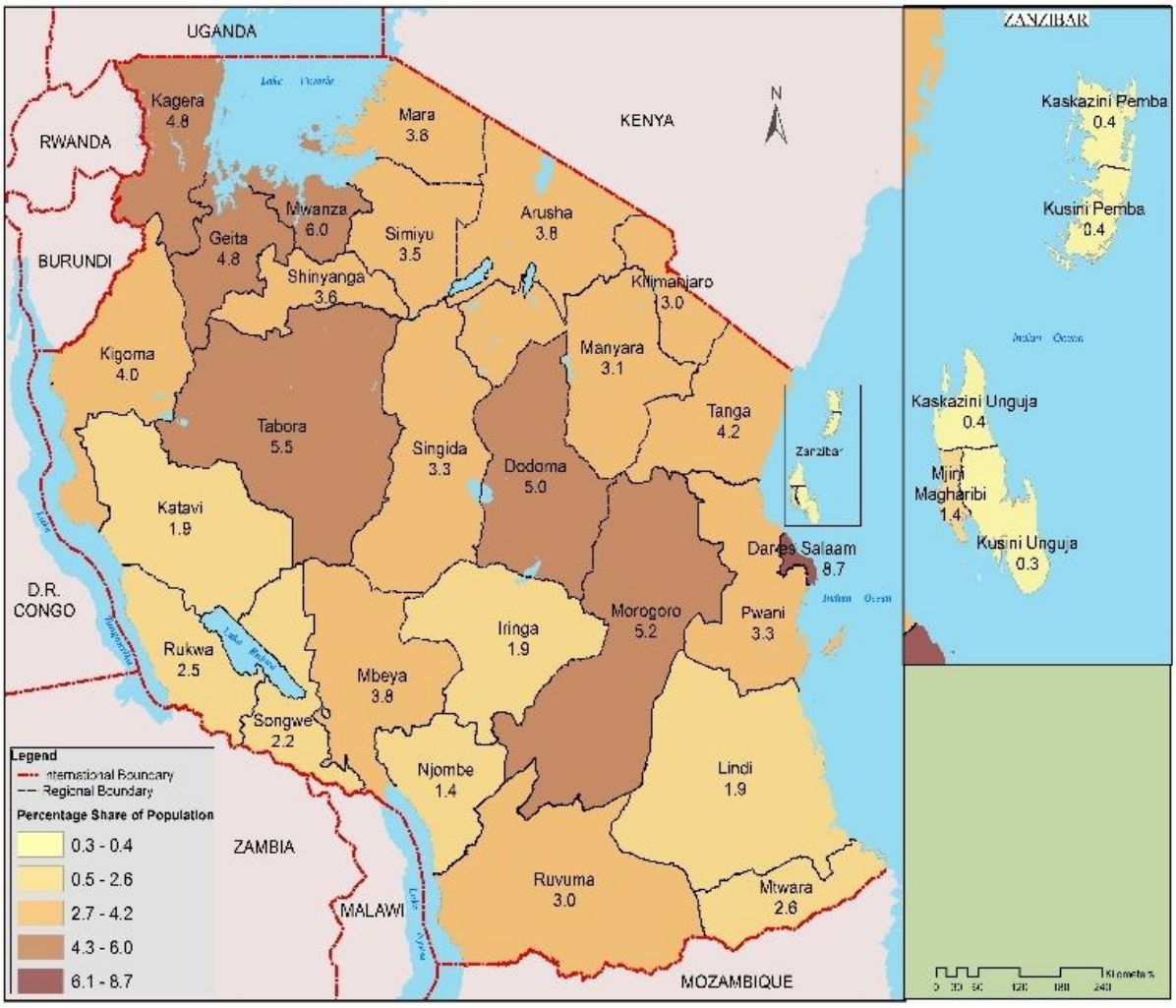
2.4.3 Population Share by Regions

Population share refers to the proportion of a specific group's population relative to the total population of a larger area, such as a city, region, or country. It differs from population distribution, which describes how individuals are spread across a given area. While population share informs about the relative size of populations across different regions, population distribution explains how people occupy space. Therefore, population share can be used to compare various demographic segments, such as age groups, ethnicities, or economic classes to understand their representation within an overall population. Analyzing population share is important for resource allocation, social policies, and economic planning, as it helps to identify disparities, and trends in different groups.

Tanzania's population share by region varies significantly, reflecting differences in population density, economic activities, and geographic features. The country is divided into 31 administrative regions, each with its unique population size and characteristics. The key points on population distribution across regions are:

i. Dar es Salaam: is the largest city and economic hub, characterized by high population density and significant share of the national population.
ii. Dodoma: is the government administrative capital with a fast population growth due to the expansion of government functions and development projects.
iii. Mbeya and Mwanza: Are among the most populous regions in the southern and northern parts of Tanzania with thriving agricultural and trade activities.
iv. Arusha: Has a growing population influenced by both local and international migration, due to popular tourism industry and proximity to national parks.
v. Rukwa and Katavi: Are less densely populated but rich in natural resources.

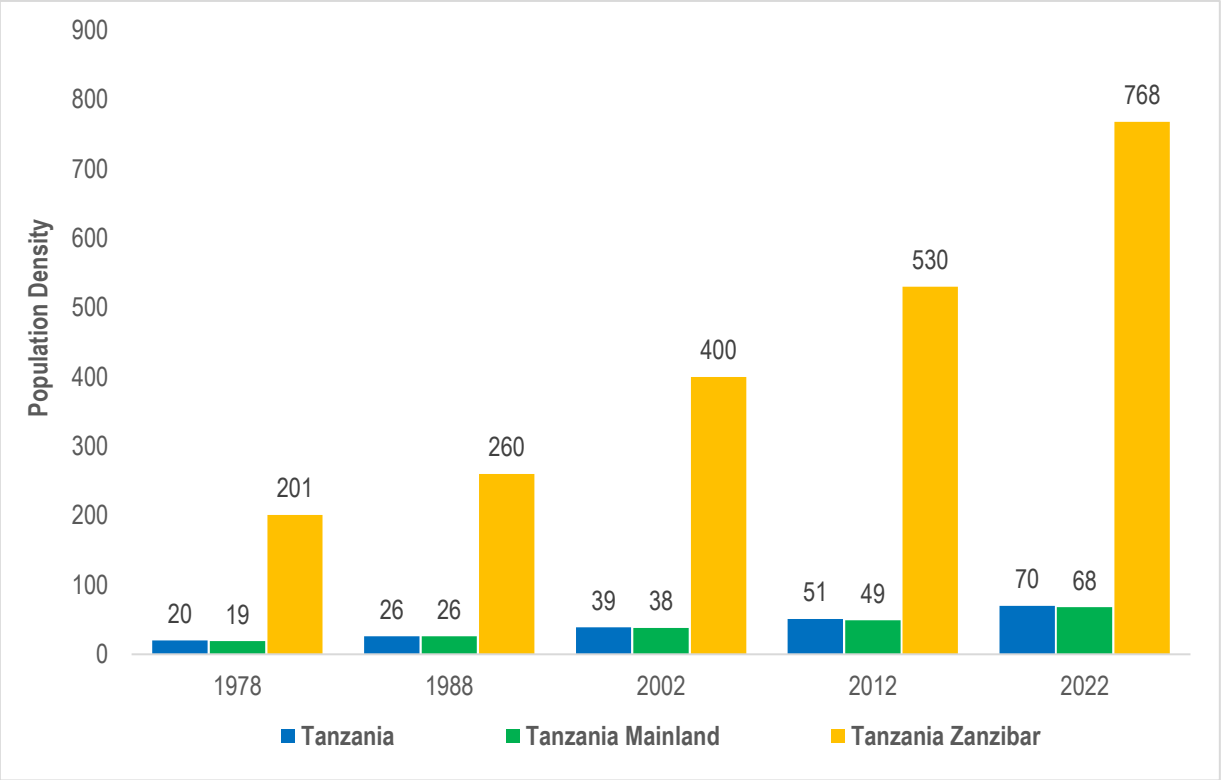
Map 2.1: Tanzania Population Share by Regions; 2022 PHC



2.4.4 Population Density

Population density refers to the number of individuals residing in a specific area, usually expressed as persons per square kilometer or square mile. It shows how crowded or sparsely populated different regions are, and variations across locations. Since independence in 1961, Tanzania has experienced significant changes in population density, driven by rapid population growth and urbanization. The first post-independence census in 1967 recorded a population density of about 13 people per square kilometer with a total population of 12.3 million. Population density in 1978 PHC increased to 20 people per square kilometer when the total population grew to 17.5 million. The density in 1988 PHC increased to reach 26 people per square kilometer with a total population of 23.1 million. The country's population density in 2002 and 2012 PHCs rose to 39 and 51 people per square kilometer respectively and the total population for the two PHCs were 34.4 and 44.9 million persons respectively. The density further increased to 70 people per square kilometer with a total population of 61.7 million persons in 2022 PHC (Figure 2.3).

Figure 2.3: Trend of Population Density in Tanzania from 1967 – 2022 PHCs



The increasing trend in population density in Tanzania could be attributed to natural population growth and migration patterns. In particular, rural-urban migration has significantly contributed to increased population density in Dar es Salaam, Mwanza, Dodoma, Arusha, and Mbeya. Additionally, Figure 2.3 shows that population density in Tanzania Zanzibar is notably higher than in Mainland Tanzania. This indicating that Tanzania Zanzibar is much more densely populated compared to the rest of the country.

Chapter Three

Age-Sex Structure of the Population

3.1 Introduction

This chapter presents trends in the age and sex composition of Tanzania's population, using population pyramids. The analysis is based on five-year age groups and the broad age group categories from the 1988 to 2022 PHCs. The age-sex structure of a population is the cumulative result of past trends in fertility, mortality and migration, all of which shape population pyramids in a given country. Examining the age and sex structure trends has the potential of informing about the history of population and its future outlook (Mturi, 2004). Furthermore, changes in age and sex composition over the course of demographic transition produce fundamental implications for the society as a whole.

The broad age distribution trends for male and female populations, provide information on how different groups of the population, notable young population, working-age population and elderly population have changed over time. The Tanzania PHC data from 1988, 2002, 2012 and 2022 have been used to construct population pyramids and broad age graphs.

3.2 Trend of Population Pyramids

The age and sex structure of a population is a fundamental determinant of number of demographic occurrences. Horiuchi and Preston (1988) described how demographic processes of fertility, mortality, migration, and current growth rates shape population structure, which in turn influences broader demographic processes. Over the past four decades, the population pyramid of Tanzania showed a common phenomenon of among developing and sub-Sahara African countries. The broad base structure is an indicating high fertility rates and reducing infant and child mortality rates.

3.2.1 Trend of Population Pyramids in Tanzania

Figure 3.1 shows that age and sex structure have remained largely consistent from the 1988 census to the 2022 census. The broad base and growing population show a gradual shrinking pattern over the decades, however, the shift is observed in 2022 census. A notable deficit of males is observed in the 20- 24 and 25 - 29 age categories, from 1988 census to 2022 census.

Further, the pyramids curve inwards and narrow above the base, is representing the facts that the risk of death in a specified age throughout life has been much higher in the past. In general, as age increases, the proportion of the population gradually decreases, resulting in a tapering effect at the top of the pyramid.

Despite improvements in overall life expectancy in Tanzania, the proportion of elderly individuals (65 years and above) remains relatively small across all four decades, likely due to high death rates. Males elders (65 years and above) population is lower than females elders, the larger proportion of females survival rates at every age group may have resulted in having more elderly females than males.

Figure 3.2 shows that, the Mainland Tanzania population pyramid depicts similar pattern to the national-level pyramid. Meanwhile, Tanzania Zanzibar exhibits a similar shape but with distinct trends over time, the base and elderly population age 60 years and above is smaller compared with Tanzania total, while, the proportion of the working age population (except for the 60-64 years) is higher especial for females.

A notable change was observed in 2012 and became more pronounced in 2022. In the past two decades, the increase in the population aged 15-59 years may signify the influence of regional migration to Tanzania Zanzibar for either economic opportunities, employment prospects, cultural factors, or social wellbeing (Figure 3.3).

Figure 3.1: Trend of Tanzania Pyramid 1988 – 2022 PHCs

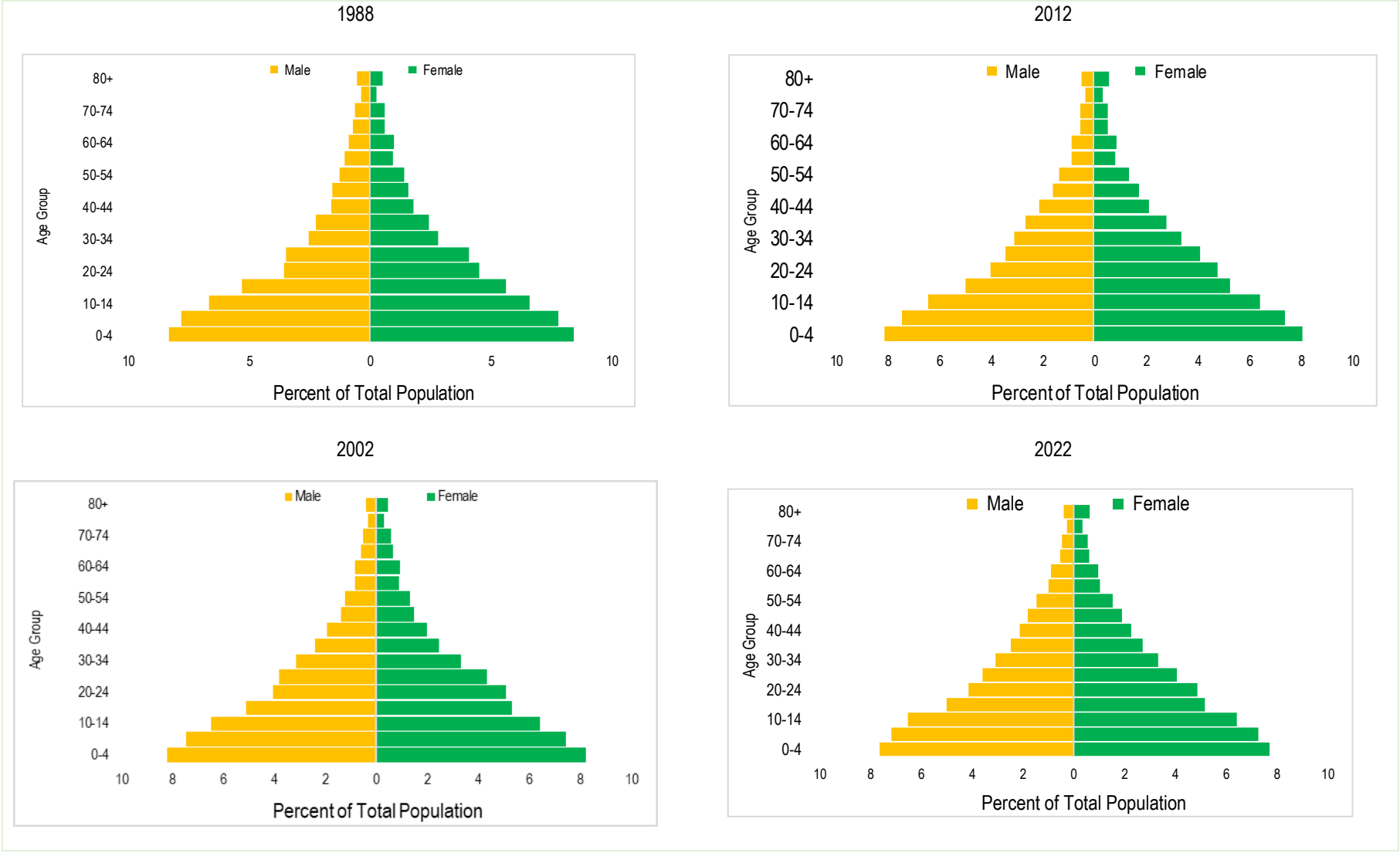


Figure 3.2: Trend of Mainland Tanzania Pyramid 1988 – 2022 PHCs

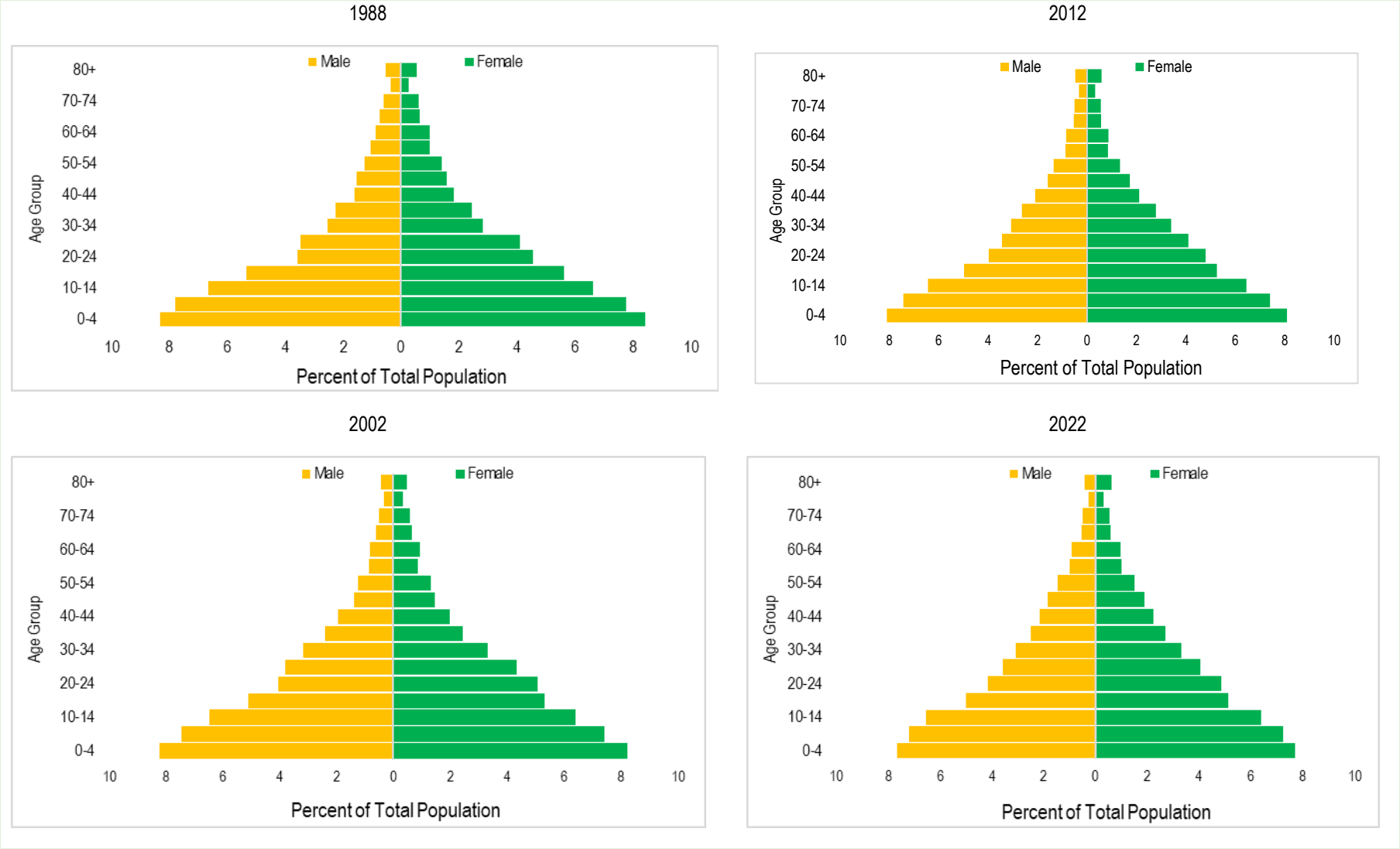
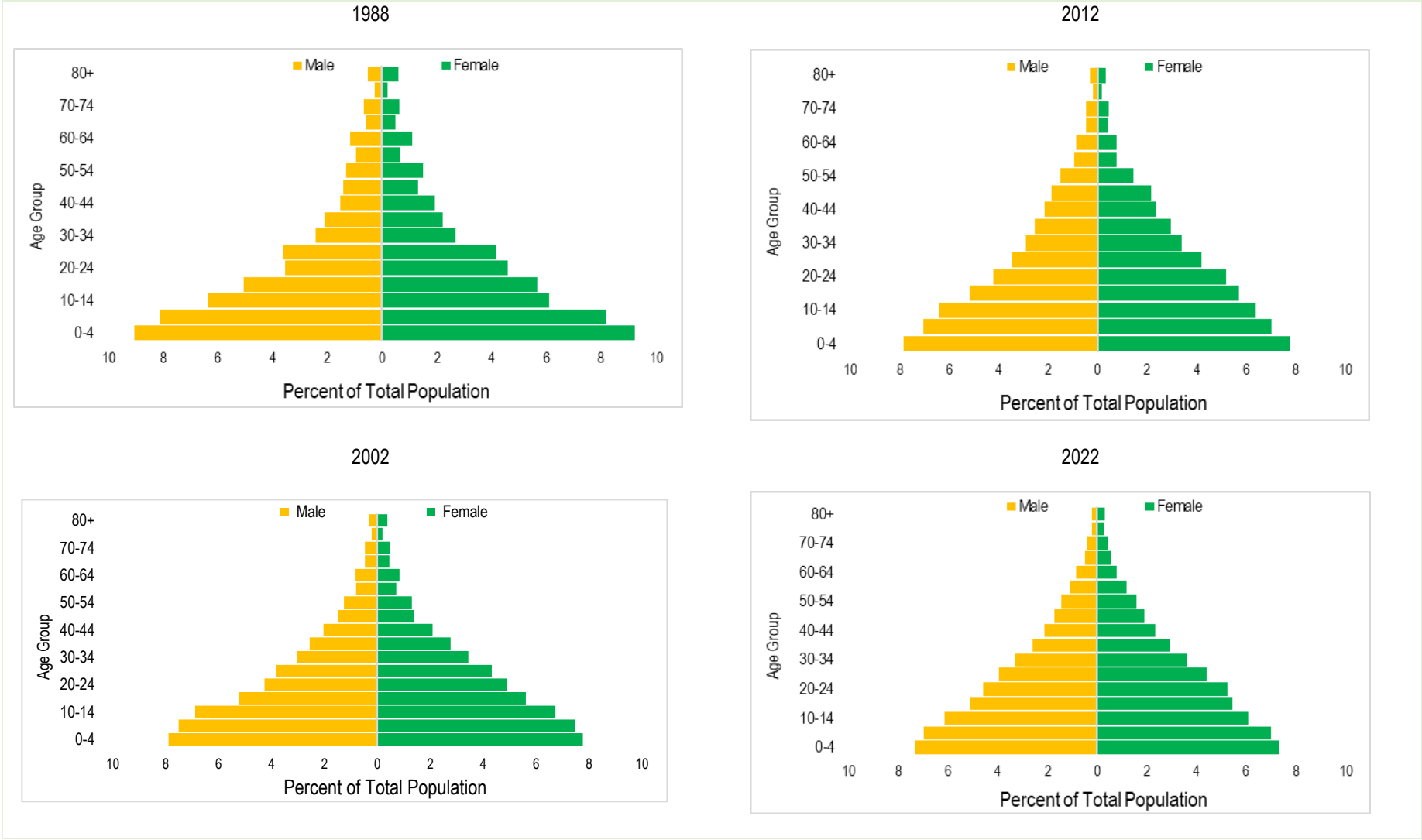


Figure 3.3: Trend of Tanzania Zanzibar Pyramid 1988 – 2022 PHCs



3.2.2 Trend of Population Pyramids by Place of Residence

Over the past three decades, age and sex population composition in Tanzania has varied significantly by area of residence. The population pyramid for rural Tanzania shows a broader base, suggesting that women in rural areas have higher fertility rates than their urban counterparts. This observation is exemplified in the Fertility and Nuptiality Monography (2025), where the TFR of women in rural areas is higher (5.3 children per woman), compared to 3.8 children per woman in urban areas. The rapid inward curving among the 15-49 age group, particularly with deficit of young adult males, signifies the role of rural-urban migration (Figure 3.4). In contrast, for decades, urban Tanzania's population pyramid has less widening at the base over time compared with that of rural areas, and slightly curving outward just above the base. This indicates an increase in the number of children but a declining proportion over time, while the working-age population increases substantially before gradually decreases (Figure 3.5).

The urban areas are also characterized by the bulge in the 20-29 age group, indication of youth in-migration especially in major cities like Dar es Salaam, which accounted for 30 percent of total national in-migration in 2012 (NBS and OCGS, 2015).

In terms of area of residence, the pattern and trend of pyramid for Mainland Tanzania closely resemble those of Tanzania's total population (Figures 3.6 and 3.7). However, there are some noticeable differences for Tanzania Zanzibar pyramid. The base population in rural Tanzania Zanzibar is gradually shrinking between 2002 and 2022, at the same time there is a gain in the population aged 50-64 years and the elderly (65 years and above). This may be caused by various reasons such as improved essential services in rural areas, better infrastructure, shifting of residency at later age, or keeping strong connection with the place of origins (Figure 3.8). On the other hand, the base population in urban Tanzania Zanzibar shrinks faster than rural areas, and there is an increase of population particularly in the 15- 49 age group, and fewer elders compared to Mainland Tanzania's urban population (Figure 3.9).

Figure 3.4: Trend of Tanzania Rural Pyramid 1988 – 2022 PHCs

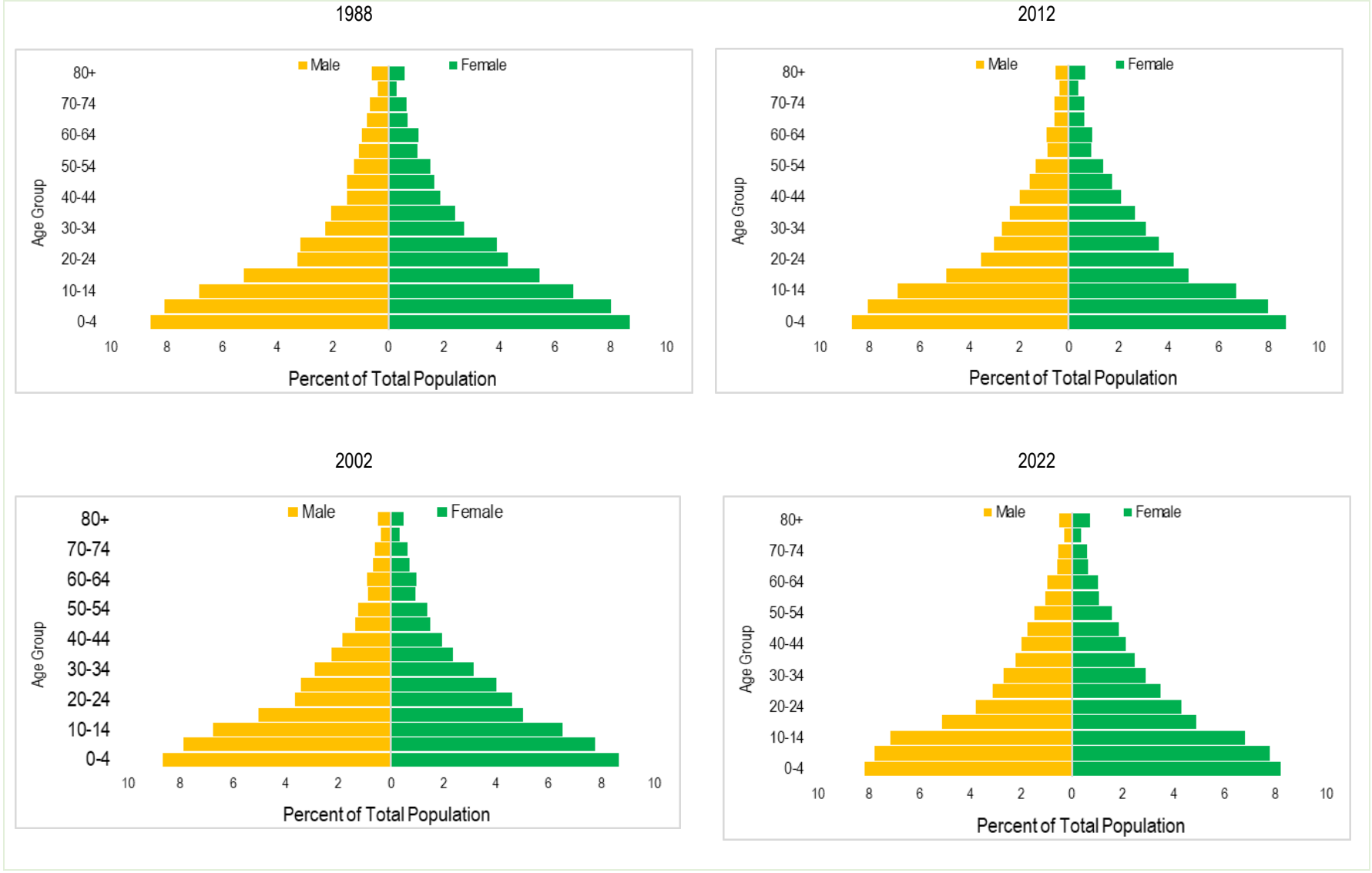


Figure 3.5: Trend of Tanzania Urban Pyramid 1988 – 2022 PHCs

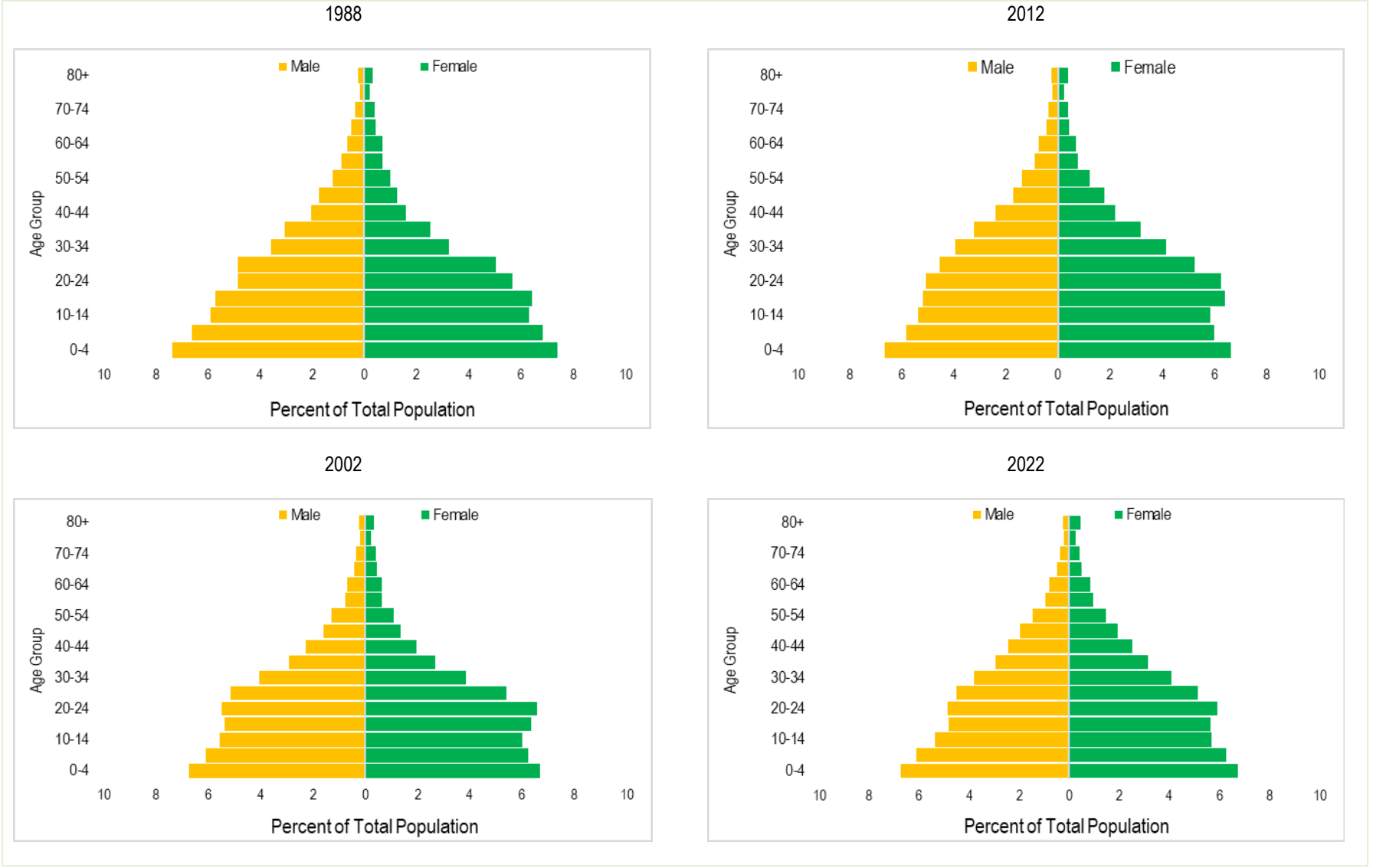


Figure 3.6: Trend of Mainland Tanzania Rural Pyramid 1988 – 2022 PHCs

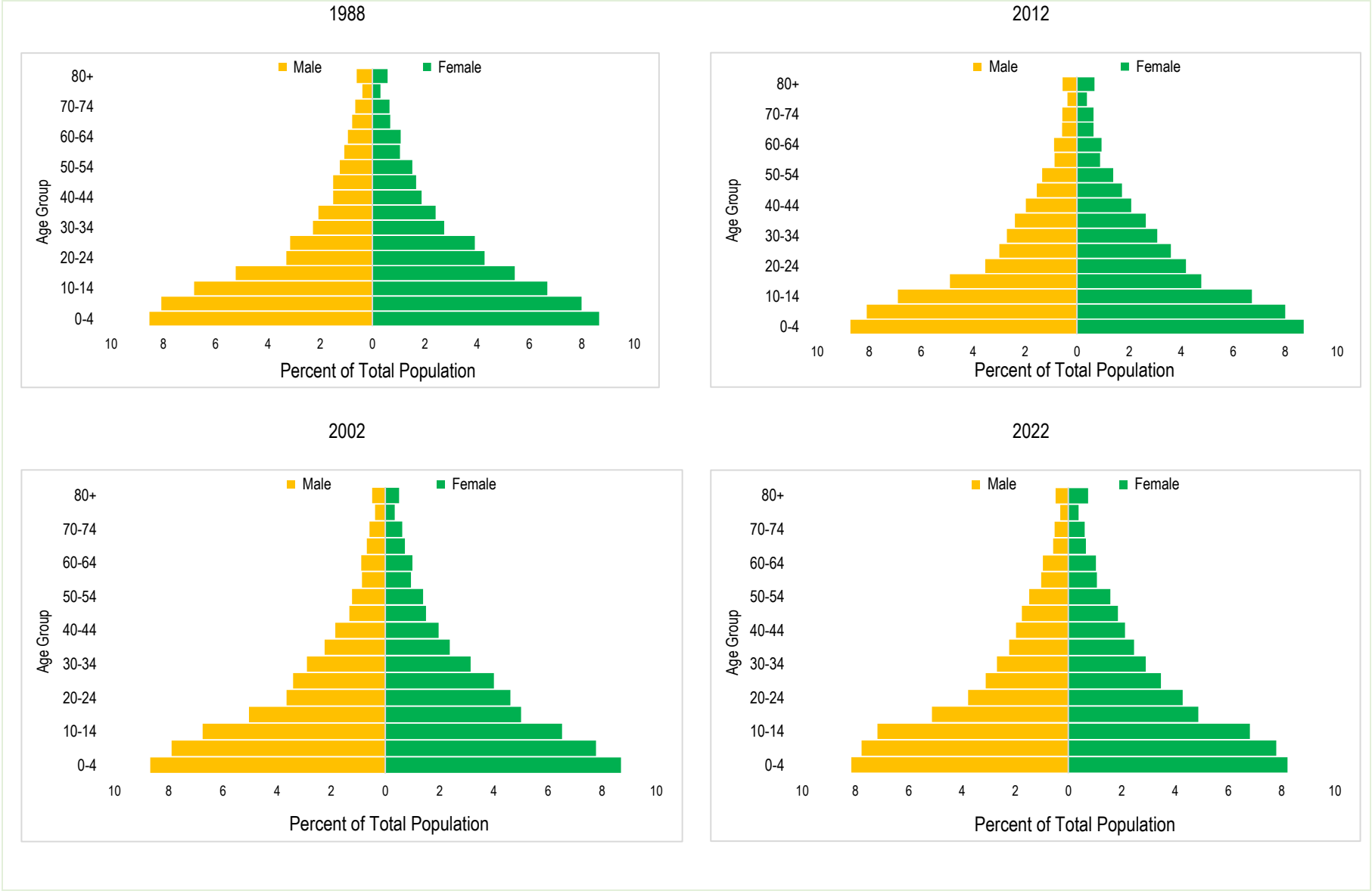


Figure 3.7: Trend of Mainland Tanzania Urban Pyramid 1988 – 2022 PHCs

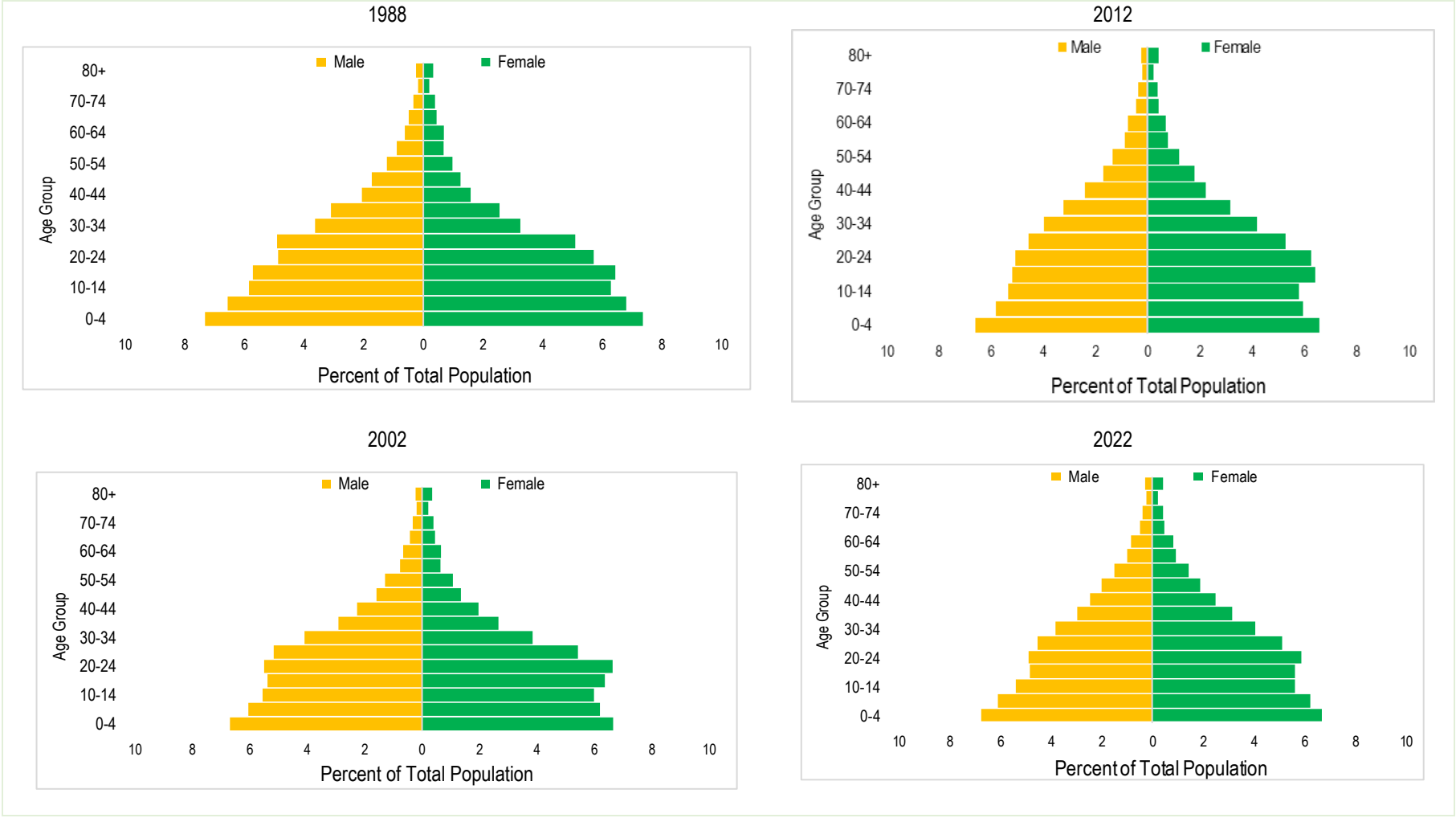


Figure 3.8: Trend of Tanzania Zanzibar Rural Pyramid 1988 – 2022 PHCs

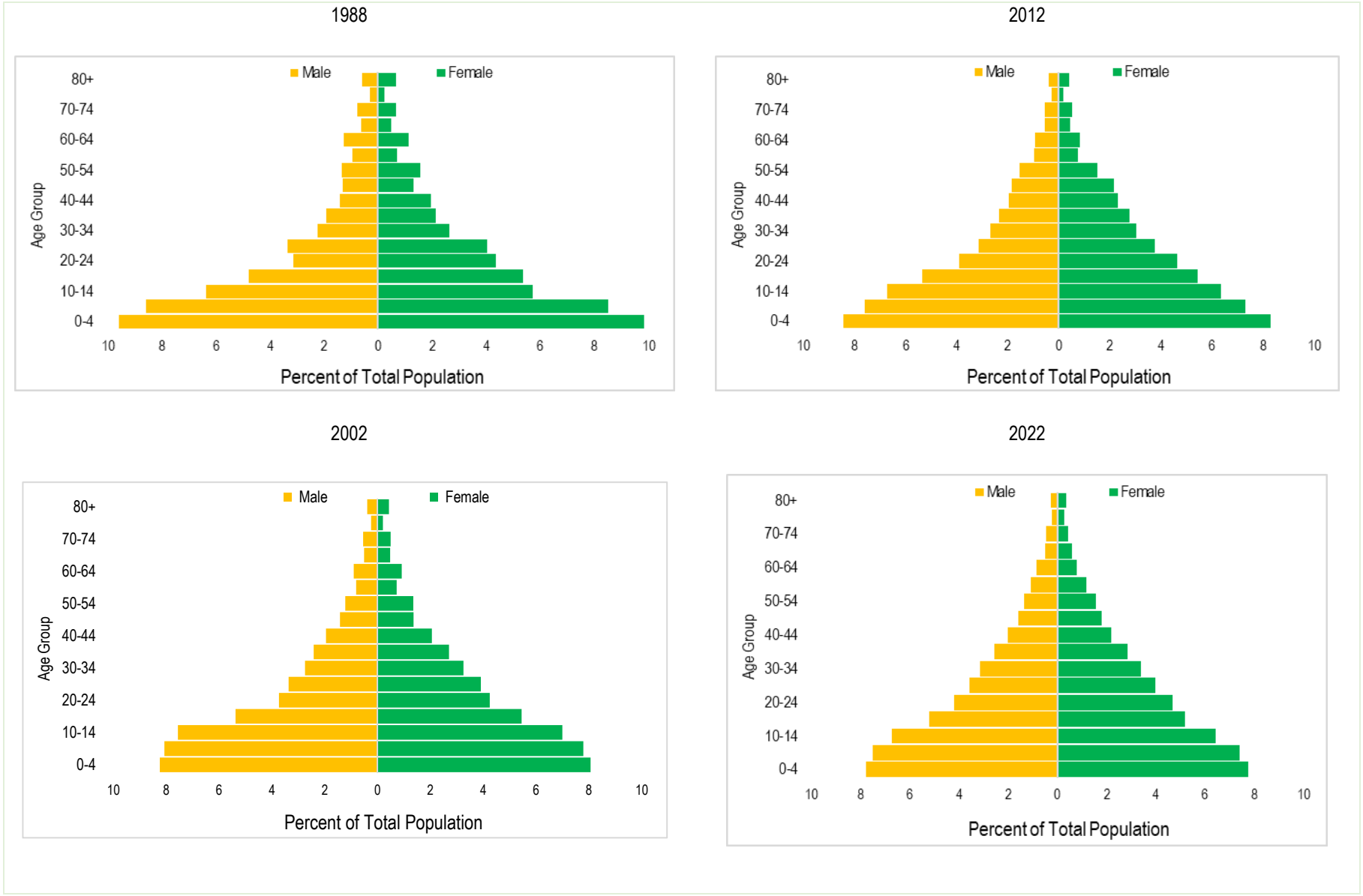
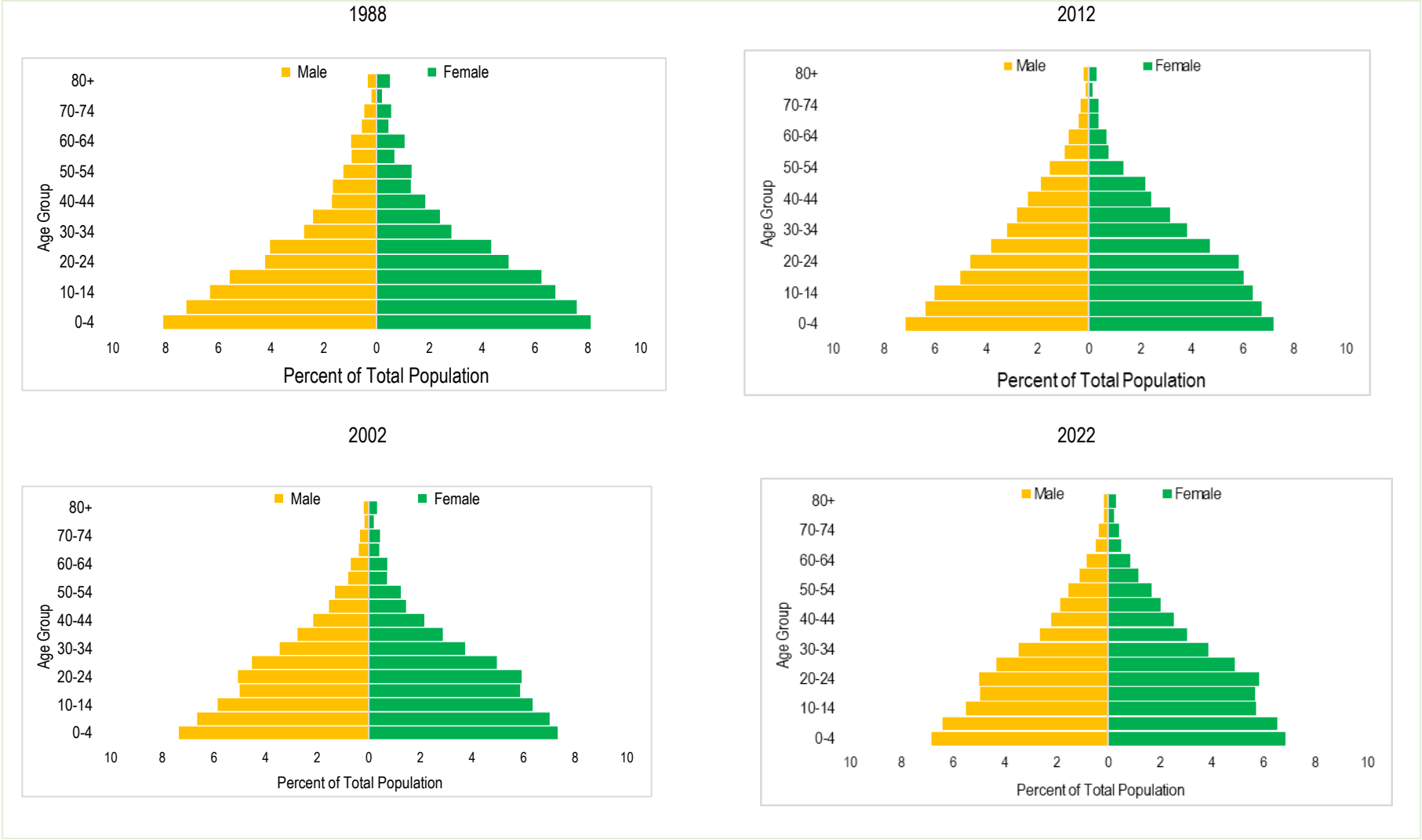


Figure 3.9: Trend of Tanzania Zanzibar Urban Pyramid 1988 – 2022 PHCs



3.3 Trend in Broad Age Groups

Tanzania continue to maintain a youthful population, with 0-14 years age group comprising 42.8 percent of the total population in 2022. However, this has shown a decline trend from 45.8 percent in 1988, the figure still indicates that a significant portion of Tanzania's population is young. The observed decline, could be attributed to a combination of factors, including changes in fertility rates, improvements in healthcare, and socio-economic transitions. This argument is exemplified by the fact that over the past few decades, the country has experienced a slow but steady decline in the total fertility rate. On the other hand, the working age group (15-64 years) has shown an increasing trend, from 49.9 percent in 1988 to 53.4 percent in 2022.

Meanwhile, a slight decrease is observed in the elderly population (65 years and above). In 2022, this age group accounted for approximately 3.8 percent of the total population, marking a decline from 4.3 percent in 1988 (Figure 3.10).

Figure 3.10: Percent Distribution of Population by Broad Age Groups; Tanzania, 1988 – 2022 PHCs

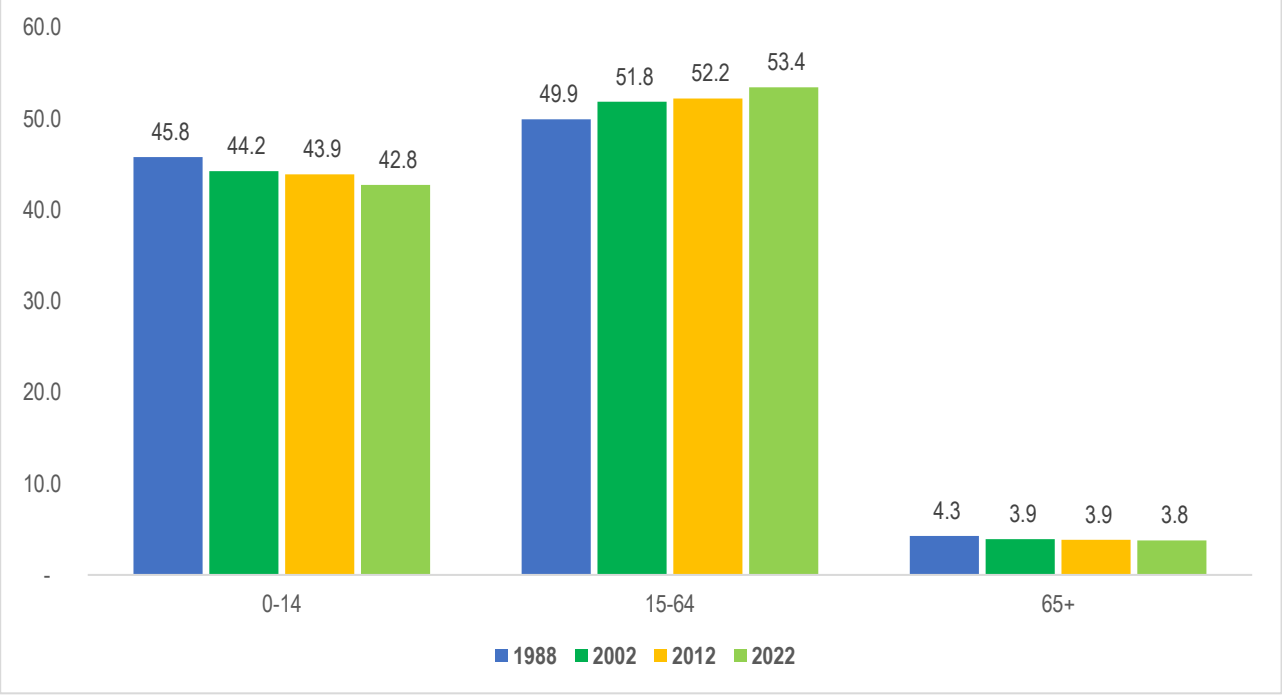
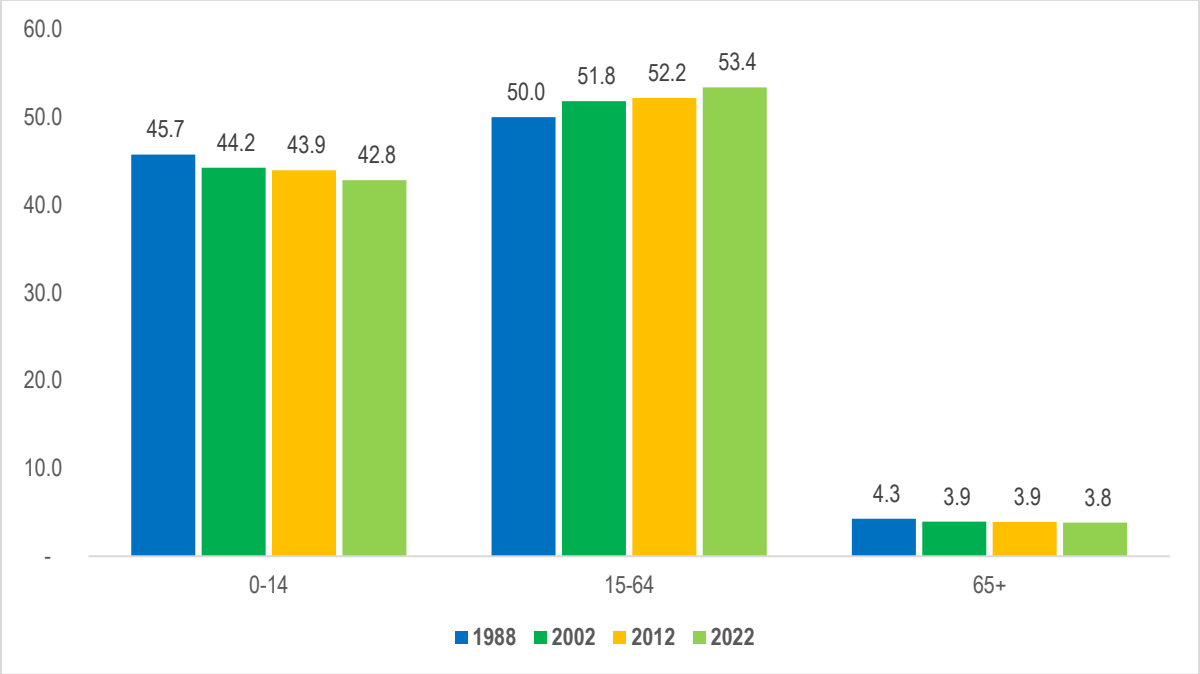


Figure 3.11 reveals that the proportion of persons aged 0-14 years in Mainland Tanzania follows a similar pattern to that of Tanzania's total population. The proportion has been decreasing by nearly one percentage point after every 10 years between 1988 and 2022.

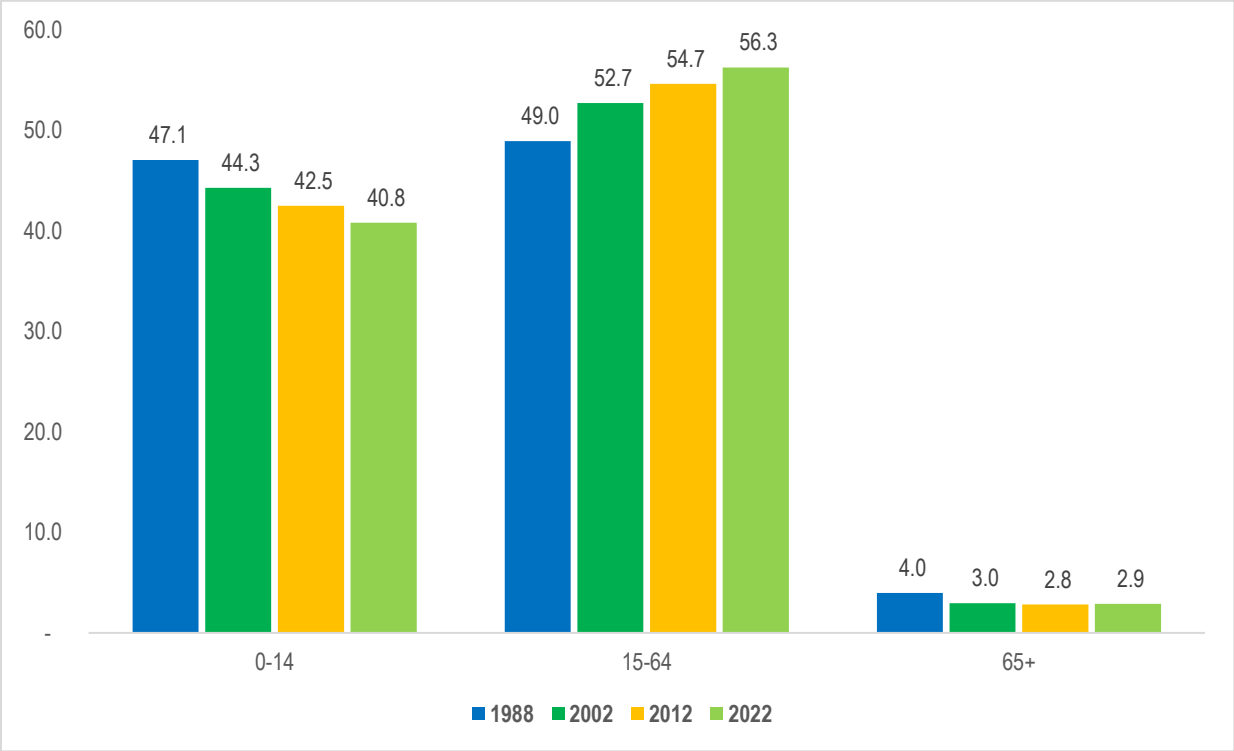
Meanwhile, the proportion of the working-age population (15-64 years) has steadily increased, about the same percentage point as that of Tanzania.

Figure 3.11: Percentage of Population by Broad Age Groups; Mainland Tanzania, 1988 – 2022 PHCs



The proportion of the population aged 0-14 years in Tanzania Zanzibar follows a similar pattern to that of Tanzania's total population. While the working-age population (15-64 years) has been increasing at a similar rate to that of Tanzania, its growth rate every ten years is more than double that of Mainland Tanzania. The elderly population (65 years and above) in Tanzania Zanzibar has shown a declining trend for decades. However, its proportion is consistently lower compared with Mainland Tanzania (Figure 3.12).

Figure 3.12: Percentage of Population by Broad Age Groups; Tanzania Zanzibar, 1988 – 2022 PHCs



3.3.1 Changes in Broad Age Groups by Sex

Figure 3.13 and Figure 3.14 reveal that male population has a similar pattern as that of Tanzania over the four decades. For the female population, a similar pattern is observed for the age groups 0-14 and 15-64. However, for female elderly (65+ years), the pattern fluctuations occurred for two decades, followed by a slight increase for the last decade. With respect to the levels, a noticeable difference is observed among young males (0-14 years), where the proportions is higher than that of females. Conversely, the working-age population (15-64 years), the proportion of females is higher than that of males. For both young and working-age groups, the gap is around 2 percentage points. This observation suggests that females have consistently outnumbered males in Tanzania's population over the decades. Furthermore, for elderly population (65 years and above), the proportion of males is higher than females in 1988, while the proportion is higher among females than males in 2012 and 2022. Across all decades, the gender gap for elders (65 years and above) has remained narrow. The gap tends to be larger at younger ages and decreases with increasing age. However, with improvements in maternal and infant mortality, the gender gap increases in favour of females than males (Newman and Branch, 2001).

Figure 3.13: Percentage Distribution of Male Population by Broad Age Groups in Tanzania (1988 – 2022)

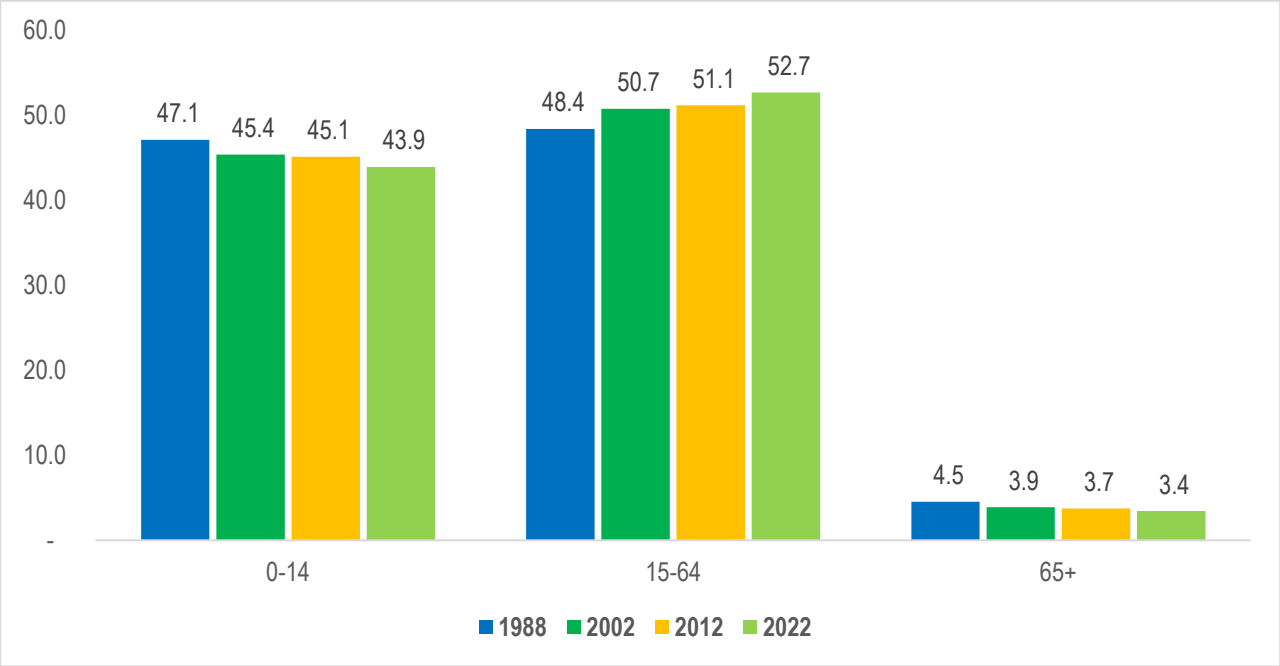
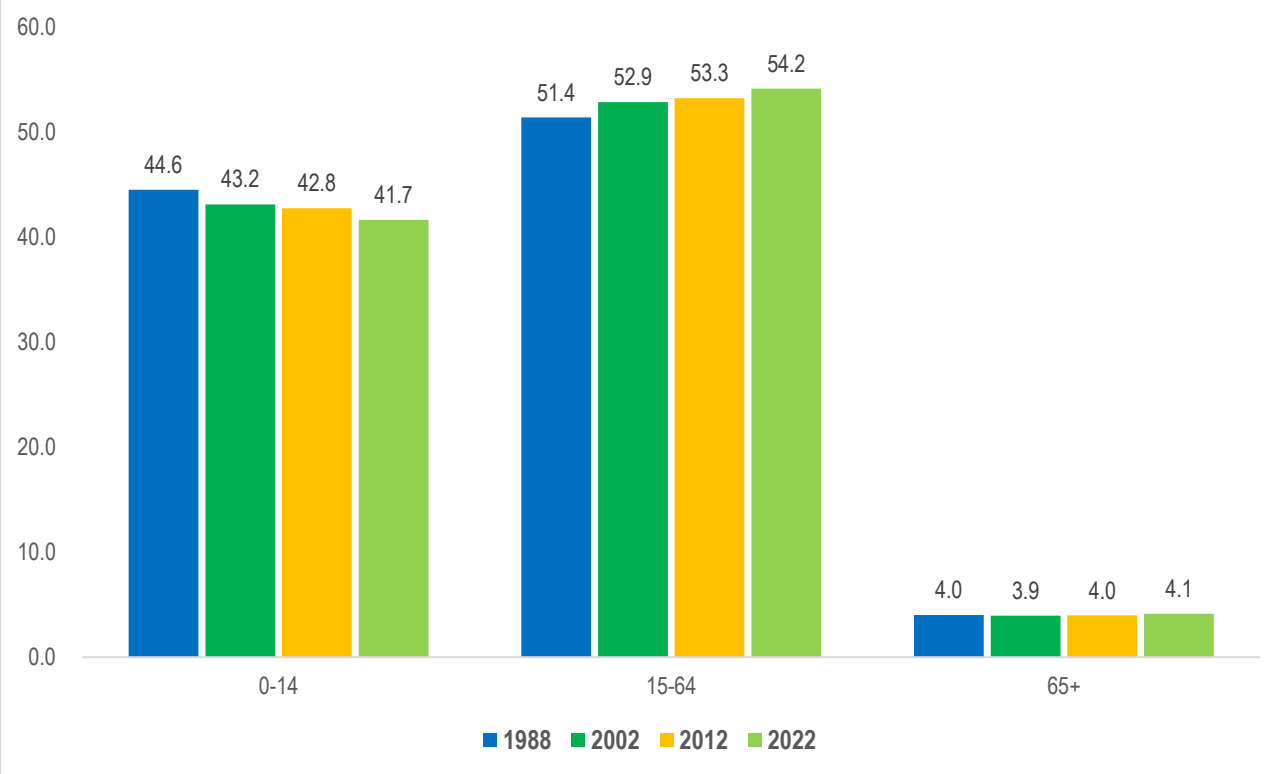


Figure 3.14: Percentage Distribution of Female Population by Broad Age Groups in Tanzania (1988 – 2022)



3.3.2 Changes in Broad Age Groups by Place of Residence

Results show that, the proportion of young population (0-14 years) is higher in rural areas than in urban areas across Tanzania. Over the past four decades, both areas show a slight decreasing trend in this age group. The proportion of young people in Tanzania rural areas decreased from 47.0 percent in 1988 to 45.9 percent in 2022, while in urban area the proportion decreased from 40.2 percent in 1988 to 36.9 percent in 2022.

The proportion of working-age population in Tanzania rural areas is less than half of the total population over all four decades. In urban areas, it is more than 50 percent over the same period. In both rural and urban areas there is an increasing trend. The figures further reveal that the percentage of the elderly people (65 years and above) is higher in Tanzania rural areas than in urban areas. The trend has been fluctuating over the four decades in Tanzania rural areas, while in Tanzania urban areas, there has been a gradual increase over four decades (Figure 3.15).

Figures 3.16 and 3.17 show trends by area of residence for the young population. A higher proportion of young people in rural areas compared to urban areas is observed for Tanzania, Mainland Tanzania and Tanzania Zanzibar. A similar pattern of higher percent of working-age population (15-64 years) is observed for Tanzania, Mainland Tanzania and Tanzania Zanzibar. A percentage of the elderly population is more in urban areas than rural areas across Tanzania, Mainland Tanzania and Tanzania Zanzibar.

Figure 3.15: Percentage of Population by Broad Age Groups and Place of Residence; Tanzania, 1988 – 2022 PHCs

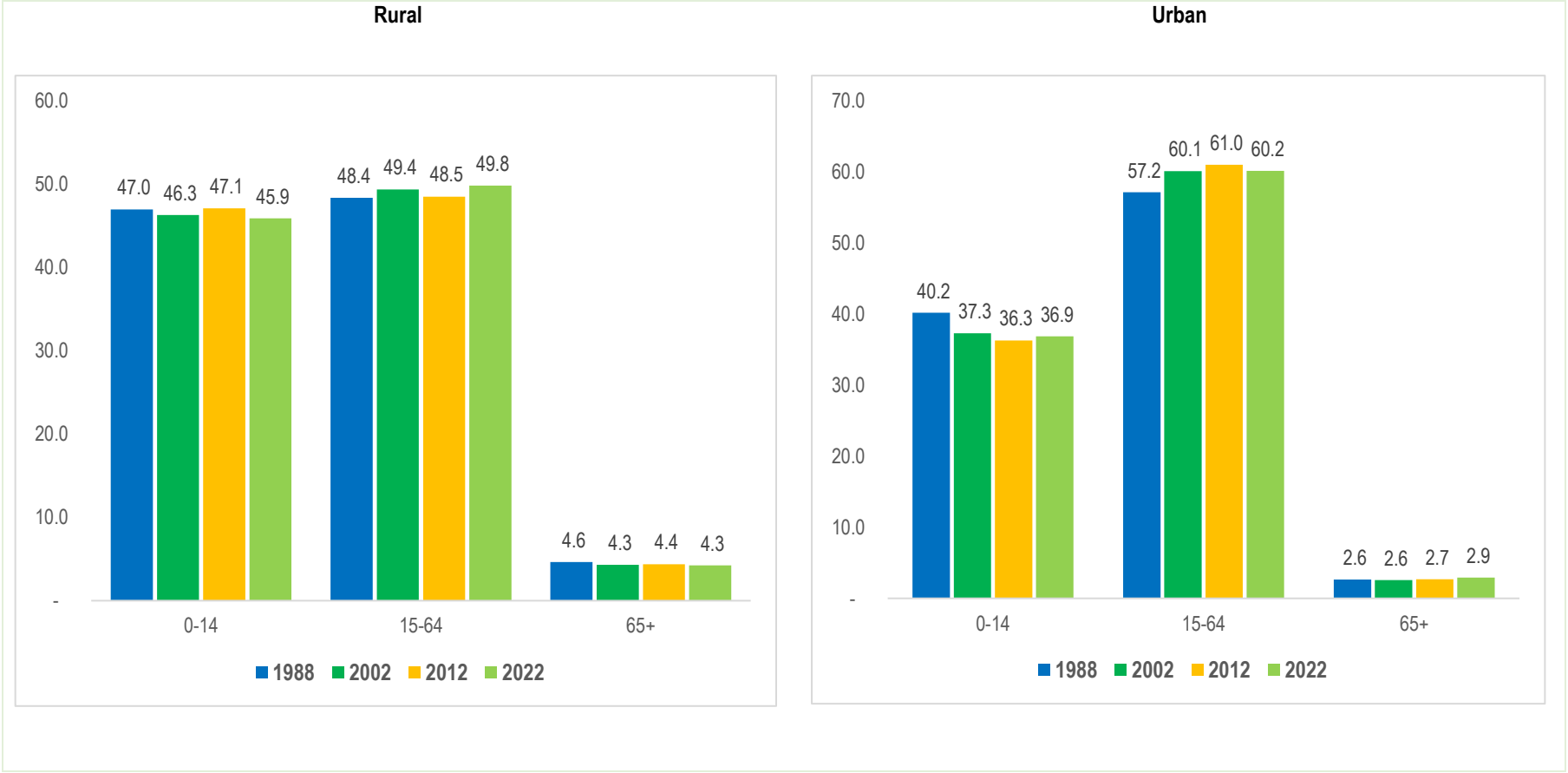


Figure 3.16: Percentage of Population by Broad Age Groups and Place of Residence; Mainland Tanzania, 1988 – 2022 PHCs

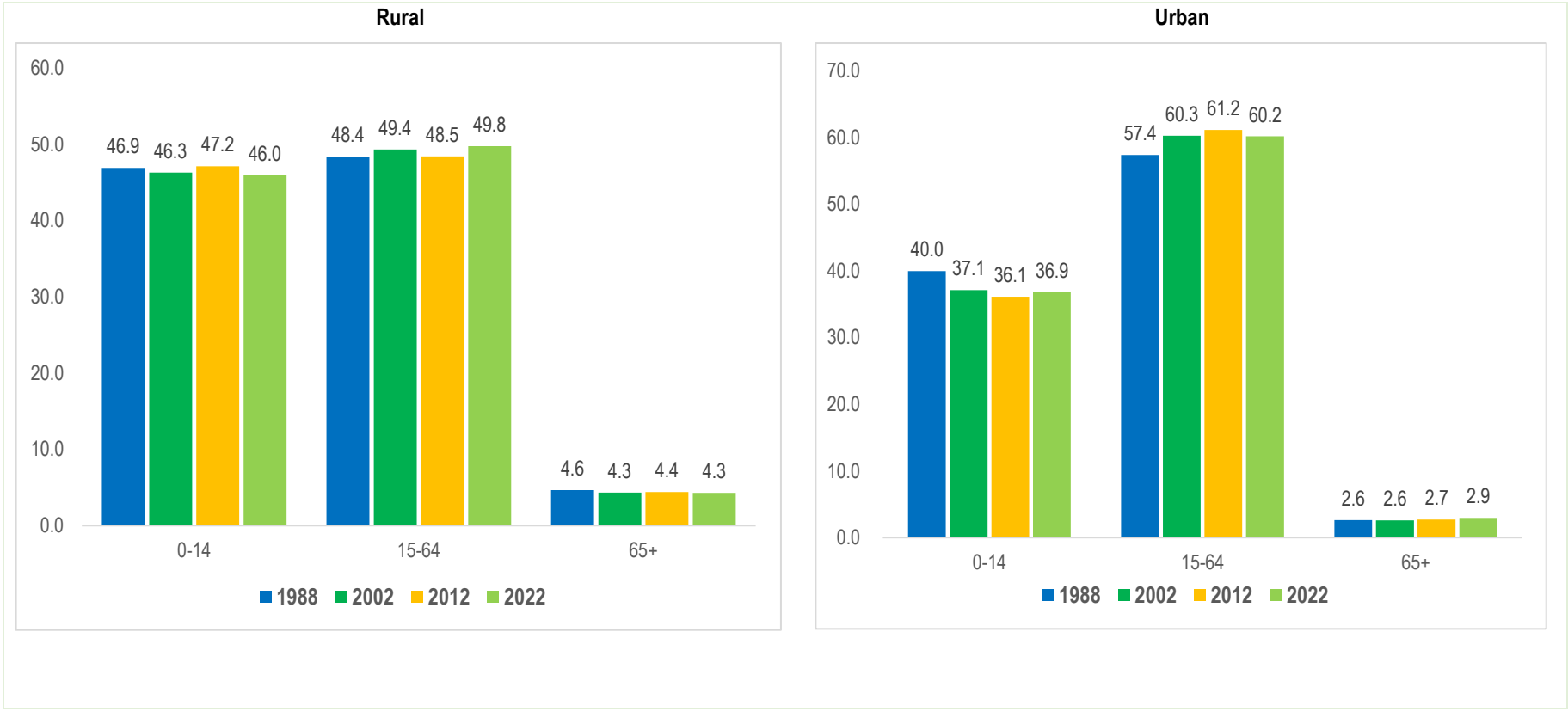
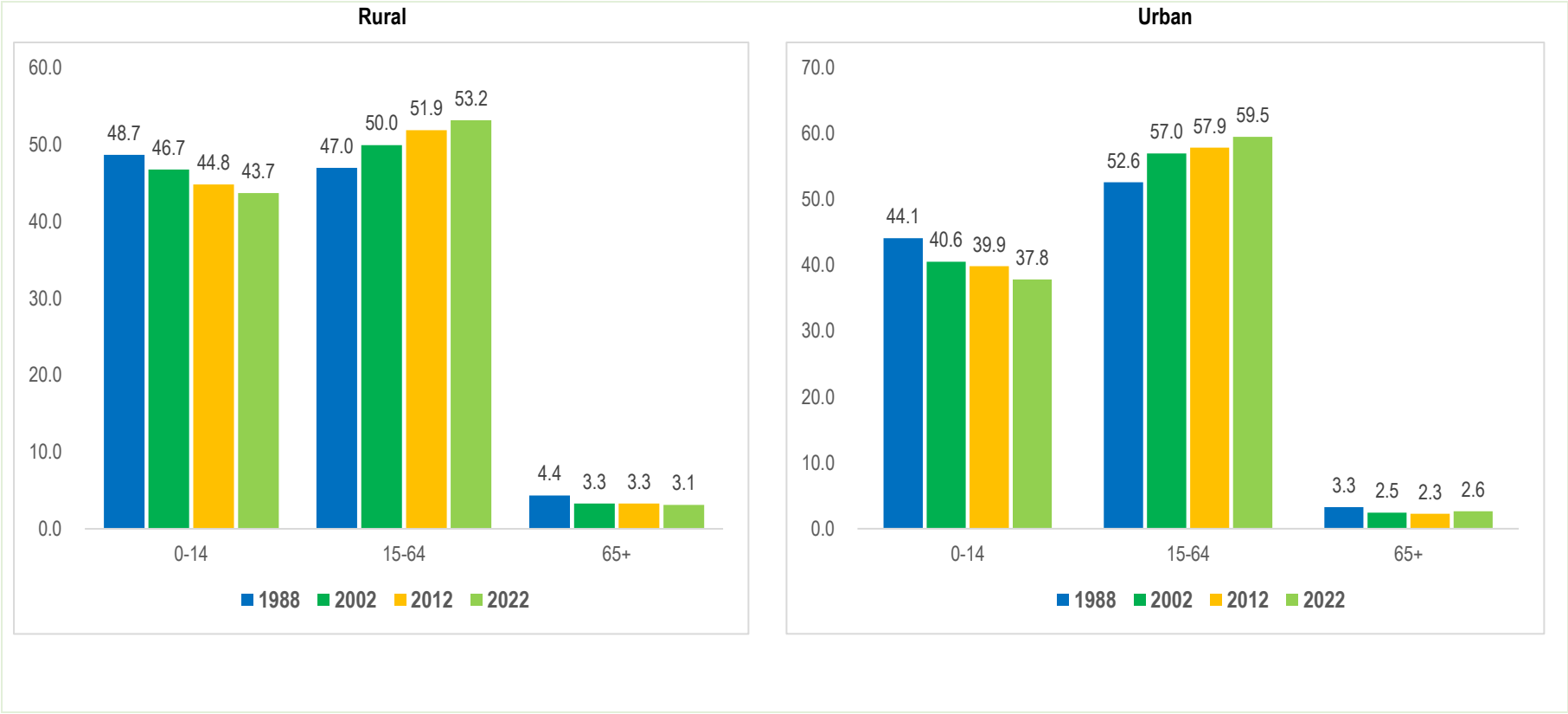


Figure 3.17: Percentage of Population by Broad Age Groups and Place of Residence; Tanzania Zanzibar 1988 – 2022 PHCs

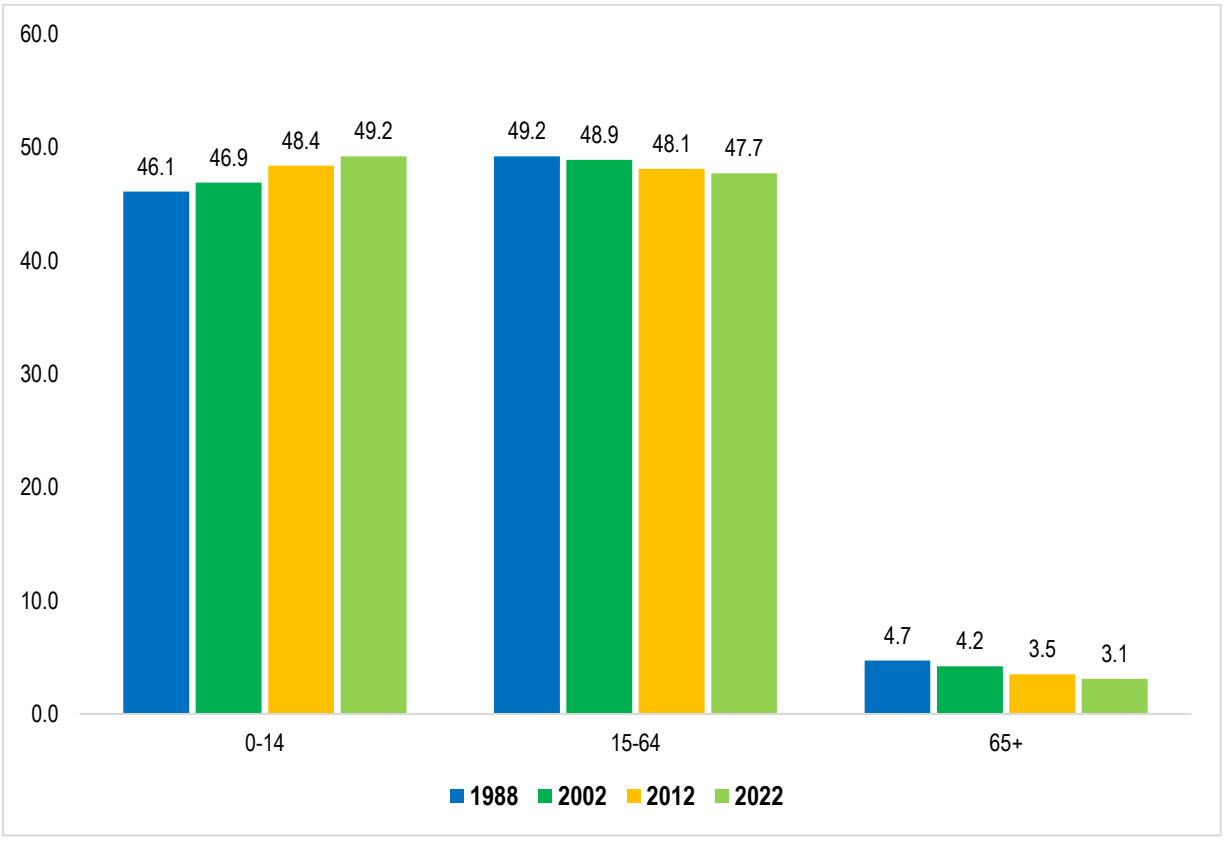


3.3.3 Changes in Broad Age Groups by Selected Regions

The broad age groups vary in each decade and across regions. Although the patterns are almost the same, across regions, variations in the performance level are observed. Four regions were selected for illustration of unique shape. Tabora is selected among the regions with high fertility rate, Dar es Salaam is a commercial city and well known as region for internal migrants inflows, Pwani Region is in proximity to Dar es Salaam and Kilimanjaro is the northern region with the highest fertility decline rate in the last decades (Agwanda and Amani, 2014).

The pattern of Tabora region for young and working-age population differs from that of other regions. The young population proportion consistently increased from 46.1 percent in 1988 to 49.2 percent in 2022. While the proportion of working-age population decreased continuously from 51.2 percent in 1978 to 47.7 in 2022. At the same time, the proportion of elders decreased from 4.7 percent in 1988 to 3.1 percent in 2022 (Figure 3.18).

Figure 3.18: Percent Distribution of Population by Broad Age Group; Tabora Region, 1988 – 2022 PHCs



Dar es Salaam region shows the lowest proportion of young population (0 – 14 years) among the regions. The trend shows that the proportion decreased consistently over the decades, working-age is more than 60.0 percent of the population, indicating that it is the region with the highest proportion of working-age population. The proportion of elderly population (65 years and above) has a slight increase, though it remains lower compared to other regions (Figure 3.19).

Figure 3.19: Percent Distribution of Population by Broad Age Groups; Dar es Salaam Region, 1988 - 2022

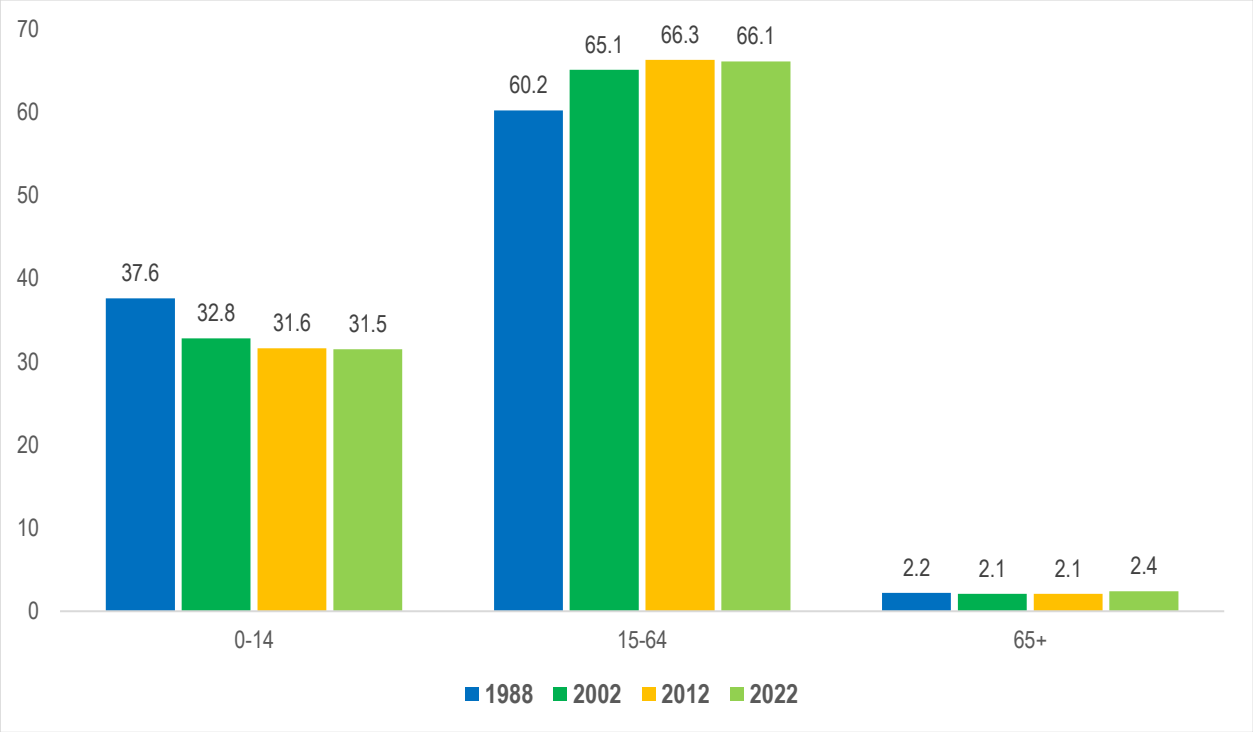
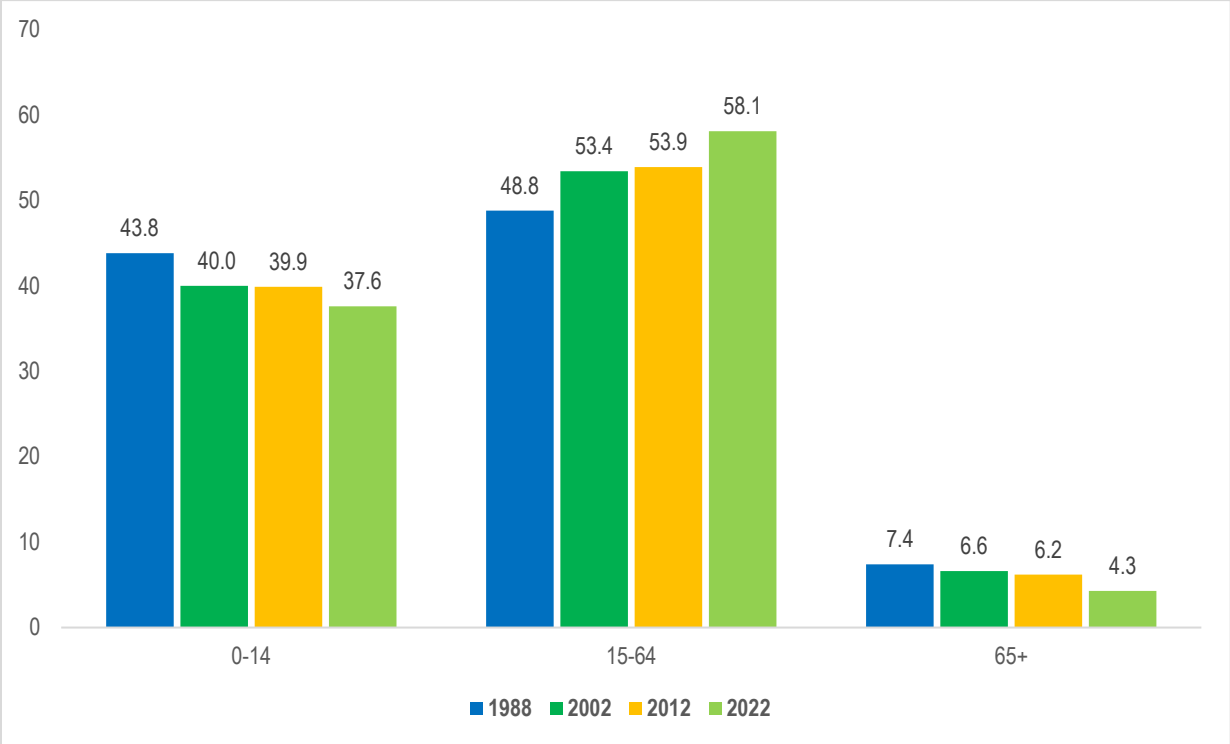


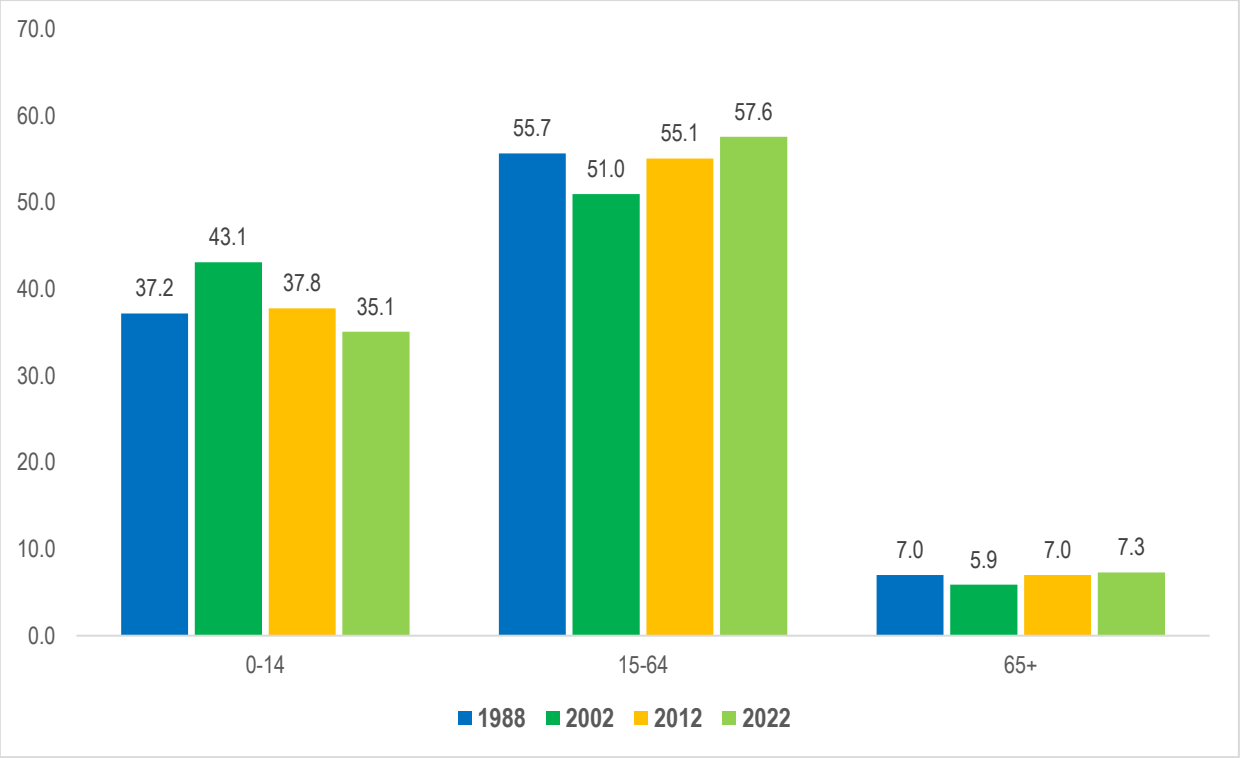
Figure 3.20 shows that the proportion young population (0.14 years) in Pwani has declined over time, while working-age population has increased over time, by nearly five percentage points from 2012 to 2022. The increase is due to improvements of infrastructure that enable people to commute between their residences and workplaces or business areas, returning home in the evening. The trend of elderly population (65 years and above) in Pwani has historically been relatively high. However, its proportion has declined from 7.4 percent in 1988 to 4.3 percent in 2022.

Figure 3.20: Percent Distribution of Population by Broad Age Groups; Pwani Region, 1988 – 2022 PHCs



The proportion of young population in Kilimanjaro region increased from 37.2 in 1988 to 43.1 in 2002 then decreased to 35.1 percent in 2022. While, the working-age population decreased from 55.7 in 1988 to 51.0 in 2002 then increased to 57.6 percent in 2022. The region has the highest proportion of elderly population (65 years and above), it increased from 7.0 percent in 1988 to 7.3 percent in 2022, with a notable exception in 2002 when it decreased to 5.9 percent (Figure 3.21).

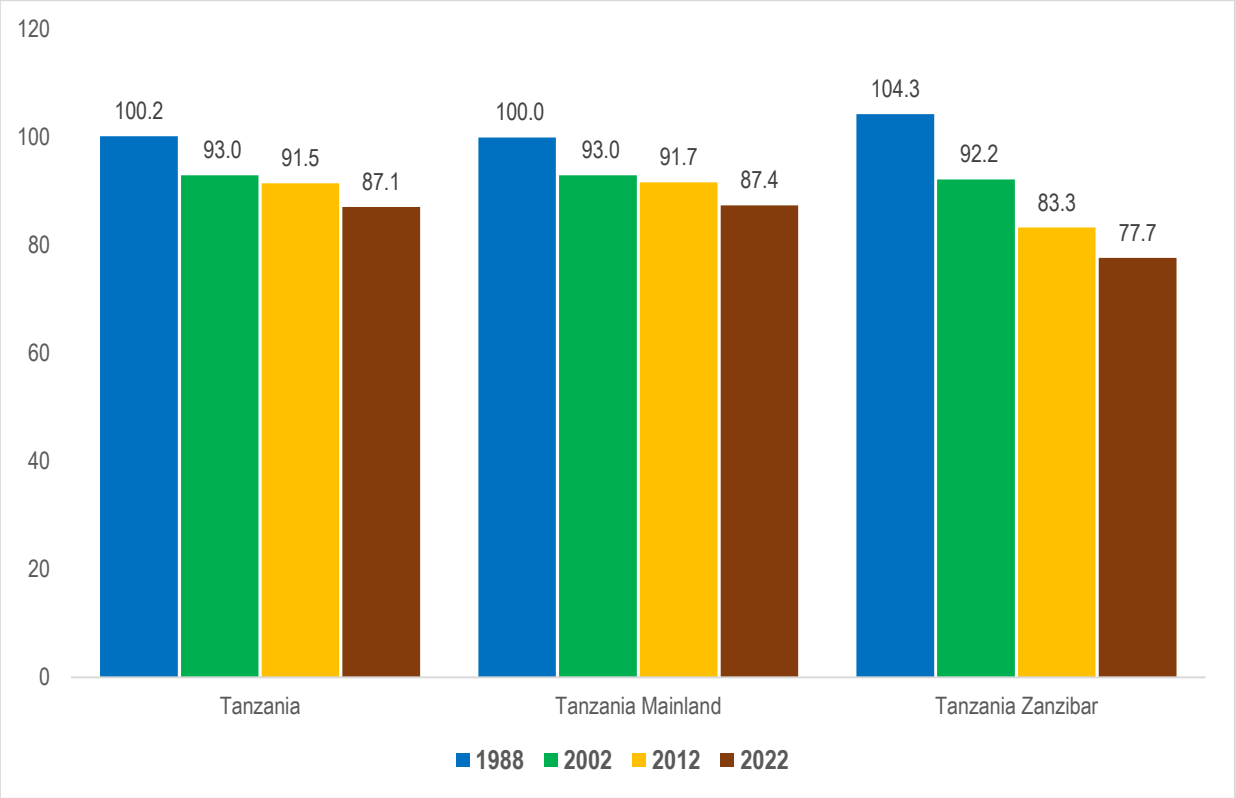
Figure 3.21: Percent Distribution of Population by Broad Age Groups; Kilimanjaro Region, 1988 – 2022 PHCs



3.4 Trend in Age Dependence Ratio in Tanzania

The current age structure has a bearing on the age of dependents. This ratio represents the number of dependants per 100 working-age individuals and serves as a key indicator of economic pressures and responsibilities faced by this group. The age-dependency ratio, which compares the working-age population (15–64 years) to the non-working-age population, are illustrated in Figure 3.22. A dependency ratio of above 100 is generally considered unfavourable. The dependency ratio for Tanzania was 87.1, meaning that there were 87 dependants per 100 working-age individuals, which is about the same for Mainland Tanzania. However, the ratio was lower in Tanzania Zanzibar at 77.7. The trend shows a favourable shift in dependency ratios, as year increases the ratio decreases particularly in Tanzania Zanzibar. This indicates a lighter potential burden on worker's overtime.

Figure 3.22: Trend in Age Dependency Ratios in Tanzania 1988 – 2022 PHCs



3.4 Conclusion

Between 1988 and 2022, Tanzania's overall age and sex structure has remained relatively stable, with the maintaining young and growing population. Over time, the base population shrinks gradually, with a more pronounced shift in Tanzania Zanzibar. As age increased, the proportion of population steadily decreased followed by narrowing toward the top, where the male proportion lower than the females population. The narrowing of the pyramid among elderly indicates increasing demand for social protection, including universal pension scheme and health insurance. Thus, the Government should review and implement existing social protection policies taking into account the needs of the elderly population.

The population pyramid in rural areas has broader base and greater deficit of males compared to urban areas, which is an indication of youth rural-urban migration. The persistence increase of working-age population in urban areas, while rural areas have experienced a decline in the young population for four decades reflects the high demand of socio-economic needs in those areas. This observation means that the Government should consider allocation of adequate resources to improve urban planning, and increase job opportunities in rural areas.

Chapter Four

Population and Development

4.1 Introduction

The relationship between population and development continues to be a subject of considerable controversy and an active area of research. Population serves as both the purpose and the driver of development. Julius Kambarage Nyerere, the Father of the Nation and first President of the United Republic of Tanzania, in his writings, frequently emphasized the importance of human development. One notable references is his work titled “Freedom and Unity”, where he argued that development should focus on improving people’s lives and well-being rather than focusing solely on economic growth (Nyerere, 1968). As a vehicle, development occurs through the activities of the population. Since all development efforts aim to enhance human welfare, it is therefore important to critically analyse all information about the target population and its dynamics to guide development. Development efforts that fail to integrate population consideration are unlikely to fully achieve their intended goals. In addition, population could only be integrated if its size and dynamics are known. This Chapter sets the stage for understanding the complex relationship between population and development by analyzing data from 2022 Population and Housing Census. The insights generated provide evidence-based understanding of population dynamics relation to health, education, economy, agriculture, and urbanization[1].

The Chapter utilizes the Resources for the Awareness of Population Impacts on Development (RAPID) model, a computer-based tool that projects the social and economic consequences of high fertility and rapid population growth across multiple sectors, including economy, education, health, urbanization and agriculture. The RAPID programme is used to raise policymakers awareness regarding the impact of fertility and population growth as factors in social and economic development. The model requires population input as well as inputs for each of the mentioned sectors, to provide the informed projection for effective policymaking.

[1] *It should be noted that education and economy sectors were already discussed in Chapter 4. However, the indicators of education used here were different and hence justified to be included in Chapter 5. The indicators for economy were similar to those presented in Chapter 4 and they did not add value to appear in this Chapter. It was therefore decided to remove the Section on Population and Economy from Chapter 5.*

4.2 Population and Health

4.2.1 Overview

Population and health are deeply interconnected areas that influence various aspects of human development and societal well-being. Several factors related to health contribute significantly to population and development. Improved health standards contribute to higher quality of life and economic productivity, positively shaping population trends and dynamics. Tanzania is experiencing rapid population growth at the same time has continued to address the aspect of improving access to and equity of quality essential health care services. Healthcare is one of the key pillars of the Tanzania Development Vision (TDV) 2025, which aims to provide equitable, accessible and high-quality health services for all Tanzanians. The vision outlines ambitious health goals, including improving life expectancy at birth and addressing the burden of infectious diseases. By 2022, the country had made some significant strides towards achieving these goals (refer to the Mortality Monograph 2025).

Despite the achievements made, challenges also remain. A critical issue in meeting TDV 2025 health goals is the shortage of healthcare workers, including doctors, nurses and midwives, especially in rural areas.

The health sector workforce distribution in Tanzania is below WHO-recommended levels:

- Doctor-to-population ratio:
    - Mainland Tanzania: 1 doctor per 8,491 people
    - Tanzania Zanzibar: 1 doctor per 4,617 people
    - National average: 1.2 doctors per 10,000 people (WHO recommends 17.2–22.8 doctors per 10,000)
- Nurse-to-population ratio:
    - Mainland Tanzania: 1 nurse per 1,314 people
    - Tanzania Zanzibar: 1 nurse per 1,381 people
    - National average: 7.6 nurses per 10,000 people (WHO recommends 37.7 nurses per 10,000)

  These statistics underscore the urgent need for healthcare workforce expansion, particularly in rural areas, to meet growing healthcare demands (Ministry of Health, Community Development, Gender, Elderly, and Children, 2023). Projections are essential tool for health system planning, that enhance healthcare services capacity to meet the growing and changing needs of the increasing population. To achieve this, the RAPID model is used to project the demands for health sector from 2022 up to 2050.

4.2.2 Input Data and Assumptions

Inputs data used in the RAPID model to estimate the health service demands from 2022 to 2050 are population per doctors, population per nurse, population per AMO/CO, population per hospital, population per health centre, population per dispensary, population per hospital bed and annual health expenditure. The data, presented in Table 4.1, was obtained from reliable sources, including:

i. Tanzania Statistical Abstract (2019, 2020, 2021, 2022 and 2023),
ii. Zanzibar Statistical Abstract (2022 and 2023),
iii. National Health Account (2020-2021 and 2021-2022),
iv. Health Sector Strategic Plan V (2021-2026),
v. Zanzibar Health Sector Strategic Plan (HSSP, 2021),
vi. PHC Population Projections (2012).

Table 4.1: Health Sector Inputs by Base Year, Tanzania, Mainland Tanzania and Tanzania Zanzibar; 2022

Health Input	2022		
	Tanzania	Mainland Tanzania	Tanzania Zanzibar
Population Per doctor	8,491	8,491	4,617
Population Per Nurse	1,317	1,314	1,381
Population Per Health Center	61,586	59,701	
Population Per Hospital	145,997	145,110	179,703
Population per Hospital Bed	628	609	1,427
Annual Health Expenditure Per Person (TZS)	115,444.20	115,896.79	101,081.69
Population per Dispensary	8,090	8,145	6,561
Population per AMO/CO	4,422	4,422	5,206

Number of health personnel by cadre (doctor, nurse, AMO/CO), health facilities and hospital beds were sourced from the national statistical abstracts (NBS and OCGS) for the year 2022. Annual per capita health expenditure, defined as the percentage of GDP spent on health divided by the population for the year 2022, was obtained from Tanzania National Health Accounts (2019/2020 - 2021/2022) for Mainland Tanzania. For Tanzania Zanzibar, the Health Sector Strategic Plan (HSSP) notes that about 3.4 percent of GDP is dedicated to health expenditure. The per capita health expenditure was computed using adjusted 2022 population for Tanzania Zanzibar. A weighted average of the per capita health expenditure

for Mainland Tanzania and Tanzania Zanzibar was then calculated to get a baseline value of TZS 112,239.00.

Projections for key health inputs were guided by national, regional and/or international policy guidelines, development plans and sector-specific strategies. It is worth noting that most national development plans and/or policy guidelines were guided by Tanzania Development Vision 2025, and terminating around the year 2025/2026. In such instances where a target value for an indicator beyond 2026 is unavailable in policy documents, past trends up to 2022 were used to assume changes and targets extending to 2050.

Health sector personnel trends: HSSP targets a 25 percent increase in health personnel between 2020 and 2025. Using population projections from 2012 (covering 2020 and 2021), alongside adjusted 2022 population data, and projected population was computed 2023 - 2025. A trend analysis of doctors, nurses, and AMO/COs from 2018 to 2023 (published in Statistical Abstracts from NBS & OCGS) identified an average decline of 0.9% per year in population per health personnel, which is assumed to continue through 2050.

Health Sector facilities trends: HSSP indicates a target increase of 19 percent in health facilities between 2020 and 2025, raising the ratio from 2.1 to 2.5 per 10,000 population. Based on projected and adjusted population values for the years 2020 - 2025, population per health facility (hospital, health center and dispensary) were calculated for 2023, 2024 and 2025. Tanzania Health Policy stipulates a target of a hospital in every district, a health center in every ward and a dispensary in every village/street. It is projected that the required number of health centers and dispensaries will be achieved by 2050. It is also assumed that population per hospital will remain the same as it currently is, seeing as the target for number of hospitals has more or less been achieved. This assumption implies that hospital growth will align with population growth to maintain the population per hospital value.

HSSP set a target health expenditure to reach 5 percent of GDP by the HSSP, a target that has already been achieved. Therefore, it is assumed that the per capita health expenditure will remain the same and the only adjustment applied is that of inflation (assuming the average annual inflation remains the same as that of 2023 through 2025).

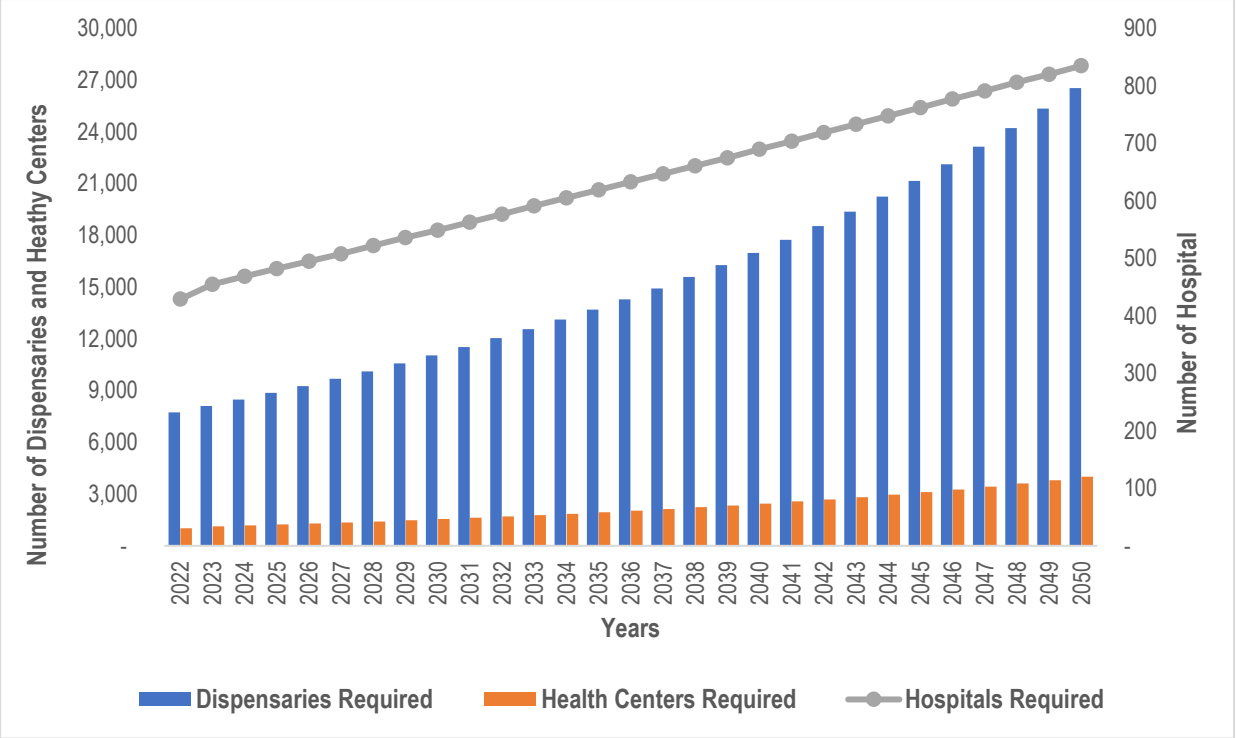
4.2.3 Outputs from the RAPID Model and Policy Implications of the Health Facilities

4.2.3.1 Infrastructure Indicator

Figure 4.1 shows that demand for health facilities in Tanzania will increase from 7,734 dispensaries, 1,016 health centres and 429 hospitals in 2022 to 26,541 dispensaries, 4,004 health centres and 844 hospitals in 2050. Dispensaries and health centres will increase by

3 times to meet the target of having a dispensary in every village/shehia. The demand for hospitals will double to meet the target of having a hospital in every district by 2025.

Figure 4.1: Health Facilities Requirements in Tanzania 2022-2050

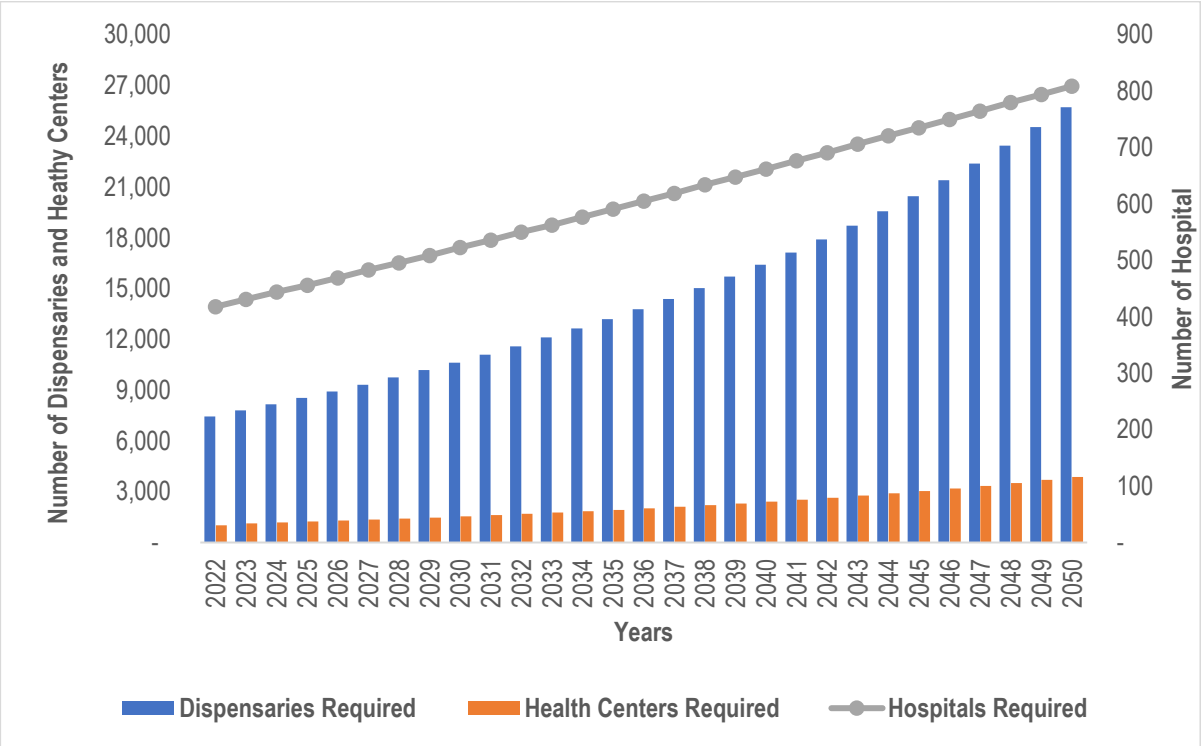


Source: RAPID Modelling Results for Tanzania, 2024.

Note: The Figures in this chapter have been constructed such that both vertical axes (left and right of the figure) are used with different scales and / or indicators. Care need to be taken in order to understand the contents of the figure.

Figure 4.2 shows that demand for health facilities in Mainland Tanzania will increase from 7,447 dispensaries, 1,016 health centres and 418 hospitals to 25,723 dispensaries, 3,880 health centres and 809 hospitals from 2022 to 2050 respectively. Dispensaries and health centres will increase by three times to meet the target of having a dispensary in every village/shehia and health centre for every ward. The demand for hospital is expected to double to meet the target of having a hospital in every district by 2025.

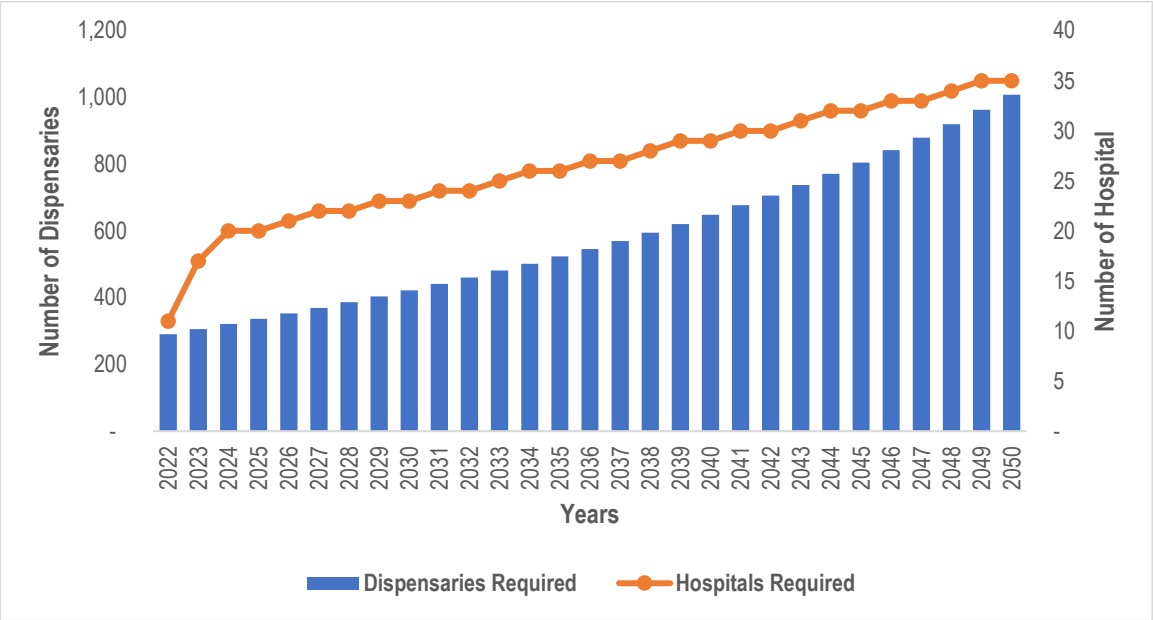
Figure 4.2: Health Facilities Requirements in Mainland Tanzania 2022-2050



Source: RAPID Modelling Results for Mainland Tanzania, 2024

Figure 4.3 show that demand for health facilities in Tanzania Zanzibar will increase from 291 dispensaries and 11 hospitals to 1,008 dispensaries and 35 hospitals from 2022 to 2050 respectively. Dispensaries and hospitals will increase by three times to meet the target of having a dispensary in every village/shehia and health centre for every ward. The demand for hospital will double to meet the target of having a hospital in every district by 2025.

Figure 4.3: Health Facilities Requirements in Tanzania Zanzibar 2022-2050

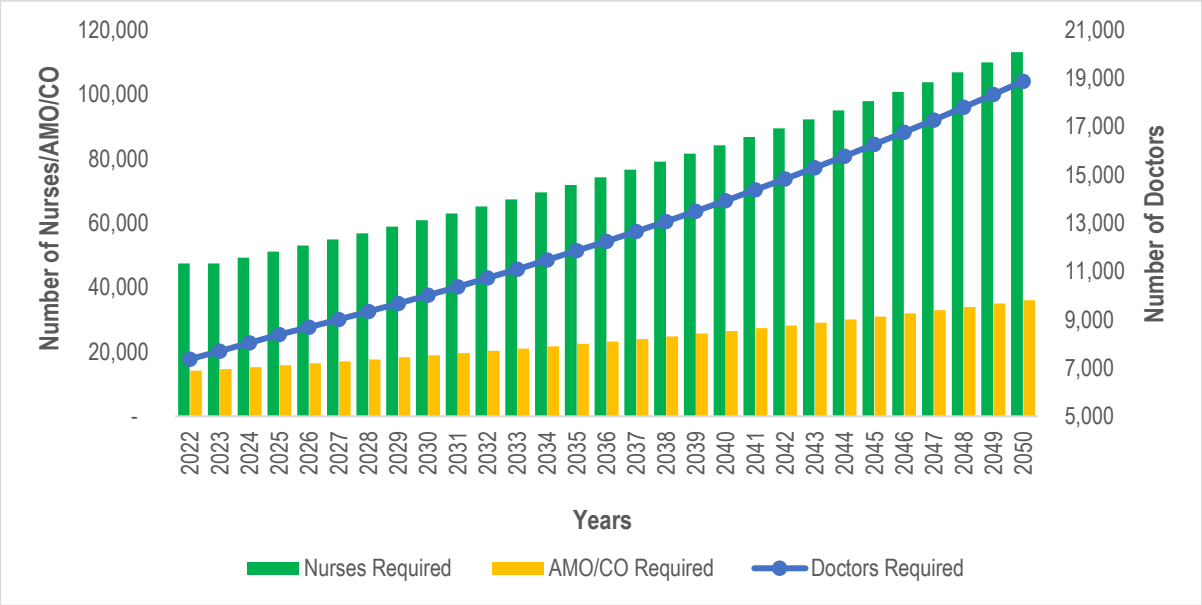


Source: RAPID Modelling Results for Tanzania Zanzibar, 2024

4.2.3.2 Health Personnel

Figure 4.4 shows that there is an increase of health personnel in Tanzania from 47,545 nurses, 7,558 doctors and 14,084 AMO/CO in 2022 to 124,192 nurses, 25,574 doctors and 35,928 AMO/CO in 2050 respectively. This could imply that the health personnel are expected to more than double by 2050.

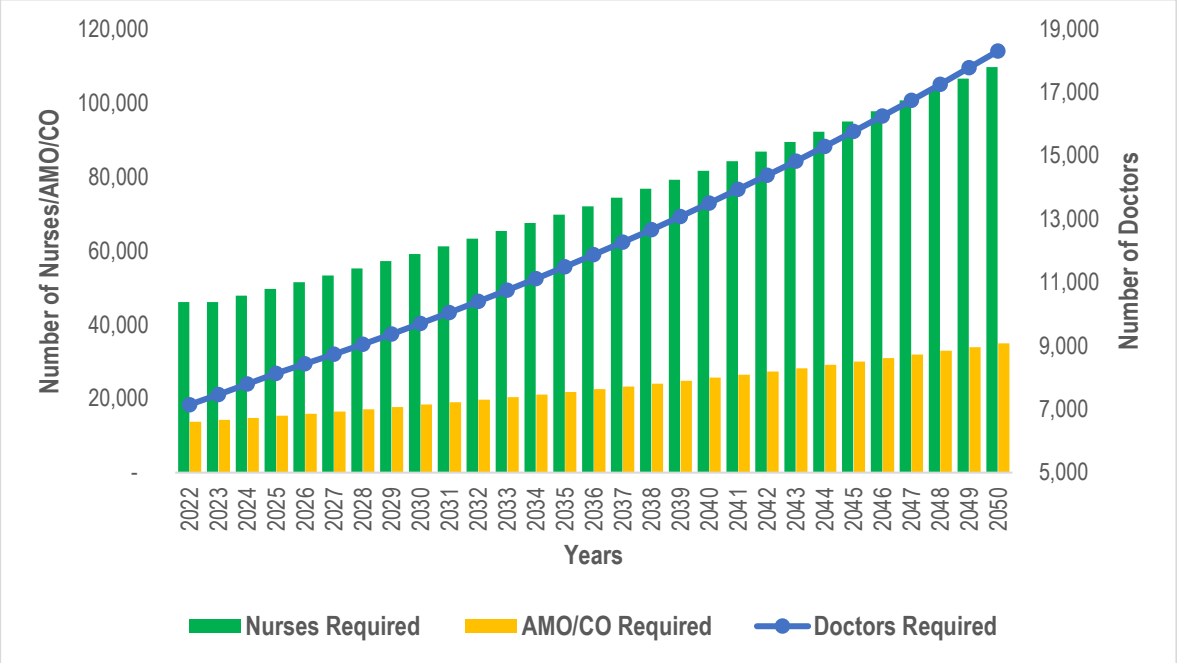
Figure 4.4: Health Personnel Requirements in Tanzania: 2022-2050



Source: RAPID Modelling Results for Tanzania, 2024

Figure 4.5 shows that there is an increase of health personnel in Mainland Tanzania from 46,161 nurses, 7,144 doctors and 13,717 AMO/CO in 2022 to 109,644 nurses, 18,300 doctors and 34,984 AMO/CO in 2050 respectively. This could imply that the health personnel are expected to be more than double by 2050.

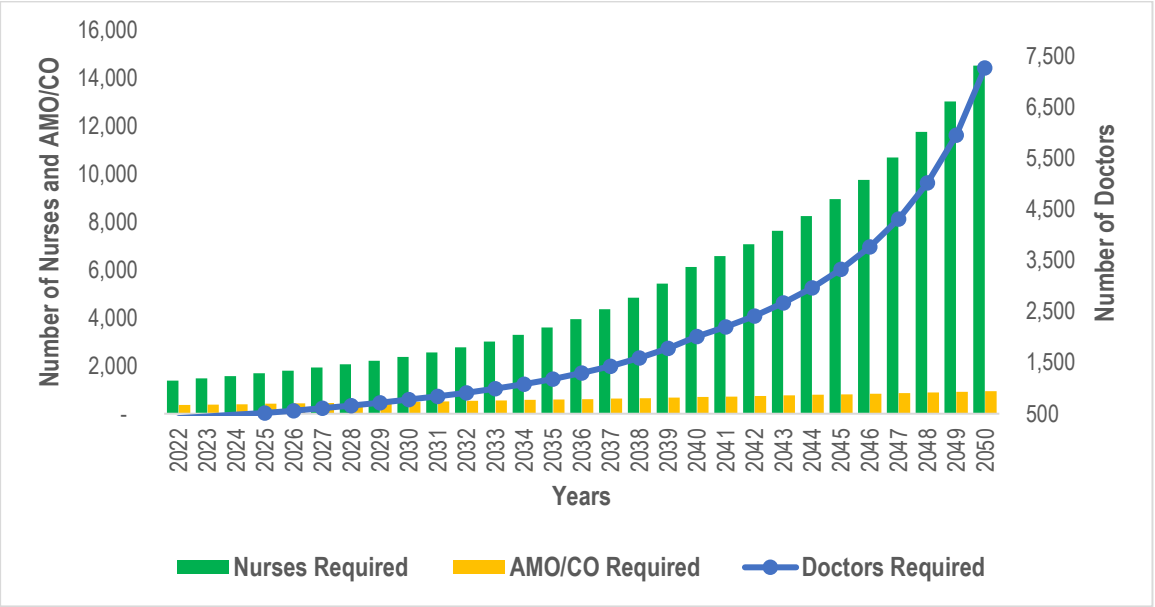
Figure 4.5: Health Personnel Requirements in Mainland Tanzania: 2022-2050



Source: RAPID Modelling Results for Mainland Tanzania, 2024

Figure 4.6 shows that there is an increase of health personnel in Tanzania Zanzibar from 1,384 nurses, 414 doctors and 367 AMO/CO in 2022 to 14,548 nurses, 7,274 doctors and 944 AMO/CO in 2050 respectively. This could imply that the health personnel are expected to increase by more than ten times by 2050.

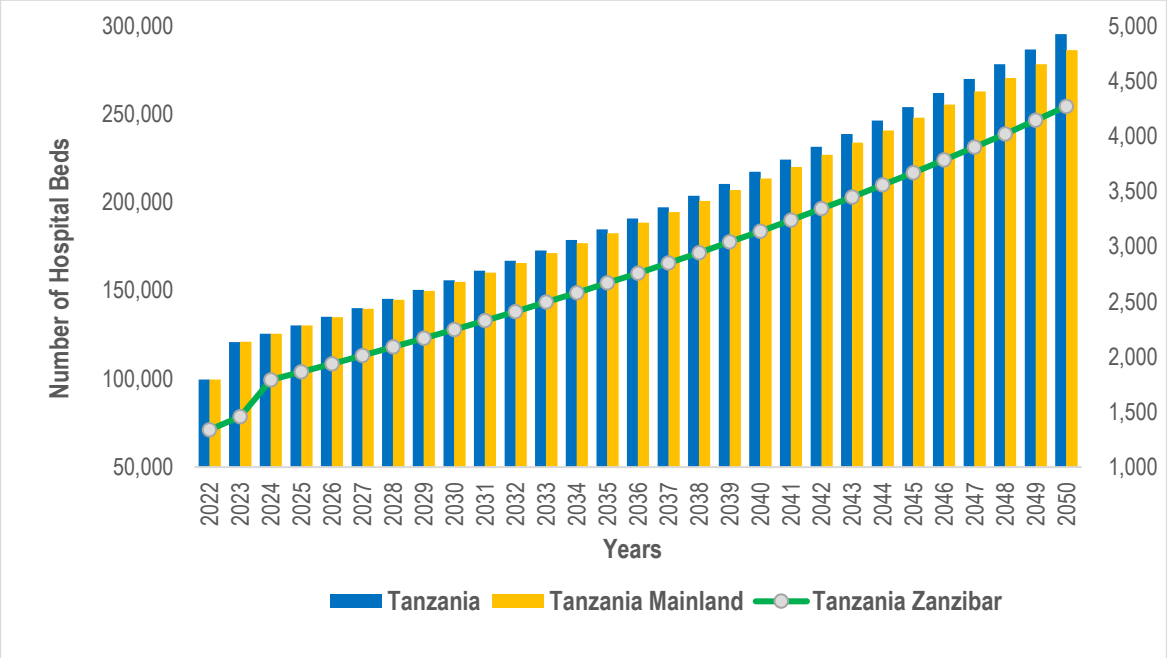
Figure 4.6: Health Personnel Requirements in Tanzania Zanzibar: 2022-2050



Source: RAPID Modelling Results for Tanzania Zanziibar, 2024

Figure 4.7 indicates about threefold increase of hospital beds in Tanzania, a need for additional 195,726 hospital beds requirement from 99,537 in the year 2022 to 295,263 in the year 2050. The increase is also about threefold in both Mainland Tanzania and Tanzania Zanzibar – from 99,599 to 286,171 and from 1,339 to 4,269 respectively.

Figure 4.7: Hospital Beds Requirements in Tanzania 2022-2050

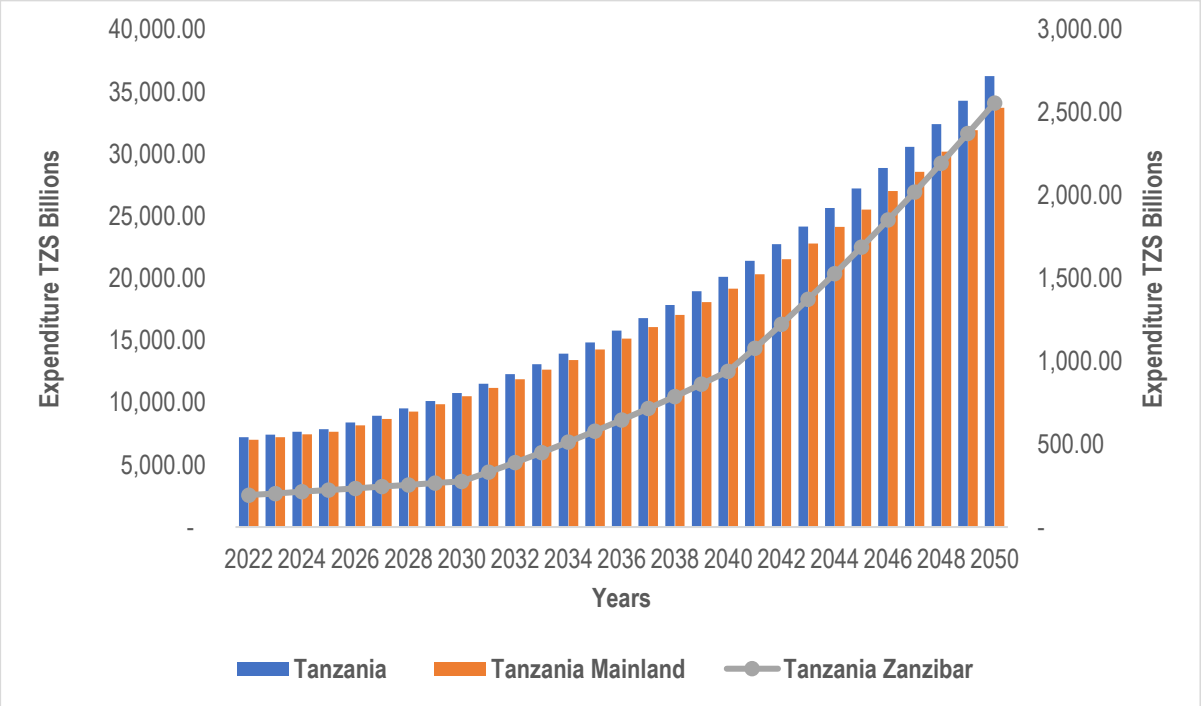


Source: RAPID Modelling Results for Tanzania,Mainland Tanzania and Tanzania Zanzibar; 2024

4.2.3.3 Health Expenditure

The results show significant rise in annual recurrent health expenditure, increasing by TZS 29,240.13 billion, from TZS 7,223.02 billion in 2022 to TZS 36,262.61 billion in 2050 which is about fivefold increase (Figure 4.8). For Mainland Tanzania the increase is also about fivefold from TZS 7,029.81 billion in 2022 to TZS 33,704.69 billion in 2050, while in Tanzania Zanzibar it is a 13 times increase from TZS 193.21 billion in 2022 to TZS 2,557.92 billion in 2050.

Figure 4.8: Annual Recurrent Health Expenditure Requirements (TZS Billions) Tanzania, Mainland Tanzania and Tanzania Zanzibar: 2022-2050



Source: RAPID Modelling Results for Tanzania Zanziibar, 2024

4.3 Population and Education

4.3.1 Overview

Population and education development focuses on the interconnected relationship between the size, growth and composition of a population and the role which education plays in shaping and influencing future population. As the country's population continue to grow, the demand for education expands to accommodate the increasing number of children and youths. In this premise, the government needs to plan and ensure that educational opportunities keep pace with population growth and that the country produces quality human resources.

The increase in school-age populations translates into greater demand for educational facilities, teachers and other resources. An increase in this group presents both

opportunities and challenges hence the need for analysis to allow for evidence-based planning and policy development. Providing quality education for all school-age children can enhance the skills and capabilities of the country's future workforce.

4.3.2 Input Data and Assumptions for the RAPID Model

The RAPID model is utilized for analyzing education sector, using various data sources for in-depth projections. Key input data used in the RAPID model to estimate the population education services demands from 2022 to 2050, include the age of entry into primary and secondary schooling, number of years for primary and secondary schooling, primary and secondary enrolment rate, student-to-teacher ratios in primary and secondary schools, and annual education expenditure per primary and secondary students (TZS). These indicators were obtained from the following sources:

i. Tanzania Statistical Abstract (2022 and 2023) and Zanzibar Statistical Abstract (2022 and 2023);
ii. Education and Literacy Monograph (2025) for enrolment rates;
iii. Basic Education Statistics (BEST) in Tanzania and Ministry of Education of Zanzibar (2022) for Pupils/Students teacher ratio;
iv. Basic Education Statistics in Tanzania (BEST) in 2022 for base-year student-to-school ratio data; and
v. Recurrent Expenditure data from Tanzania's Education and Training Policy 2014 (2023).

School going age: The education policies set by the Mainland Tanzania and The Revolutionary Government of Zanzibar prescribe the age of entry for primary school as seven for Mainland Tanzania and six for Tanzania Zanzibar, while for secondary education it is 14 for Mainland Tanzania and 12 for Tanzania Zanzibar. The duration for basic education is seven years and six years for primary education in Mainland Tanzania and Tanzania Zanzibar respectively and four years for secondary in both Tanzania Zanzibar and Mainland Tanzania. Under the 2024 revision of Tanzania's Education and Training Policy, amended the school going ages for basic education in the Mainland Tanzania. Pupils who were in standard three and below in year 2024 will pursue primary education for six years that is now ending at standard 6 instead of standard 7 seven. Entry age for primary education from 2025 will then be six years. This effectively changes the age of entry for secondary school in 2027 will change from 14 years to 13 years, while maintaining the four-year duration.

Enrolment rates: for both primary and secondary information (form I- IV) is sourced from the Education and Literacy monograph (2025). Enrolment from 2022 to 2025 are projected based on FYDP III targets of 100 percent enrolment rate for primary education and 42 percent for secondary education. It is assumed that the enrolment rates to remain constant through 2050.

Pupil teacher ratio (PTR): The 2022 and 2023 PTR were computed using BEST data from the President's Office Regional Administration and Local Government (PORALG) for the respective years. FYDP III sets the PTR targets to 50 and 20 for primary and secondary education respectively. It is assumed that PTR will be constant up to 2050.

Students per school: The ratio in 2022 was computed and for URT it was 593 and 483 for primary and secondary schools respectively and projected to reach 500 and 400 by 2050. The ratio for 2022 in Mainland Tanzania is similar to that of URT, but for Tanzania Zanzibar it was 554 per primary school.

Recurrent Expenditure: According to education policy, recurrent expenditure per student for primary education is TZS 10,000 for Mainland Tanzania and TZS 24,000 for Tanzania Zanzibar. For secondary education it is TZS 25,000 for Mainland Tanzania and TZS 71,000 for Tanzania Zanzibar. These expenditure values are assumed to remain constant up to 2050, with adjustments for 2023 average annual inflation of 3.8 percent.

Table 4.2: Education Inputs by Base Year, Tanzania; 2022

Education Inputs	2022		
	Tanzania	Mainland Tanzania	Tanzania Zanzibar
Primary School			
Age of Entry into Primary School	7	7	6
Number of years of Primary Schooling	7	7	7
Primary school enrolment rate	83.3	83.3	94.4
Students per primary school teacher	57	57	45
Students per primary school	593	593	554
Recurrent expenditure per primary school student (TZS)	10,000.00	10,000.00	24,000.00
Secondary School			
Age of entry into secondary school	14	14	13
Number of years of secondary schooling	4	4	4
Secondary school enrolment rate (%)	42	42	61.5
students per secondary school teacher	25	25	18
students per secondary school	484	484	378
Recurrent expenditure per secondary school student (TZS)	25,000.00	25,000.00	71,000.00

These input data and the underlying assumptions have facilitated a comprehensive analysis through the RAPID model providing a realistic picture of the education sector in Tanzania. The aforementioned analysis will provide long-term strategic planning, helping to identify challenges and opportunities in a bid to ensure growth of education sector targeted to effectively address the increasing population demands and policy changes.

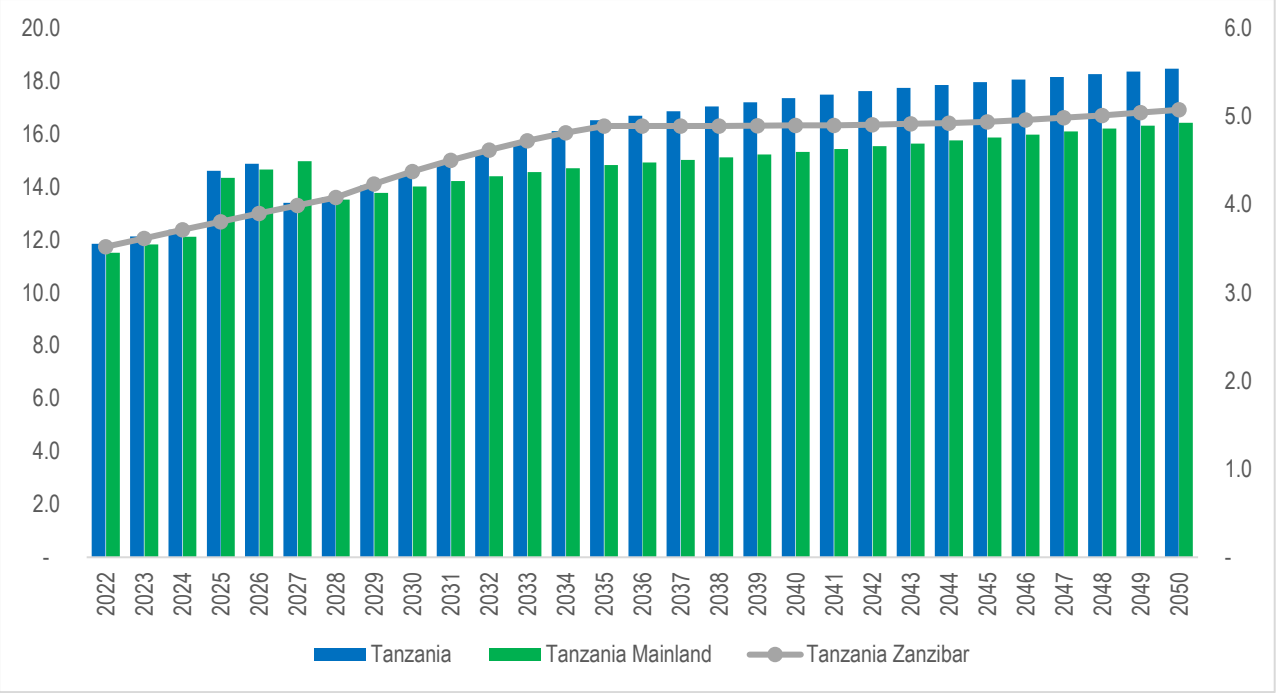
4.3.3 RAPID model Outputs and Policy Implications of the Indicator for Primary and Secondary Education

4.3.3.1 Projected Population for Education Resource Requirements in Primary schools

Trends in Primary School-Age Population

The results from the RAPID model indicate that the total number of school-aged children in primary schools in Tanzania is expected to increase from 11.9 million in 2022 to 18.5 million by 2050. Between 2024 and 2028 the increase is expected to be influenced by changes in the school-age population in both Tanzania Zanzibar and Mainland Tanzania, based on the revised Education Policy. This implies potential adjustments in the education system such as altering the duration of primary education from six years or an increase in the number of children reaching school-starting age during this period (Figure 4.9).

Figure 4.9: Projected Population of Primary School Age population (in millions – Tanzania, Mainland Tanzania and thousands – Tanzania Zanzibar), 2022–2050



Source: RAPID Modelling Results, 2024

Number of Teachers Required

The results from RAPID model show a significant increase in the demand for primary school teachers in Tanzania from 175,687 in 2022 to 341,231 in 2050, while the projected increase for Mainland Tanzania is from 168,297 in 2022 to 328,541 in 2050 and for Tanzania Zanzibar from 7,390 in 2022 to 12,690 in 2050 (Table 5.3). However, rapid expansion of the teaching workforce requires considerable resources for recruitment infrastructure. If effectively managed, the increase in teachers could contribute to a more equitable education system that ensures that both urban and rural area students get quality education.

On the other hand, without proper planning and resource allocation to meet demand for more teachers, this could overwhelm the existing education system potentially leading to teacher shortages in some areas and a decline in the education quality. This clearly shows the need for workforce expansion, ensuring the Pupil-Teacher Ratio remains optimal. The increasing teachers demand requires further infrastructure development in primary education in teacher recruitment, training and retention programmes to avoid shortages. The projected increase in primary school teachers reinforces the importance of a strong, well-equipped education workforce by 2050.

Number of Schools Required

The number of primary schools required for the increase in school-age children is projected to rise from 16,777 schools in 2022 to 31,867 schools in 2050 for Tanzania, while for Mainland Tanzania the increase will be from 16,177 schools in 2022 to 30,852 schools, and for Tanzania Zanzibar from 600 schools in 2022 to 1,015 schools in 2050. Performance in 2050 will largely depend on the timely construction and equipping to cope with the growing student population demand (Table 4.3). This scenario could unfold based on the following:

Key Positive Outcomes with Adequate Planning

i. *Improved Access to Education:* An increase in the number of schools ensures better geographic accessibility for students, particularly in rural and underserved regions;
ii. *Enhanced Learning Environments:* With sufficient classrooms supporting better teacher-student engagement and learning outcomes, students are unlikely to experience overcrowding.
iii. *Balanced Teacher Workloads:* Additional schools enable better teacher distribution, reducing the burden on existing facilities and educators.

Key Risks without Adequate Planning

i. *Severe Overcrowding:* Insufficient school construction could lead to overburdened facilities, negatively impacting the quality of education and student well-being;
ii. *Urban-Rural Disparities:* A lack of equitable distribution in school construction could widen the urban-rural education gap, leaving rural children underserved; and
iii. *Strain on Resources:* Delays or inadequate school construction risk overextending existing resources, including teaching staff, infrastructure and learning materials.

This suggests a need for large-scale primary school construction and to meet future demands.

Table 4.3: Education Outputs from the RAPID Model Results in Primary school by Years, Tanzania 2022 – 2050

Years	Tanzania		Mainland Tanzania		Tanzania Zanzibar	
	Number Teachers	Number of Schools	Number Teachers	Number of Schools	Number Teachers	Number of Schools
2022	175,687	16,777	168,297	16,177	7,390	600
2023	199,921	18,414	192,317	17,794	7,604	620
2024	227,083	20,082	218,708	19,443	8,375	639
2025	295,679	25,115	286,870	24,456	8,809	659
2026	302,464	25,766	293,201	25,088	9,263	678
2027	309,093	26,427	299,489	25,721	9,604	706
2028	280,399	24,047	270,447	23,313	9,952	734
2029	286,144	24,628	275,689	23,854	10,455	774
2030	291,322	25,164	280,383	24,352	10,939	812
2031	295,811	25,646	284,550	24,807	11,261	839
2032	299,749	26,084	288,198	25,220	11,551	864
2033	303,165	26,480	291,353	25,593	11,812	887
2034	306,213	26,846	294,174	25,939	12,039	907
2035	308,748	27,171	296,520	26,246	12,228	925
2036	310,762	27,454	298,531	26,526	12,231	928
2037	312,773	27,739	300,540	26,807	12,233	932
2038	314,744	28,023	302,508	27,087	12,236	936
2039	316,760	28,313	304,521	27,374	12,239	939
2040	318,804	28,607	306,559	27,664	12,245	943
2041	320,878	28,907	308,624	27,960	12,254	947
2042	323,101	29,222	310,831	28,270	12,270	952
2043	325,211	29,530	312,920	28,573	12,291	957
2044	327,474	29,854	315,159	28,891	12,315	963
2045	329,749	30,182	317,398	29,213	12,351	969
2046	332,052	30,514	319,647	29,537	12,405	977
2047	334,501	30,864	322,038	29,878	12,463	986
2048	336,818	31,202	324,285	30,207	12,533	995
2049	339,019	31,533	326,410	30,528	12,609	1,005
2050	341,231	31,867	328,541	30,852	12,690	1,015

Source: RAPID Modelling Results, 2024

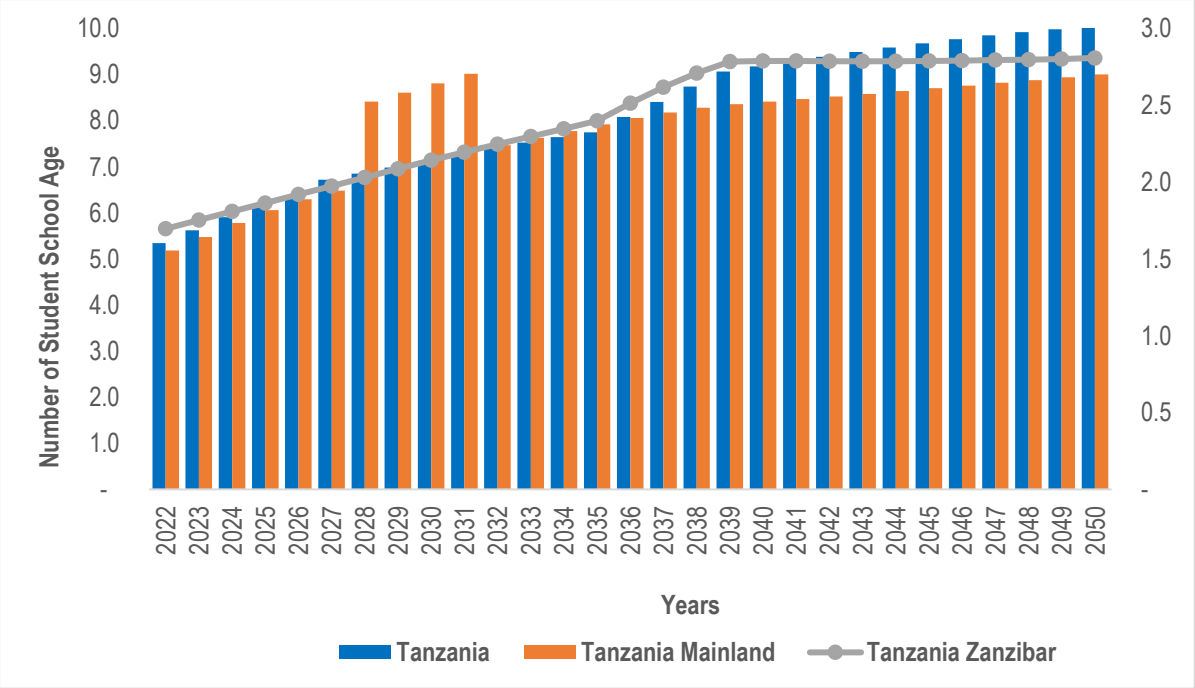
4.3.3.2 Projected Population for Education Resource Requirements in Secondary school

Trends in the Growth of Secondary School Age Population

The secondary school-age population in Tanzania is projected to increase from 5.3 million in 2022 to 10.0 million by 2050, while for Mainland Tanzania it will be from 5.2 million students to 9.0 million and for Tanzania Zanzibar from 1,700 students to 2,800 students (Figure 4.10 and Table 4.4). This projected growth indicates a significant difference

between the number of students eligible to join secondary education and those currently enrolled. Results from the RAPID Model indicate a significant expected increase in the number of children who are not enrolled at school at entry age. It is therefore evident that in the year 2022, the number was 1,874,909 students projected to rise to 3,523,886 students by 2050.

Figure 4.10: Projected Population Growth of Secondary school - Starting Age population (in millions- for Tanzania and Mainland Tanzania and thousands- for Tanzania Zanzibar), 2022–2050



Source: RAPID Modelling Results, 2024

Number of Teachers Required

Results indicate that the demand for secondary school teachers is expected to increase from 92,882 teachers in 2022 to 201,041 teachers in 2050 for Tanzania, while for Mainland Tanzania it will be from 87,087 to 189,106 and for Tanzania Zanzibar the increase will be from 5,795 to 11,935 (Table 4.4). The increase in teachers, highlights the urgent need for infrastructure developments in secondary education, particularly in teacher recruitment, training and retention programmes to avoid shortages.

Number of Secondary Schools Required

Results show a projected increase in the number of secondary schools to cater the increasing student enrolment. Specifically, the number of secondary schools is expected to increase from 4,774 in 2022 to 10,052 in 2050, while for Mainland Tanzania it will be from 4,498 to 9,455 and for Tanzania Zanzibar from 276 to 597 schools (Table 4.4). Significant expansion would be necessary to ensure adequate educational facilities are availed to cope with needs of the student population increase. Furthermore, emphasis should be placed on challenges in terms of funding availability, infrastructure development and maintaining quality of education in a larger number of schools.

This translates to increased access to education and reduction of overcrowding by ensuring that more students have the opportunity to attend school especially in urban areas. However, the rapid increase of number of schools could place a burden on existing resources, require additional funding and management or care to ensure the quality of education is maintained.

Table 4.4: Education Outputs from the RAPID Model Results in Secondary school by Years, Tanzania, Mainland Tanzania and Tanzania Zanzibar;2022 – 2050

Years	Tanzania		Mainland Tanzania		Tanzania Zanzibar	
	Number Teachers	Number of Schools	Number Teachers	Number of Schools	Number Teachers	Number of Schools
2022	92,882	4,774	87,087	4,498	5,795	276
2023	105,156	4,979	98,598	4,667	6,558	312
2024	118,660	5,308	112,037	4,959	6,623	349
2025	134,575	5,621	127,201	5,233	7,374	388
2026	140,271	5,902	132,116	5,474	8,155	428
2027	144,522	6,120	136,131	5,681	8,391	439
2028	185,249	7,876	176,621	7,425	8,628	451
2029	189,621	8,116	180,755	7,654	8,866	462
2030	194,073	8,364	184,971	7,890	9,102	474
2031	198,655	8,620	189,325	8,135	9,330	485
2032	166,332	7,282	156,783	6,787	9,549	495
2033	169,897	7,489	160,134	6,984	9,763	505
2034	173,241	7,690	163,265	7,175	9,976	515
2035	176,519	7,890	166,321	7,365	10,198	525
2036	179,948	8,102	169,265	7,553	10,683	549
2037	182,892	8,295	171,768	7,724	11,124	571
2038	185,410	8,470	173,899	7,881	11,511	589
2039	187,366	8,622	175,530	8,017	11,836	605
2040	188,548	8,739	176,701	8,135	11,847	604
2041	189,720	8,857	177,870	8,254	11,850	603
2042	190,861	8,976	179,016	8,374	11,845	602
2043	192,083	9,100	180,240	8,500	11,843	600
2044	193,374	9,230	181,530	8,631	11,844	599
2045	194,605	9,359	182,755	8,761	11,850	598
2046	195,880	9,493	184,020	8,895	11,860	598
2047	197,079	9,624	185,203	9,027	11,876	597
2048	198,308	9,760	186,419	9,163	11,889	597
2049	199,714	9,907	187,806	9,310	11,908	597
2050	201,041	10,052	189,106	9,455	11,935	597

Source: RAPID Modelling Results, 2024

4.3.3.3 Government Expenditure on Education for Primary and Secondary School

Government expenditure on education plays a crucial part in the national budget reflecting the country's commitment to improving access and quality in education sector. A substantial amount of the budget is allocated to primary and secondary education to support the provision of free education initiative introduced in 2016. The initiative aims to reduce financial barriers and ensure that more students can access schooling without constraints (Education and Training Policy 2014, 2023).

Additionally, the Government invests in higher education by funding public universities, technical institutions, and student scholarships. A portion of the education budget also is for building and upgrading school infrastructure, particularly in rural areas to ensure that learning environments are conducive. Investments in teacher training and professional development programmes support efforts to improve teaching quality and learning outcomes. Overall, the government's expenditure in education is expected to rise as part of Tanzania's long-term development agenda to foster human capital and drive economic progress and aligning with TDV 2025 and the National Five-Year Development Plan (Ministry of Finance and Planning, 2021).

The projections from the RAPID model indicate a substantial increase in annual education services expenditure for primary school between 2022 and 2050; in Tanzania education services expenditure increased from TZS 103.91 billion in 2022 to TZS 478.68 billion by 2050, while for Mainland Tanzania it will be from TZS 95.93 billion to TZS 433.20 and for Tanzania Zanzibar from TZS 7.98 billion to TZS 45.48 billion. Secondary levels demonstrates a similar pattern in the increase from TZS 61.84 billion in 2022 to TZS 312.62 billion in 2050, while for Mainland Tanzania it will be from TZS 54.43 billion to TZS 249.35 billion and for Tanzania Zanzibar from TZS 7.41 billion to TZS 63.27 billion. The increasing financial burden indicates that the Government should allocate substantial amount of financial resources in education over the next decade. Alternatively, seek external funding support or optimize resource allocation to manage this demand (Table 4.5).

Table 4.5: Projected Government Expenditure (TZS Billions) on Education by Years, Tanzania, Mainland Tanzania and Tanzania Zanzibar; 2022 – 2050

Years	Tanzania		Mainland Tanzania		Tanzania Zanzibar	
	Primary	Secondary	Primary	Secondary	Primary	Secondary
2022	103.91	61.84	95.93	54.43	7.98	7.41
2023	113.34	65.9	105.13	57.52	8.21	8.38
2024	123.32	70.56	114.46	60.69	8.86	9.87
2025	158.45	77.56	148.89	66.02	9.56	11.54
2026	168.24	84.58	157.95	71.17	10.29	13.41
2027	178.68	90.6	167.47	76.12	11.21	14.48
2028	169.17	118.16	156.98	102.52	12.19	15.64
2029	179.55	125.78	166.1	108.91	13.45	16.87
2030	190.13	133.87	175.35	115.68	14.78	18.19
2031	200.69	142.47	184.72	122.9	15.97	19.57
2032	211.4	126.68	194.2	105.64	17.2	21.04
2033	222.25	134.58	203.78	112	18.47	22.58
2034	233.34	142.76	213.57	118.53	19.77	24.23
2035	244.54	151.35	223.46	125.34	21.08	26.01
2036	255.66	161.02	233.52	132.41	22.14	28.61
2037	267.28	170.74	244.03	139.47	23.25	31.27
2038	279.38	180.54	254.96	146.56	24.42	33.98
2039	292.06	190.25	266.41	153.56	25.65	36.69
2040	305.32	199.02	278.38	160.46	26.94	38.56
2041	319.22	208.15	290.91	167.66	28.31	40.49
2042	333.89	217.65	304.12	175.15	29.77	42.5
2043	349.11	227.67	317.8	183.05	31.31	44.62
2044	365.18	238.23	332.24	191.37	32.94	46.86
2045	381.99	249.2	347.31	199.98	34.68	49.22
2046	399.64	260.74	363.06	209.01	36.58	51.73
2047	418.27	272.74	379.68	218.35	38.59	54.39
2048	437.6	285.31	396.86	228.14	40.74	57.17
2049	457.68	298.69	414.64	238.57	43.04	60.12
2050	478.68	312.62	433.2	249.35	45.48	63.27

Source: RAPID Modelling Results, 2024

This information shows significant impacts on education sector in the coming decade, reinforcing the need for substantial investment and strategic plans to address increasing number of enrolled students in various schools in the country. Hence as the number of primary and secondary school students increases, so too will the demands for teachers, schools and financial resources.

The Government must take an all-inclusive approach including expanding educational infrastructure, increasing the teaching workforce, ensuring adequate learning resources as

well as promoting inclusive, high-quality education to meet the expected increase in number of school-aged children in both primary and secondary education. The government can ensure that the growing population of students gets a high standard of education, which in turn will drive long-term national development if it implements the recommendations.

4.4 Population Dynamics and Urbanization

4.4.1 Overview

Population dynamics and urbanization are deeply interrelated phenomena influencing social, economic, and environmental landscapes globally. This relationship could further generate empirical insights into critical areas of migration, environmental sustainability, and aging. Globally, the urban population has risen from approximately 30 percent in 1950 to about 57 percent in 2021, with projections suggesting an increase to 68 percent by 2050 (WHO, 2023). This shift is more pronounced in developing regions, where urban expansion is expected to account for nearly all future population growth (Glatzel et al., 2024).

Thus, it is necessary to understand the broader implications of population dynamics and urbanization for developing sustainable, and resilient cities at national, sub-regional, regional and global levels. Tanzania is experiencing changes in its urbanization patterns, indicating broader trends as seen in many African nations. The country’s demographic changes are featured by high natural population increases and high volumes of rural – urban migration, especially in major cities. For instance, Tanzania's urban population grew from less than 15 million in 2012 to 21.8 million in 2022; with Dar es Salaam region categorized as urban with 5.4 million people. Moreover, Dar es Salaam region is projected to become a megacity with over 10 million residents by 2030 (Kibhisa, 2023). Thus, this trend informs the decision-makers on the existing interlinkage between population dynamics and urbanization process so as to effectively address associated challenges.

4.4.2 Input Data and Assumptions for RAPID Model

In this section the RAPID model is used to project urbanization from 2022 as a base year up to 2050 using the following urbanization indicators as the main inputs:

Percent of Urban Population is the proportion of individuals living in urban areas (as per the 2022 census definition) compared to the total population. This metric is crucial for understanding demographic shifts, economic development and planning for infrastructure and services. The proportion of urban population living in major cities helps policymakers

and planners to address urban growth related challenges, such as housing shortages, transportation needs and public services. The RAPID Model helps in forecasting the needs based on demographic trends and urbanization rates. The proportion of urban population used was 34.9 percent based on the 2022 PHC.

Percent of Urban Population in Major Cities is the proportion of a country's population that resides in urban areas, particularly in large cities and how this demographic shift impacts various sectors such as labour, education, health and urbanization itself. In this regard, total population for all councils reported as a hundred percent urban were treated as major cities including all Councils of Dar es Salaam region, Dodoma, Mbeya, Tanga, Arusha and Mwanza city councils as well as Mjini council in Mjini Magharibi region in Tanzania Zanzibar.

Persons per Urban Households refers to the average number of individuals living in a single urban household. This metric is important for understanding demographic dynamics, resource allocation, and planning for urban services and infrastructure. The average household size provides insights into family structures, living conditions and social dynamics within urban areas. For instance, a higher number of persons per household may indicate extended family living arrangements, while a lower number could suggest a living arrangement for nuclear family structures or single person households.

Assumptions for projections of population in major cities are as follows; -

i. Establish growth trend between 2012 and 2022. Dodoma City council was Dodoma Municipal in 2012, as such the 2012 population is used for computing growth rate. It should be noted that Dodoma's growth rate is higher than other city councils due to government headquarters moving from Dar es Salaam to Dodoma between 2015 and 2020.

ii. It was observed that population in major cities is growing at a slower rate compared to urban population in general. The proportion of major cities annualized growth rate to that of urban population was applied to the urban population growth rates available in population projections (2022 - 2050) to get population projections in major cities (2022 - 2050). Major cities population as a percentage of urban population from 2022 to 2050 was then computed and used as input.

iii. Household Size: Annualized rate of decline in household size (urban) between 2012 and 2022 was computed to arrive at a value of 1.29 percent. It is assumed that the

rate of decline (annualized) will remain as such through 2050 - leading to a household size of 2.6 in 2050.

Table 4.6: Urbanization Inputs by Base Year, Tanzania; 2022

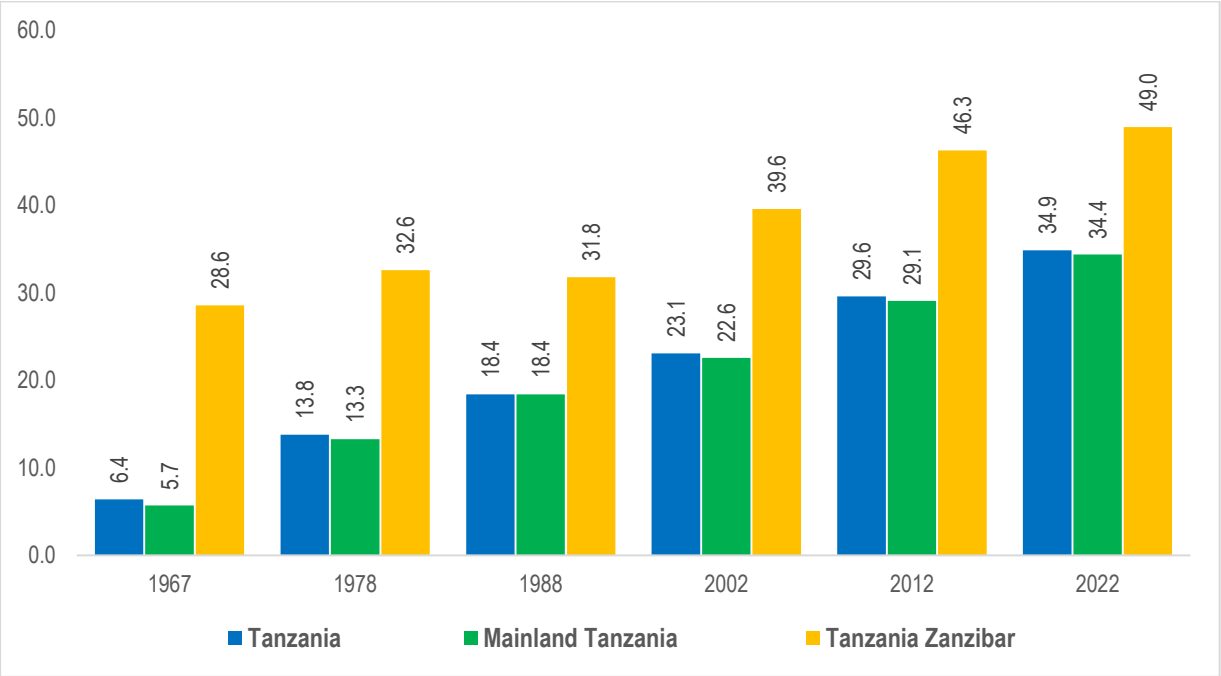
Urbanization Inputs	2022		
	Tanzania	Mainland Tanzania	Tanzania Zanzibar
Percent Urban Population	34.9	34.4	49.2
Percent of Urban Population in Major Cities	39.01	39.71	23.29
Person per Urban Household	3.8	3.8	3.8

4.4.3 RAPID Model Results on Urbanization

4.4.3.1 Status and Trends of Urbanization in Tanzania

The Tanzania Population and Housing censuses (1967, 1978, 1988, 2002, 2012, and 2022) have shown a consistent increase in urban population from 5.7 percent in 1967 to 34.9 percent in 2022 (Gwaleba, 2018; National Bureau of Statistics, 2022). Furthermore, it has been estimated that more than 50 percent of Tanzanians will reside in urban areas by 2050 (Swai and Anasel, 2019). The increasing population in urban areas is placing significant pressure on the demand for essential services in the respective areas. According to the World Bank (2021) identified that influx of people in urban areas resulted into uncontrolled changes in land and building use (land use plan), contributing to urban poverty, overcrowding and slums development. Tanzania's urbanization rate is among the fastest in sub-Saharan Africa, with cities expected to account for nearly 60 percent of the country's GDP by 2030. However, the main driver for urbanization reported in Tanzania is population growth rather than migration into cities (TULab, 2019).

Figure 4.11: Trends of Urbanization in Tanzania; 1967 – 2022 PHCs



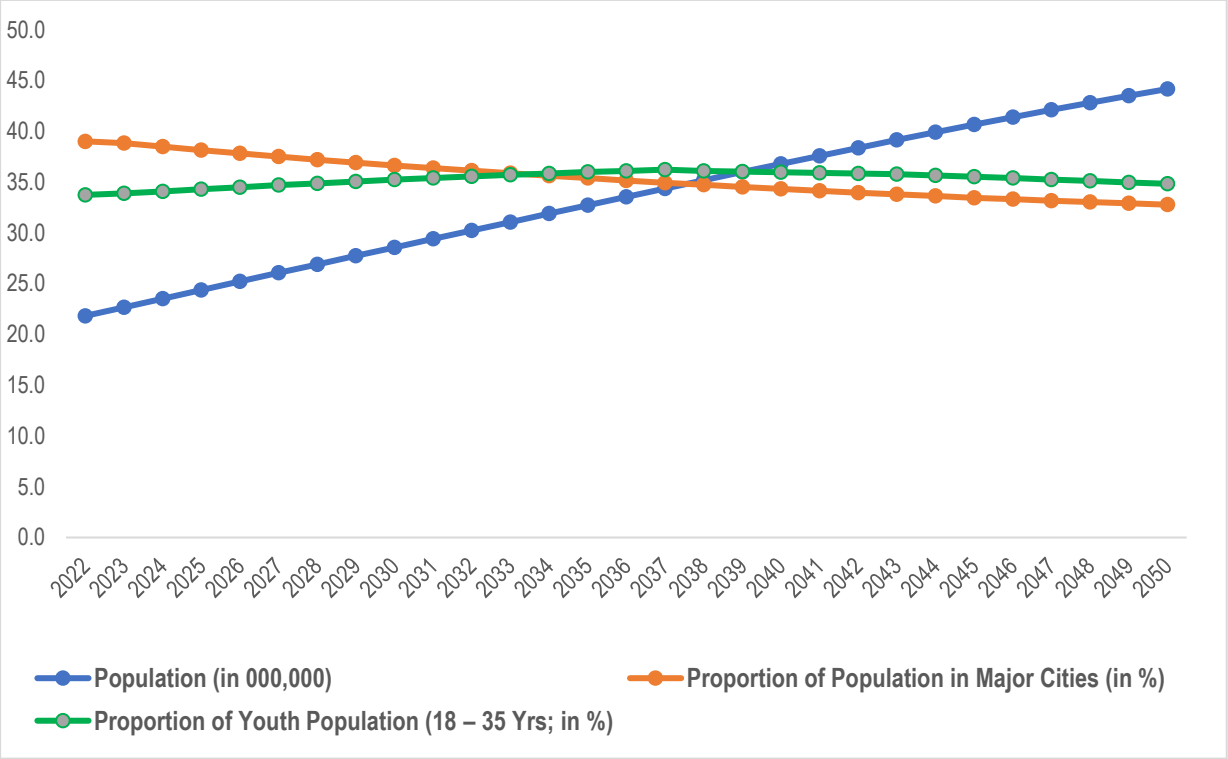
Source: RAPID Modelling Results, 2024

Urban population growth in Tanzania has had significant impact on the country's economy, creating both opportunities and challenges. For instance, urban areas in Tanzania have substantial contribution to the national economy, generating over 50% of the country's GDP (Woral et al., 2017; Rugeiyam et al., 2021). The urban areas are pivotal for economic output and hold the potentials to drive significant growth. However, urbanization can brings challenges such as inadequate infrastructure, high unemployment rates and reliance on the informal sector, need to be addressed. For instance, strategic investments and policies aimed at promoting inclusive development would be essential for ensuring that urbanization translates into sustainable economic benefits for all Tanzanians.

4.4.3.2 The RAPID Model Results on Urbanization

RAPID model results show that, about 48.5 percent of the urban population in Tanzania would be living in major cities by 2050 (Figure 4.12). Moreover, the proportion of youth population (18-35 years) will remain higher (above one third), but decreasing from 37.4 percent in 2022 to 34.8 percent in 2050. The proportion of population living in major cities will continue to be about one third, but declining from 39.0 percent in 2022 to 32.8 percent in 2050 (Figure 4.12).

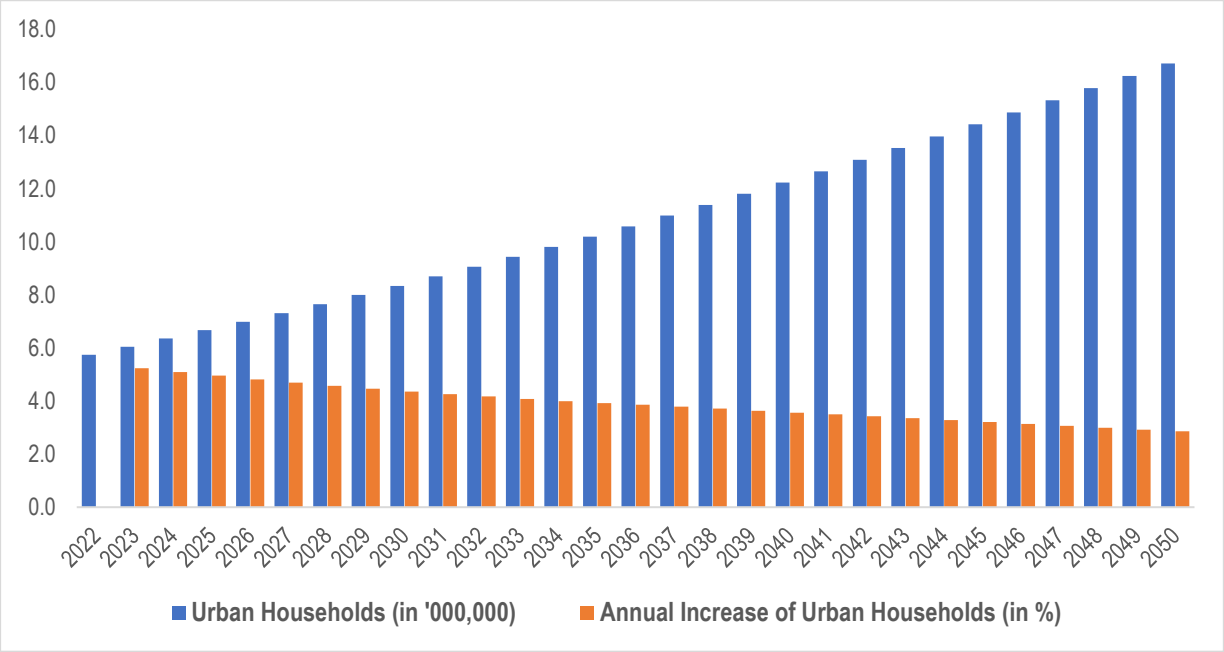
Figure 4.12: Results on Urbanization in Tanzania



Source: RAPID Modelling Results, 2024

Results of RAPID Model show that urban households is projected to exceed 16.7 million by 2050 (Figure 4.13), implying the significant changes in social dynamics, infrastructure needs and environmental impact. Therefore, policy makers focus on creating sustainable urban environment that enhance the quality of life for all residents while addressing the challenges posed by rapid urban expansion. The annual growth rate of new urban households is expected to decline from 5.2 percent in 2023 to 2.9 percent in 2050 (Figure 4.13). This implying a surplus in housing supply, which could stabilize or lowering housing prices in the short term. However, if this trend persists, it could indicate decreasing demand for housing, which may lead to long-term risk to the real estate market. To mitigate these potential risks, local governments should create effective urban management strategies taking into account of the diverse needs in urban households for promoting inclusive development and support sustainable urban planning.

Figure 4.13: Rapid Model Results on Urban Households and Annual New Urban Households



Source: RAPID Model Results, 2024

4.5 Population and Agriculture

4.5.1 Introduction

The relationship between population growth and agriculture is dynamic, as population increases drive greater demanded for food, land and labour. A larger population requires more agricultural production to meet its dietary needs. This drives the expansion of land and intensification of farming practices. However, agricultural practices must continuously adapt to meet growing needs while ensuring sustainability, long-term food security and environmental health.

As Tanzania's population continues to increase, there is an increasing demand for food and other agricultural products. The population growth would need more agricultural production to meet the rising demands of a growing population. The RAPID model was employed to project the production and consumption of major crops by 2050 in Tanzania (BOT, 2023). The analysis includes cereals crops (maize, sorghum and millet, rice and wheat) and non-cereals crops (pulses, banana, cassava, potatoes).

4.5.2 Input Data and Assumptions

Inputs data used in the RAPID model to estimate the production and consumption of major crops include the arable land available, production of major crops in the base year, annual

growth in production of major crops and annual per capita consumption. Tanzania has 44 million of hectares of arable land (Ministry of Lands, Housing and Human Settlements Development), assumed to remain more or less same up to 2050.

Annual growth rates in crop production were computed based on average of annual change in production of cereal and non-cereal crops from the year 2012 to 2021 (2022 excluded since the reported values in the report are provisional and subject to revision in the upcoming annual report). Over the 2012-2021 period, production showed an overall increasing trend, though yearly variations were significant due to climate and climatic changes. A 10-year average growth rate (2.3%) was applied for projections from 2022 to 2050.

The base-year total production was computed using annual growth rate of 18,902,000 MT. Crop requirements obtained from the BOT Annual Report is used as annual consumption. In the report the value is reported in tonnes, therefore the value converted to kilogrammes by multiplying by 1,000. The value is then divided by the 2022 adjusted population to arrive at a per capita consumption of 262 kilogrammes. It is assumed that this value will remain constant until 2050.

Table 4.7: Agriculture Inputs by Base Year, Tanzania, Mainland Tanzania and Tanzania Zanzibar; 2022.

Agriculture Inputs	2022		
	Tanzania	Mainland Tanzania	Tanzania Zanzibar
Arable Land (Millions of hectares)	44	44	0.13
Production of Major Crops (Thousands of MT)	18,902	18,511.00	391.00
Annual Growth in Production of Major Crops	2.3	2.3	4.14
Annual Per Capita Consumption of Major Crops (KG)	262	262	262
Production of Maize (Thousand MT)	6,539	6,537	1.5

4.5.3 Outputs from the RAPID Model and Policy Implications of the Indicators

Table 4.8 indicates that consumption of major crops in Tanzania is projected to rise significantly, increasing from 16,393 thousand metric tons (MT) in 2022 to 30,944 thousand MT in 2050, reflecting an 88.7 percent increase. Thus, the consumption is expected to almost double by 2050. This calls for the country to continue intensifying agricultural initiatives such as Building a Better Tomorrow.

Building a Better Tomorrow for Tanzania is a strategic agricultural initiative designed to ensure that Tanzania's agriculture sector would meet the challenges of a growing population while contributing to economic growth, food security, and environmental sustainability (Ministry of Agriculture, 2024). Tanzania could unlock the full potential of its agricultural sector by embracing modern farming techniques, improving market access, empowering women and youth, and fostering partnerships between government and private sector. With these strategic efforts, Tanzania could build a thriving and sustainable agricultural sector that serves as a foundation for broader economic development and ensures a better tomorrow for all Tanzanians.

Estimates from the RAPID model shows that as Tanzania’s population continues to grow amount of arable land per capita is steadily decreasing.

- In 2022, the arable land per capita stood at 0.70 hectares, but projections show a decline to 0.37 hectares by 2050.
- Mainland Tanzania: is also observed a decline from 0.73 hectares in 2022, decreasing to 0.38 hectares by 2050; and
- Tanzania Zanzibar: decline from 0.07 hectares in 2022 to 0.04 hectares by 20250 (Table 4.8 and Figure 4.14). The rise of population, increasing demand for

agricultural land and other land use practices as well as economic development, result in more pressure on available arable land.

Since the arable land per capita is decreasing, Tanzania must focus on effective land management strategies to maximize productivity while ensuring sustainability. Tanzania's policies must encourage sustainable land use practices that improve soil health also maintain productivity, and implement measures to prevent further degradation and rehabilitate affected areas. As population growth drives higher food demands, crop production is expected to increase substantially. In Tanzania the production of major crops will increase from 18,902 thousand MT in 2022 to 35,729 thousand MT in 2050. For Mainland Tanzania will increase from 18,511 thousand MT in 2022 to 37,698 in 2050 and Tanzania Zanzibar from 391 thousand MT in 2022 to 1,217 thousand MT in 2050.

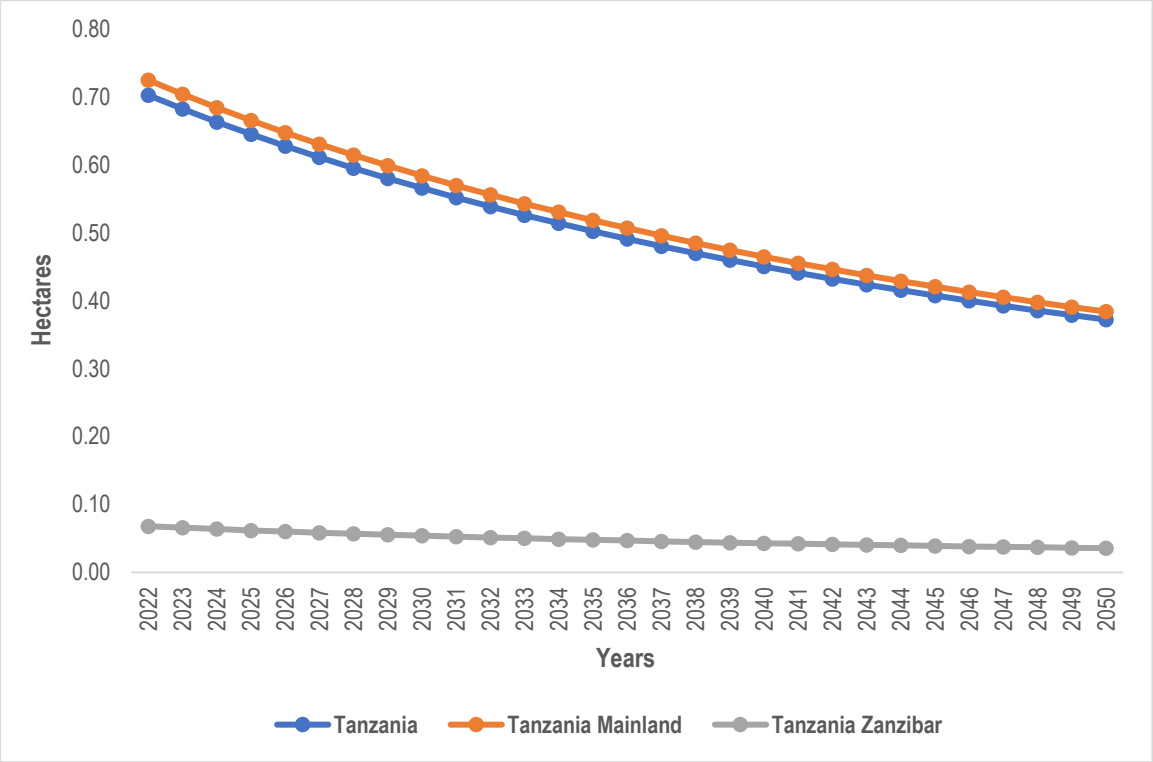
Table 4.8: Agriculture Outputs from the RAPID Model Results by Years, Tanzania, Mainland Tanzania and Tanzania Zanzibar 2022 – 2050

Years	Tanzania			Mainland Tanzania			Tanzania Zanzibar		
	Arable Land Per Capita (Hectares)	Consumption of Major Crops (Thousand MT)	Production of Major Crops (Thousand MT)	Arable Land Per Capita (Hectares)	Consumption of Major Crops (Thousand MT)	Production of Major Crops (Thousand MT)	Arable Land Per Capita (Hectares)	Consumption of Major Crops (Thousand MT)	Production of Major Crops (Thousand MT)
2022	0.70	16,393	18,902	0.73	15,892	18,511	0.07	501	391
2023	0.68	16,877	19,337	0.70	16,360	20,402	0.07	517	407
2024	0.66	17,365	19,781	0.68	16,831	20,871	0.06	534	424
2025	0.65	17,856	20,236	0.67	17,306	21,351	0.06	550	442
2026	0.63	18,350	20,702	0.65	17,784	21,842	0.06	566	460
2027	0.61	18,847	21,178	0.63	18,264	22,345	0.06	582	479
2028	0.60	19,347	21,665	0.61	18,748	22,859	0.06	599	499
2029	0.58	19,850	22,163	0.60	19,235	23,384	0.06	615	519
2030	0.57	20,356	22,673	0.58	19,725	23,922	0.05	631	541
2031	0.55	20,865	23,195	0.57	20,218	24,472	0.05	647	563
2032	0.54	21,377	23,728	0.56	20,714	25,035	0.05	663	587
2033	0.53	21,891	24,274	0.54	21,212	25,611	0.05	679	611
2034	0.51	22,408	24,832	0.53	21,713	26,200	0.05	695	636
2035	0.50	22,928	25,403	0.52	22,216	26,803	0.05	711	663
2036	0.49	23,451	25,988	0.51	22,724	27,419	0.05	727	690
2037	0.48	23,976	26,585	0.50	23,233	28,050	0.05	743	719
2038	0.47	24,506	27,197	0.49	23,747	28,695	0.04	759	748
2039	0.46	25,036	27,822	0.48	24,261	29,355	0.04	775	779
2040	0.45	25,569	28,462	0.47	24,778	30,030	0.04	791	812
2041	0.44	26,104	29,117	0.46	25,297	30,721	0.04	807	845
2042	0.43	26,640	29,787	0.45	25,817	31,427	0.04	823	880
2043	0.42	27,177	30,472	0.44	26,338	32,150	0.04	839	917
2044	0.42	27,715	31,173	0.43	26,859	32,890	0.04	856	954
2045	0.41	28,255	31,889	0.42	27,383	33,646	0.04	872	994
2046	0.40	28,794	32,623	0.41	27,906	34,420	0.04	888	1,035

Years	Tanzania			Mainland Tanzania			Tanzania Zanzibar		
	Arable Land Per Capita (Hectares)	Consumption of Major Crops (Thousand MT)	Production of Major Crops (Thousand MT)	Arable Land Per Capita (Hectares)	Consumption of Major Crops (Thousand MT)	Production of Major Crops (Thousand MT)	Arable Land Per Capita (Hectares)	Consumption of Major Crops (Thousand MT)	Production of Major Crops (Thousand MT)
2047	0.39	29,333	33,373	0.41	28,429	35,212	0.04	904	1,078
2048	0.39	29,871	34,141	0.40	28,951	36,022	0.04	921	1,123
2049	0.38	30,408	34,926	0.39	29,471	36,850	0.04	937	1,169
2050	0.37	30,944	35,729	0.38	29,991	37,698	0.04	953	1,217

Source: RAPID Modelling Results, 2024

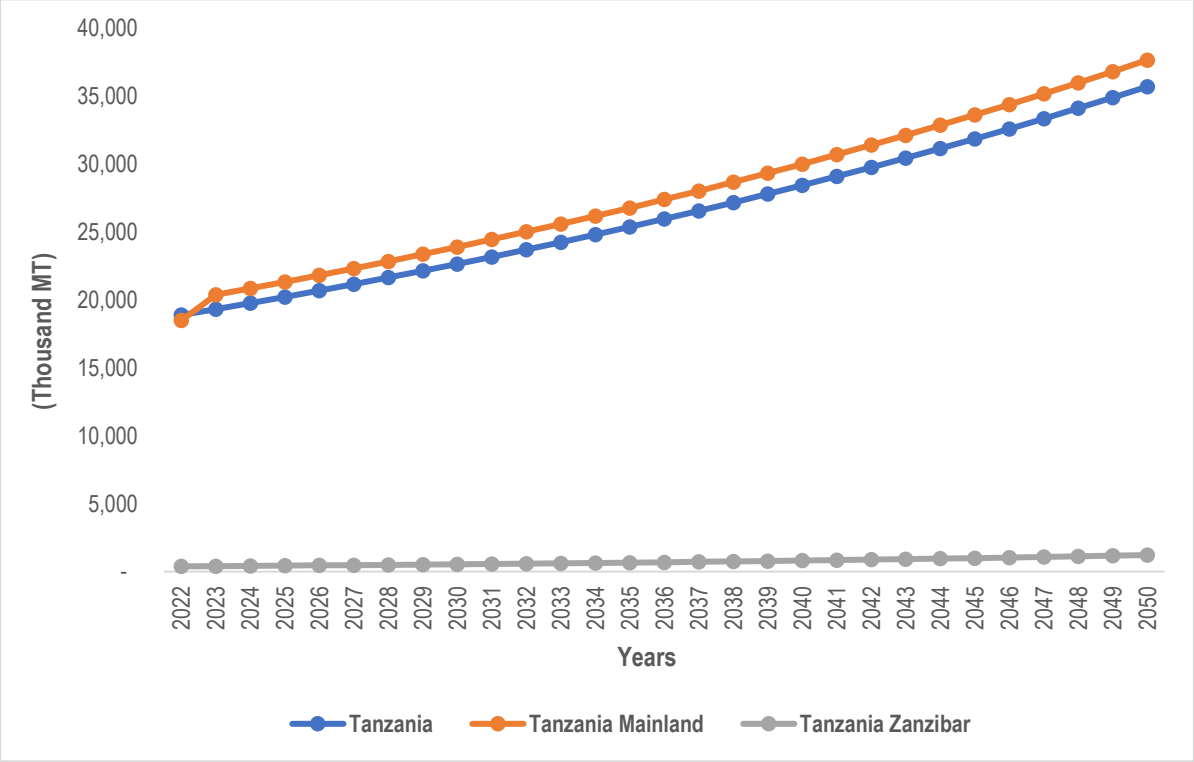
Figure 4.14: Projected Trend of Arable Land, Tanzania, Mainland Tanzania and Tanzania Zanzibar 2022-2050



Source: RAPID Modelling Results, 2024

The trend in production of major crops in Tanzania shows an increasing pattern, nearly doubling from 18,902,000 MT in 2022 to 35,729,000 MT in 2050, representing an 89.0 percent growth. Major crop production for Mainland Tanzania is also expected to double while the production in Tanzania Zanzibar indicate about threefold increase (Table 4.8 and Figure 4.15). The fluctuation in the production of major crops in Tanzania, Mainland Tanzania and Zanzibar from 2022 to 2050 may occur due to a range of internal and external factors affecting agricultural productivity over time. These factors could result in periods of higher or lower crop production, impacting food security, farmer livelihoods, and economic stability. Given these projections, the government must prioritize long-term food sufficiency planning.

Figure 4.15: Projected Trend of Production of Major Crops, Tanzania 2022-2050



Source: RAPID Modelling Results, 2024

4.6 Conclusion

The population of Tanzania is growing and estimated to be 118 million in 2050, while arable land per capita is expected to decline to approximately 0.4 hectares in 2050, posing several challenges and opportunities for the agricultural sector. To sustain food production, farming must become more efficient, requiring better farming practices, advanced technologies, and increased innovations investment to maintain or increase crop yields.

Overuse of land could lead to soil erosion, loss of soil fertility, and reduced food productivity. Sustainable land management practices are essential to avoid these negative consequences and preserve long-term agricultural viability for future generations. The predicted doubling of food consumption by 2050, combined with decreasing arable land area, raises concerns about potential food shortages for the growing population's needs. If agricultural production fails to meet demand, Tanzania could face food insecurity risks, leading to hunger or malnutrition.

A shift towards more intensive farming methods is necessary to meet the increasing food demand. This could evolve using of high-yielding crop varieties, increased use of fertilizers and pesticides and possibly expanding agricultural irrigation. Therefore, the introduction of

Building a Better Tomorrow for Tanzania initiative in Agriculture is important and should be implemented in a proper way to ensure it meets the planned objectives. However, implementing intensive agricultural practices has environmental consequences such as soil depletion, water scarcity, and the ecological impact of chemical inputs. In addition, as arable land availability declines, Tanzania may need to diversify its economy beyond agriculture, expanding other sectors such as manufacturing, services, and technology could be made. This diversification would help to reduce the pressure on land-use and create new economic opportunities easing constrains on the agricultural sector.

In conclusion, the combined effects of rapid population growth, decreasing per capita arable land, and increasing food demand could lead to significant challenges in food security, sustainability, and economic stability. Addressing these issues will require careful planning, strategic investment in agricultural technology and practices, effective land-use policies, and potentiality of economic diversification to ensure that future needs of the population are met.

Chapter Five

Summary of Findings, Policy Implications and Recommendations

5.1 Introduction

This chapter presents a summary of the key findings, policy implications, and policy recommendations, based on results from the 2022 Population and Housing Census (PHC). The aim is to inform the government and stakeholders on the policy options related to population dynamics and development. The 2022 PHC provides baseline information on Tanzania's population for policy formulation and review, development planning, informed decision-making, monitoring, evaluation and reporting of development programmes at national, regional and international levels.

5.2 Population and Development

5.2.1 Population and Health

5.2.1.1 Findings

a) Projected Demand for Health Facilities (2022–2050)

- Tanzania (Total): Expected increase from 7,738 dispensaries, 1,016 health centers, and 429 hospitals in 2022 to 26,731 dispensaries, 4,004 health centers, and 844 hospitals by 2050.
- Mainland Tanzania: Growth from 7,447 dispensaries, 1,016 health centers, and 418 hospitals to 25,723 dispensaries, 3,880 health centers, and 809 hospitals between 2022 and 2050.
- Tanzania Zanzibar: Expansion from 291 dispensaries and 11 hospitals in 2022 to 1,008 dispensaries and 35 hospitals by 2050.

b) Projected Increase in Annual Health Expenditure (2022–2050)

- Total national increase: From TZS 7,223.02 billion in 2022 to TZS 36,262.61 billion in 2050.
- Mainland Tanzania: Growth from TZS 7,029.81 billion in 2022 to TZS 33,704.69 billion in 2050 (approx. fivefold increase).
- Tanzania Zanzibar: Surge from TZS 193.21 billion in 2022 to TZS 2,557.92 billion in 2050 (approx. 13-fold increase).

5.2.1.2 Policy Implications

Currently, health care access remain unequal and quality health services yet to reach every Ward/Shehia. The increase in health facility infrastructure does not match with the increase in human resources for health, leading to gaps in health personnel. While medicines availability has improved, but diagnostic and treatment equipment shortage persist in some areas. If the current population trends continue, the demands of health facilities will rise significantly in 2050.

An increase in annual health expenditure in Tanzania indicates a significant growth in health-related spending, demonstrating efforts to improve healthcare access and quality. However, this increase also poses financial and economic challenges that require careful management and policy intervention. If health spending grows rapidly, several concerns may arise;

- Government Debt – If healthcare expansion is funded through borrowing, it could increase national debt and fiscal pressure.
- Higher Taxes or Out-of-Pocket Expenses – Rising costs may lead to higher taxes or increased direct payments for healthcare, disproportionately affecting low-income households and exacerbating poverty and inequality.
- Inflationary Effects – If demand for healthcare services and infrastructure exceeds supply, inflationary pressures may emerge, reducing citizens' purchasing power and affecting their ability to afford essential goods and services.

While healthcare financing has improved, with greater access to domestic funding sources, resource allocation is not keeping pace with inflation and population growth. The health financing strategy was not fully implemented and the population covered by health insurance is below target.

5.2.1.3 Recommendations

The findings on population and health suggest the following recommendations for policy:

i. Review healthcare budget and expenditure to identify cost-saving opportunity, reduce financial burden on communities, private institutions and the government by prioritizing investment more in prevention programmes, which is less costly than diseases treatment programmes;

ii. Strategies on health infrastructure, personnel, and equipment in proportion to the growth of population, and ensure alignment with long-term development goals by implementing policies that facilitate sustainable health sector expansion; and

iii. Strengthen health insurance systems, expand health insurance coverage by increasing enrolment in health insurance schemes particularly for informal sector workers, rural populations and vulnerable groups as well as improving public awareness to achieve Universal Health Coverage (UHC), particularly through health insurance.

5.2.2 Population and Education

5.2.2.1 Findings

a) Primary and secondary school infrastructure is projected to expand significantly to accommodate growing student enrolment. In Tanzania, secondary school teacher demand is expected to increase from 92,882 in 2022 to 201,041 in 2050. For Mainland Tanzania it will be from 87,087 to 189,106 and for Tanzania Zanzibar the increase will be from 5,795 to 11,935. This increase in demand for teachers shows an estimated growth in secondary school enrolment and indicates the need for investing more on the teaching workforce.

b) For primary level, the Tanzania annual education services expenditure increased from TZS 103.91 billion in 2022 to TZS 478.68 billion in 2050, while for Mainland Tanzania it will be from TZS 95.93 billion to TZS 433.20 billion and for Tanzania Zanzibar from TZS 7.98 billion in 2022 to TZS 45.48 billion in 2050.

5.2.2.2 Policy Implications

i. A surge in enrolment might lead to challenges such as overcrowding in schools; requiring intervention to maintain optimal learning conditions

ii. Increased teacher demand will call for significant investments in teacher training programmes; and

iii. Increased demand for construction of new classrooms as well as building of new schools calls for substantial infrastructure investments to accommodate rising number of students.

5.2.2.3 Recommendations

The following recommendations are proposed based on the key findings presented from the RAPID model:

a. President's Office, Regional Administration and Local Government in collaboration with the Ministry of Education, Science and Technology, should encourage as well as facilitate higher learning institutions to further expand enrolling in respective institution's departments of teacher training;
b. The Government should continue to construct new primary schools so that all school-age children are accommodated and have access to quality education;
c. The Government may need to continue promoting public-private partnership in running primary schools; and
d. The Government should continue to construct secondary schools to ensure all children required to enter secondary schools are accommodated.

5.2.3 Population Dynamics and Urbanization

5.2.3.1 Findings

a) The proportion of urban population in major cities in Tanzania is projected to decrease from 39.0 percent in 2022 to 32.8 percent in 2050;
b) The proportion of young population (18-35 years) will remain significant, but slightly decline from 37.4 percent in 2022 to 34.8 percent in 2050; and
c) The proportion of annual new urban households is expected to drop from 5.2 percent in 2022 to 2.9 percent in 2050 during the same period.

5.2.3.2 Policy Implications

The rapid urbanization in Tanzania has outpaced urban planning, leading challenges such as squatters, traffic congestion, insufficient infrastructure, and informal settlements. Without a cohesive national urban policy, cities are expanding chaotically, which can undermine economic productivity and reduce the quality of life for urban residents.

5.2.3.3 Recommendations

The analysis of population dynamics and urbanization suggests the following recommendations for policy:

a) Enhance infrastructure Investment: Enhance and prioritize transportation networks, housing developments and basic services like water and sanitation to support economic activities and improve living conditions in urban areas.
b) Public-private partnerships could be leveraged to mobilize resources for these initiatives; and

c) There is a need to develop Village Land Use Plans that allocate specific land uses within villages, including designated areas for small industries and support small and medium enterprises (SMEs).

5.2.4 Population and Agriculture

5.2.4.1 Findings

As Tanzania's population continues to grow, arable land per capita is decreasing and production of major crops is increasing. The key findings are as follows:

a) In Tanzania, arable land per capita in 2022 was 0.70 hectares which projected to decrease to 0.37 hectares per capita in 2050, in Mainland Tanzania decreased from 0.73 hectares to 0.38 hectares and in Tanzania Zanzibar decreased from 0.07 hectares to 0.04 hectares;

b) Production of major crops (Thousands MT) will increase from 18,902 in 2022 to 38,915 (Thousands MT) in 2050 – with Mainland Tanzania from 18,511 to 37,698 and Tanzania Zanzibar from 391 to 1,217; and

c) Consumption of major crops is expected to double from16,393.0 (thousand MT) in 2022 to 30,944 (thousand MT) by 2050. For Mainland Tanzania will be from 15,892.0 to 29,991.0 while for Tanzania Zanzibar it will be from 501.0 to 953 respectively.

5.2.4.2 Policy Implications

i. Land Use Management and Agricultural Intensification: The predicted doubling of consumption by 2050, combined with the decreasing amount of arable land, raises the possibility that food production may not cope with the growing population needs.

ii. Land Governance and Tenure Security: Increased land scarcity may lead to conflicts, inefficiencies, and inequitable land distribution, highlighting the need for a well-defined land planning and management framework.

iii. Infrastructure Development: As crop production rises, a robust infrastructure network is required to reduce post-harvest losses, enhance storage capabilities, and improved market access.

iv. Export and Import Balances: Increasing crop consumption domestically may impact exportable surplus and trade balance.

Careful market analysis, trade agreements, and diversification strategies will be necessary to maintain export competitiveness while securing domestic food supply.

5.2.4.3 Recommendations

The findings discussed above suggest the following recommendations for policy purposes:

a) Land use Management - Continue to promote sustainable land use practices that improve soil health and maintain long-term productivity, the following strategies should be prioritized;
   i. Invest in research and development to advance high-yield and drought-resistant crop varieties;
   ii. Encourage precision agriculture and modern farming techniques for improved efficiency and resource management;
   iii. Promote soil fertility management and conservation agriculture practices;
   iv. More efforts should be made on preventing further soil degradation and put in place interventions towards rehabilitating affected areas.

b) Tenure Security:
   i. Enforce clear land tenure laws to secure farmers' rights and reduce conflicts;
   ii. Establish land-use planning frameworks to balance agricultural, industrial, and residential development needs;
   iii. Implement policies that discourage land degradation and deforestation, preserving natural resources and biodiversity.

c) Foster Public-Private Partnership:
   i. Create incentives to attract private investment in agriculture and infrastructure
   ii. Strengthen farmer cooperatives to pool resources and access markets, and economic resilience
   iii. Introduce smart farming technologies through partnerships with tech companies.

5.3 Concluding Remarks

The population dynamics and development monograph is essential for analyzing Tanzania’s demographic trends and their implications for both current and future development process. Analysis of population dynamics provides the country with a

critical tool for informed, evidence-based decision-making. It enables the country to plan strategically plan for the future growth, optimize resource allocation, address demographic challenges and build a more inclusive and sustainable society. By aligning demographic trends with international and national development goals, Tanzania can develop policies that enhance the well-being of its people, improve quality of life and achieve long term prosperity.

The Resources for Awareness of Population Impacts on Development (RAPID) model was employed to project the social and economic consequences of high fertility and rapid population growth for economy, education, health, urbanization and agriculture sectors. Results show an increasing trend in the health facilities and health personnel as well as recurrent health expenditure. The education sector also indicates the need for more teaching personnel, schools and recurrent expenditure due to increasing number of school-age going children. Projections on urbanization indicate an increasing number of people who will be living in urban areas and exert pressure on social services. As Tanzania's population continues to grow, several key challenges emerge; Declining arable land per capita, requiring efficient land management practices, on the other, it would also rise the demand for employment opportunities since job creation cannot keep pace with the growth of population.

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Appendices

Appendix 1: List of Contributors

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Appendix 2: Questionnaire

The United Republic of Tanzania

QUESTIONNAIRE FOR THE 2022 POPULATION AND HOUSING CENSUS

The Sixth Post Union Census

Strictly Confidential

This census is conducted in accordance with Section 6(2)(a) of the Statistics Act Cap. 351 || All responses collected in this census are protected under this Act

SECTION A: IDENTIFICATION

Region	District	Council	Constituency	Division/Wadi	Ward/Shehia	Village/Mtaa	Hamlet/Enumeration Area (EA)	Household Number	CONFIDENTIAL

A01 Please State the number all persons who Spent here at the Census Night

SECTION B: DEMOGRAPHICS INFORMATION

B01 No.	B02 HOUSEHOLD MEMBERS	B03 RELATIONSHIP TO THE HEAD							B04 SEX		B05 AGE	B06 MARITAL STATUS (APPLICABLE TO AGE 10+)							B07 MOBILE PHONE (AGE 15+)
	Please state the names of all persons who spent the census night, that is Monday night before Tueday 23rd August, 2022 in your household, starting with the name of the head of household. DO NOT FORGET TO INCLUDE ALL INFANTS, HOUSEHOLD MEMBERS WHO SLEPT IN A NEARBY FUNERAL AND THOSE WORKING NIGHT SHIFTS SUCH AS NURSES, DOCTORS, POLICE, GUARDS, ETC. WRITE DOWN FULL NAME OF EACH HOUSEHOLD MEMBER	What is the relationship of [NAME] to the head of the household?							Is [NAME] a male or a female?		How old is [NAME]? WRITE AGE IN COMPLETE YEARS. IF UNDER ONE YEAR WRITE "00" FOR 97 YEARS AND ABOVE WRITE '97'	What is current marital status of [NAME]? never married, married, living together, divorced, separated, widowed?							Please give the mobile number of [NAME]? WRITE THE MOBILE NUMBER OF ALL HOUSEHOLD MEMBERS AGED 15+.
		Head	Spouse	Son/Daughter	Biological Parent	Grand Child	Other Relative	Not Related	Male	Female		Never Married	Married	Living Together	Divorced	Separated	Widowed	Not Stated	
		1	2	3	4	5	6	7	1	2		1	2	3	4	5	6	9	
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0 3																			
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0 5																			
0 6																			
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0 8																			

SECTION A: IDENTIFICATION

Region	District	Council	Constituency	Division/Wadi	Ward/Shehia	Village/Mtaa	Hamlet/Enumeration Area (EA)	Household Number	CONFIDENTIAL

SECTION C: INFORMATION ON DISABILITIES/DIFFICULTIES

B01	C01 ALBINISM	C02 SEEING	C03 HEARING	C04 WALKING	C05 REMEMBERING	C06 SELFCARE
No.	Is [NAME] an albino?	Does (NAME) have difficulty seeing, even if wearing glasses?	Does (NAME) have difficulty hearing, even if using a hearing aid?	Does [NAME] have difficulty walking or climbing steps?	Does (NAME) have difficulty remembering or concentrating?	Does (NAME) have difficulty with self-care, such as washing all over or dressing?
	1 Yes 2 No	1 No Difficulty 2 Some Difficulty 3 A Lot of Difficulty 4 Unable to See 5 Not Applicable	1 No Difficulty 2 Some Difficulty 3 A Lot of Difficulty 4 Unable to Hear 5 Not Applicable	1 No Difficulty 2 Some Difficulty 3 A Lot of Difficulty 4 Unable to Walk 5 Not Applicable	1 No Difficulty 2 Some Difficulty 3 A Lot of Difficulty 4 Unable to Remember 5 Not Applicable	1 No Difficulty 2 Some Difficulty 3 A Lot of Difficulty 4 Unable to Care 5 Not Applicable
01						
02						
03						
04						
05						
06						
07						
08						

SECTION A: IDENTIFICATION

Region	District	Council	Constituency	Division/Wadi	Ward/Shehia	Village/Mtaa	Hamlet/Enumeration Area (EA)	Household Number	
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SECTION C: INFORMATION ON DISABILITIES/DIFFICULTIES

B01	C07 COMMUNICATION	C08 OTHER DISABILITIES	C09 CAUSE OF DISABILITY	C10 ASSISTIVE DEVICES AND MATERIALS
No.	USING THE COMMON LANGUAGE: Does [NAME] have difficulty communicating; for example understanding or being understood?	Does, [NAME] have other type of disabilities/difficulties among the following? READ ALL TYPES OF DISABILITIES/ DIFFICULTIES TO RESPONDENT Yes = 1 | No = 2 | Don't know = 9	ASK FOR EVERY TYPE OF DISABILTY FROM C02 TO C07 IF CODE 3 OR 4 OR CODE 1 IN QUESTION C08 What is the cause of disability for [NAME]? MULTIPLE RESPONSE IS ALLOWED	ASK IF QC01 = 1 OR ANY QUESTION FROM QC02 TO Q07 = 3 OR 4 OR QC08 IS CODE 1 FOR B,C,D Does [NAME] has disability assistive devices or materials? Yes = 1 | No = 2

		No Difficulty	Some Difficulty	A Lot of Difficulty	Unable to communicate	Not Applicable	Cleft Palate	Hydrocephalus	Spinal bifida	Spinal cord injuries	Epilepsy or seizures	Psoriasis	Storiasis	Autism	Mental Health	Mental Disorder	Person with short stature	Leprosy	Person with hunchback	Other disability	Inborn	Disease	Accident	Old age	Beaten	Contaminated water	Stress	Drug abuse	Pregnancy/birth complications	
		1	2	3	4	5	A	B	C	D	E	F	G	H	I	J	K	L	M	X	A	B	C	D	E	F	G	H	I	
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0	5																													
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SECTION A: IDENTIFICATION

Region	District	Council	Constituency	Division/Wadi	Ward/Shehia	Village/Mtaa	Hamlet/Enumeration Area (EA)	Household Number	CONFIDENTIAL

SECTION D: MIGRATION INFORMATION

B01 No.	D01 CITIZENSHIP	D02 DUAL CITIZENSHIP	D03 PLACE OF RESIDENCE	D04 WHERE RESPONDENT SPENDS MOST OF THE DAY TIME	D05 PLACE OF BIRTH
	What is (NAME) country of citizenship? IF TANZANIAN, WRITE CODE 001 IF NON-TANZANIAN WRITE APPROPRIATE CODE, FOR DUAL CITIZENSHIP WRITE "888" ►IF THE ANSWER IS CODE OF RESPECTIVE COUNTRY GO TO DO3	What is (NAME) countries of citizenship? WRITE CODES FOR THE COUNTRIES MULTIPLE RESPONSE IS ALLOWED FISRT COUNTRY SECOND COUNTRY	Which region/country does [NAME] usually live? WRITE CODE FOR THE COUNTRY, REGION AND DISTRICT IF LIVING IN TANZANIA, OR COUNTRY CODE IF LIVING OUTSIDE TANZANIATHEN GO TO THE NEXT QUESTION	Where do you spend most of your time during the day? WRITE COUNTRY, REGION AND DISTRICT CODES IF SPENDS MOST OF THE DAY TIME IN TANZANIA OR COUNTRY CODE IF OUTSIDE TANZANIA THEN GO TO THE NEXT QUESTION CODES FOR THE 8th BOX Rural =1 Regional /District Headquarters =2 Other Urban= 3	In which region/country was [NAME] born? WRITE CODE FOR COUNTRY, REGION AND DISTRICT IF BORN IN TANZANIA OR COUNTRY CODE IF BORN OUTSIDE TANZANIA. IF COUNTRY OF BIRTH IS UNKNOWN WRITE "9999999" ►IF THE RESPONDENT WAS BORN IN THE REGION WHERE THE INTERVIEW IS TAKING PLACE GO TO D10
01					
02					
03					
04					
05					
06					
07					
08					

SECTION A: IDENTIFICATION

Region	District	Council	Constituency	Division/Wadi	Ward/Shehia	Village/Mtaa	Hamlet/Enumeration Area (EA)	Household Number	
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SECTION D: MIGRATION INFORMATION

B01	D06 TIME OF ARRIVE	D07 LIVING PERIOD	D08 PREVIOUS RESIDENCE	D09 MAIN REASON FOR MIGRATION	D10 PLACE OF RESIDENCE IN YEAR 2012	D11 PLACE OF RESIDENCE IN YEAR 2021
No.	When did [NAME] arrive to live in this region/country? WRITE MONTH AND YEAR OF ARRIVAL OF A CURRENT PLACE MM YYYY	How long has [NAME] been living in this region/Country? WRITE COMPLETE YEARS. IF LESS THAN ONE YEAR WRITE "00"	Where was [NAME] living before coming here? IF IN TANZANIA WRITE CODE 01 FOR RURAL, 02 FOR URBAN AREA AND COUNTRY CODE FOR OUTSIDE TANZANIA AND IF COUNTRY IS UNKWOWN WRITE CODE 999	What was [NAME's] main reason for moving to this region/to Tanzania?	In which Region /Country was [NAME] living during 2012 census? WRITE CODE FOR THE COUNTRY, REGION AND DISTRICT IF LIVING IN TANZANIA, OR COUNTRY CODE IF LIVING OUTSIDE TANZANIA THEN GO TO THE NEXT QUESTION IF COUNTRY IS UNKOWN WRITE CODE 999 ►TO BE ASKED FOR PERSONS AGED 11 YEARS OR ABOVE	In which Region /Country was [NAME] living in 2021? WRITE CODE FOR THE COUNTRY, REGION AND DISTRICT IF LIVING IN TANZANIA, OR COUNTRY CODE IF LIVING OUTSIDE TANZANIA THEN GO TO THE NEXT QUESTION ► FOR CHILDREN AGED '00' DON'T ASK THIS QUESTION SKIP TO E01

	To take up a paid job	Job transfer	To look for work/green pasture/clients	Study/training	Marriage	Family moved/joining family	Medical treatment/health care	Conflict/insecurity/natural disaster	Looking for suitable land for agriculture	Looking for suitable site for fishery activities	Looking for suitable grazing land	Cost of living	Moving into a new homestead	Visit friend/family	Conflict of Marriage/Family	Death of parent (s)	To be cared
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
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SECTION A: IDENTIFICATION

Region	District	Council	Constituency	Division/Wadi	Ward/Shehia	Village/Mtaa	Hamlet/Enumeration Area (EA)	Household Number	
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SECTION E: INFORMATION ON POSSESSION OF NATIONAL DOCUMENTS AND ORPHANHOOD

B01	E01 BIRTH CERTIFICATE, PASSPORT, AND HEALTH INSURANCE						E02 OTHER DOCUMENTS - FOR PERSON AGED 18+						E02F ENTREPRENEUR ID - FOR PERSON AGED 5+	E03 SURVIVAL OF PARENTS (APPLICABLE TO PERSONS BELOW AGE 18)	
No.	Does [NAME] have the following Identification? Yes = 1 | No = 2 | Don't know = 9 QUESTION E01F SHOULD BE ASKED FOR A PERSON AGED 60 YEARS OR ABOVE						Does [NAME] have the following National Documents? Yes = 1 | No = 2 | Don't know = 9 ► IF D01 NOT TANZANIAN DON'T ASK CODE C, E AND F E02A1: IF A or B IS CODE 1, ASK, Please, mention National ID number of [NAME] E02C1: IF CODE C IS 1, ASK, Please, mention Zanzibar ID number of [NAME]						► IF D01 NOT TANZANIAN DON'T ASK THIS QUESTION Does [NAME] have small entrepreneur ID? Yes = 1 | No = 2 | Don't know = 9 IF CODE 2 OR 9 SKIP TO E03 E02F1: IF CODE 1, ASK, Please, mention Entrepreneur ID number of [NAME] IF ID IS NOT FOUND OR DOES NOT REMEMBER THE ID NUMBER WRITE CODE "999999999"	Is [NAME]'s Father alive? Is [NAME]'s Mother alive? Yes = 1 | No = 2 | Don't Know = 9	
	Birth Certificate	Birth Notification	Travel Passport	National Health Insurance/ Community Health Insuarence	Other Health Insuarence	Card for elderly treatment	National ID (NIDA)	National ID Number (NIDA)	Zanzibar ID	Driving Licence	Voter's ID	FILL ID NUMBER	FILL ID NUMBER	Father	Mother
	A	B	C	D	E	F	A	B	C	D	E				
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SECTION A: IDENTIFICATION

Region	District	Council	Constituency	Division/Wadi	Ward/Shehia	Village/Mtaa	Hamlet/Enumeration Area (EA)	Household Number	CONFIDENTIAL

SECTION F: EDUCATION INFORMATION - ALL PERSONS AGED 4 YEARS OR ABOVE

B01	F01 READING AND WRITING	F01A NUMERACY	F02 SCHOOL ATTENDANCE	F03 REASON FOR SCHOOL DROPOUT - 4 TO 24 YEARS	F04 LEVEL OF EDUCATION
No.	Can [NAME] read and write a short sentence in Kiswahili, English, Kiswahili and English or any other language? Kiswahili = 1 English = 2 Kiswahili and English = 3 Other Languages = 4 Illiterate = 5	Can [NAME] do a simple arithmetics addition, substraction, division or multiplication? Yes = 1 | No = 2	Is [NAME] currently attending, partially attended, completed or never attended school? Now attending =1 Partially attended =2 Completed =3 Never attended =4 ► IF CODE 1 OR 3 SKIP TO F04	What was the main reason for [NAME] school dropout/never attended?	► ASK IF F02 CODED 1, 2 OR 3 What level of education has [NAME] completed or is currently attending? WRITE THE APPROPRIATE CODE

				Financial Constraints	School too far away	Ill/Sick	Disability	Pregnancy	Truancy/Refusal	Indispine behaviour /Expulsion	To work/looking for work	Caring for the sick/children	Marriage	Difficulty/dangerous environment	Unfriendly infrastructure	Not started school	
				01	02	03	04	05	06	07	08	09	10	11	12	13	
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CODES FOR F03

Education level	Code
Pre Primary	00
Std 1	01
Std 2	02
Std 3	03
Std 4	04
Std 5	05
Std 6	06
Std 7	07
Std 8	08

Secondary Education

Education level	Code
Pre form one	18
Form 1	09
Form 2	10
Form 3	11
Form 4	12
Form 5	13
Form 6	14

Education after Primary/Secondary School

Education level	Code
University and other related	15
Training after Primary Education	16
Training after secondary education	17
Unit (People with mental disabilities/mental health disabilities)	19

SECTION A: IDENTIFICATION

Region	District	Council	Constituency	Division/Wadi	Ward/Shehia	Village/Mtaa	Hamlet/Enumeration Area (EA)	Household Number	CONFIDENTIAL

SECTION G: INFORMATION ON ECONOMIC ACTIVITY - ALL PERSONS AGED 5 YEARS OR ABOVE

B01	G01 WORK DURING LAST WEEK	G02 TEMPORARY ABSENCE	G03 SEEKING WORK	G04 AVAILABLE TO WORK
No.	During the period of Last week, which of the following work/activity did [NAME] do for many hours? ENUMERATOR: READ CATEGORIES	Even though [NAME] did not work last week, did [NAME] have a paid job,or any kind of business, or farming or other activity to generate income that you were absent from and definitely you will return to? EXAMPLES OF TEMPORARY ABSENCE • WAGE JOBS: LEAVE, STOOD DOWN, ILLNESS, STUDY LEAVE BUT STILL ATTACHED TO A JOB • BUSINESS/AGRIC: TEMPORARY ABSENCES WHILE ACTIVITY CONTINUES DURING THAT ABSENCE; • UNPAID WORKERS AND CASUAL WORKERS SHOULD NOT BE INCLUDED UNDER TEMPORARY ABSENT.	Did [YOU/NAME] taken any steps during the past four weeks to look for a paid job or start a business or an activity to generate income?	At present are [YOU/NAME] available to take up a paid job,or do any kind of business, farming or any activity to generate income if such opportunity arises?
	To take up a paid job (1) | Do activity or business for generate income/help a family member in paid job or business? (2) | Work or help in family agricultural activities including crop farming, livestock or fishing? (3) | Own account work - Prepare or preserved food or drinks for storage/Construction work or help a family member with similar (4) | Did not do any work or activity (5)	Yes . . . . . 1 No 2	Yes (1) | No (2)	Yes (1) | No (2)
	►IF CODE 1, 2, 3 OR 4 SKIP TO G05	► IF CODE 1 SKIP TO G05		► FOR ANY ANSWER SKIP TO G08
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0 4				
0 5				
0 6				
0 7				
0 8				

SECTION A: IDENTIFICATION

Region	District	Council	Constituency	Division/Wadi	Ward/Shehia	Village/Mtaa	Hamlet/Enumeration Area (EA)	Household Number	CONFIDENTIAL

SECTION G: INFORMATION ON ECONOMIC ACTIVITY - ALL PERSONS AGED 5 YEARS OR ABOVE

B01	G05 OCCUPATION	G06 OWNER OF THE ENTERPRISE	G07 MAIN ECONOMIC ACTIVITY	G08 MINING AND QUARRYING ACTIVITY	G09 EMPLOYMENT STATUS
No.	ENUMERATOR: THE FOLLOWING QUESTIONS ARE ABOUT [NAME'S] MAIN JOB OR BUSINESS. YOUR MAIN JOB IS THE ONE ON WHICH YOU USUALLY SPEND MOST OF YOUR WORKING TIME INCLUDING THOSE WHO WERE TEMPORARY ABSENT In main job, what kind of work does [NAME] usually do? WRITE OCCUPATION FULLY OR AT LEAST IN TWO WORDS	In your main work, who is the owner of the enterprise?	What is the main activity of the business or place where [NAME] work[s]? WRITE ACTIVITY FULLY OR AT LEAST IN TWO WORDS	During the period of 12 Months that is from August 2021 to the day before the census Night, Did [YOU/NAME] work on the following mining or quarrying activities? ► IF CODE "Z" SKIP TO QN. G10 READ RESPONSES	In [YOUR/NAME's] job, [do/does] [YOU/NAME] work as....?
	DESCRIPTION / TASCO CODES	01 Central Government; 02 Local Government; 03 Parastatal Organization; 04 NGO,religious organisation, political party, Non-profit institution; 05 International organization or foreign embassy; 06 Private business (non-farm); 07 Registered partnership or cooperative; 08 Own or familily farm; 09 Household(s) domestic worker; 10 Household - Other economic activities; 11 Other Private	DESCRIPTION / ISIC CODES	A Tanzanite; B Gold; C Diamond; D Sands; E stone/gravel; F Other precious gems; G Other non-precious gems; Z Not Applicable	1 Paid Employee; 2 Self Employed without employees; 3 Self employed with employees; 4 casual worker; 5 Workers not clasifiable by status
01					
02					
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04					
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07					
08					

SECTION A: IDENTIFICATION

Region	District	Council	Constituency	Division/Wadi	Ward/Shehia	Village/Mtaa	Hamlet/Enumeration Area (EA)	Household Number	
									CONFIDENTIAL

SECTION G: INFORMATION ON ECONOMIC ACTIVITY - ALL PERSONS AGED 5 YEARS OR ABOVE

B01	G10 AGRICULTURAL ACTIVITIES						G11 TYPES OF CROPS						G11A LEGAL RIGHT OVER THE OWNERSHIP								G12 TYPES OF LIVESTOCK				G13 TYPES OF FISHERY AND ACQUACULTURE		G14 TYPES OF FOREST TREES	
No.	Does [NAME] involved in agricultural activities during 2021/22 agricultural year? MULTIPLE RESPONCE IS ALLOWED ► IF CODE Z SKIP TO QN. G15						Fill Crop Type Codes (At most two)						What legal right do you have over the ownership of the land used for crop production in the aagricultural year 2021/22?								Fill Livestock Type Codes (At most two)				Fill Capture Fishery, Acquaculture Activity and Sea Weeds production Codes (At most two)		Fill Forestry/Tree Activity Type Codes (At most two)	
	Crop Farming	Livestock Keeping	Capture Fishery and Acquaculture (Fish farming, Crab, Sea Weeds production etc)	Forestry/Tree Activity	Not Applicable	FIRST CROP			SECOND CROP			Title deed	Customary law	Contract	Rented	Share cropped	Land under other forms of tenure	Doesnot own	Don't know	1st LIVESTOCK		2nd LIVESTOCK		1st ACTIVITY	2nd ACTIVITY	1st ACTIVITY	2nd ACTIVITY
	A	B	C	D	Z							A	B	C	D	E	F	G	Z								
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Codes for COL. G11

Maize	11	Field peas	37	Banana	71	soursop	215	Seaweed	19
Paddy	12	Fiwi	101	Avocado	72	Rassberry	216	Cashew nut	46
Sorghum	13	Sunflower	41	Mango	73	flower	217	Tobacco	51
Bulrush Millet	14	Sesame	42	Papaw	74	Lime	851	Pyrethrum	52
Finger Millet	15	Groundnut	43	Pineapple	75	Lemon	852	Sisal	53
Wheat	16	Palm Oil	44	Orange	76	Cabbage	86	Coffee	54
Barley	17	Coconut	45	Grapes	78	Spinach	88	Tea	55
Cassava	21	Soyabeans	47	Mandarin	79	Carrot	89	Cocoa	56
Sweet Potatoes	22	Caster seed	48	Guava	80	Chilies	90	Rubber	57
Irish potatoes	23	Cotton	50	Plums	81	Amaranths	91	Sugar cane	60
Yams	24	Malay apple	38	Apples	82	Pumpkins	92	Cardamom	61
Cocoyams	25	Bread fruit	67	Pears	83	Cucumber	93	Jute	62
Onions	26	Jack fruit	69	Peaches	84	Egg Plant	94	Cinnamon	64
Ginger	27	Passion Fruit	70	Durian	97	Water Mellon	95	Clove	66
Garlic	28	Solanum Nigrum	903	Rambutan	99	Cauliflower	96	Olive	110
Beans	31	collard greens	904	Custard Apple	200	Okra	100	Green Tomato	300
Cowpeas	32	Grapefruit	77	God Fruit	201	Coriander seed	102	Lemon grass	307
Green gram	33	Pomelo	68	Plum	203	Tomatoes	871	Other	998
Pigeon pea	34	Bilimbi	98	Date	210	White eggplant	872	Pumpkin leaves	906
Lentils	35	Star fruit	39	Vanilla	212	Green pepper	901	Black Pepper	18
Bambara nuts	36	Nutmeg	65	Strawberry	213	Brocol	905	Not applicable	999

Codes for COL. G12

Cattle	1
Goat	2
Sheep	3
Pig	4
Horse	5
Donkey	6
Chicken	7
Duck	8
Turkey	9
Rabbit	10
Other livestock	98
Not Applicable	99

Codes for COL. G13

Capture Fishery	1
Acquaculture (fish farming, crab, etc exclude sea weed)	2
Sea Weed Production	3
Not Applicable	9

Codes for COL. G14

Bee Keeping	1
Production of Seedling	2
Tree Plantation	3
Forest Product	4
Gathering and Hunting	5
Other forestry activities	8
Not Applicable	9

SECTION A: IDENTIFICATION

Region	District	Council	Constituency	Division/Wadi	Ward/Shehia	Village/Mtaa	Hamlet/Enumeration Area (EA)	Household Number	
									CONFIDENTIAL

SECTION G: INFORMATION ON ECONOMIC ACTIVITY - ALL PERSONS AGED 5 YEARS OR ABOVE

B01	G15	G16		G17	G18	G19								G20											
No.	Does [NAME] engage in any informal economic activitiy? Yes = 1 | No = 2 ►IF CODE 2 SKIP TO H01	What is the main activity of [NAME]'s business? WRITE ACTIVITY FULLY OR AT LEAST IN TWO WORDS		In which area does [NAME] mostly work?	Is [NAME] a member of Machinga Union Federation (SHIUMA)? Yes = 1 | No = 2	Currently, how much capital does [NAME] have?								What is the main source of [NAME]'s capital?											
		DESCRIPTION	ISIC CODE			Less than 10,000	10,000 - 49,999	50,000 - 99,999	100,000 - 199,999	200,000 - 499,999	500,000 - 999,999	1,000,000 - 9,999,999	10,000,000 or more	Own sources (Personal savings from salary/crops	Government assistance	Loan from Government	TASAF	Private persons assistance (friends,	Donor Assistance/Loan	Loan from Banks	Loan from Pension Funds (PSSSF, NSSSF, etc)	Loan from Cooperatives associations	Employer Assistance	Loan from Employer	Loan from SACCOS/VICOBA	Loan from SHIUMA
						1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9	10	11	12	13
01																									
02																									
03																									
04																									
05																									
06																									
07																									
08																									

CODES FOR QUESTION G17

WITHOUT PERMANENT PRIMISES

Hawking/mobile	01
Improvised post on the roadside	02
Permanent post on the roadside	03
Vehicle, motor bike, Tricycle, Bicycle	04
Customer's home	05
In my own/partner's home without special installation	06
Online bussiness	07
Improvised post in a market	08
Garbage area	09
Construction sites	10
Other without permanent premises	11

WITH PERMANENT PRIMISES

Permanent premises in a market (shop, kiosk, shed)	12
Workshop, shop, restaurant, hotel	13
Taxi station in permanent structure/ Public transport with fixed route	14
Bicycle /Boda boda/ Tricycle stations	15
Mining site	16
Farm/fishing or grazing area	17
Industrial area	18
Other area with permanent premises	19
In my own/partner's home with special installation	20

SECTION A: IDENTIFICATION

Region	District	Council	Constituency	Division/Wadi	Ward/Shehia	Village/Mtaa	Hamlet/Enumeration Area (EA)	Household Number	CONFIDENTIAL

SECTION H: LAND OWNERSHIP AND INFORMATION REGARDING ICT

B01	LAND OWNERSHIP - ALL PERSONS									INFORMATION REGARDING ICT - 4 YEARS OR ABOVE													
No.	H01 OWNERSHIP OF LAND					H02 TITLE DEED					H03 EQUIPMENTS OWNERSHIP				H04 EQUIPMENTS USED				H05 EQUIPMENT USE					
	Does [NAME] own any agricultural or non agricultural land either alone or jointly with someone else? ► IF THE ANSWER IS 4 OR 9 SKIP TO H03					Does [NAME] have title deed with his/her name on it?					Did [NAME] own the following equipments in the past 3 months? YES = 1 | NO = 2 | Don't Know = 9				Did [NAME] use the following equipments in the past 3 months? Yes = 1 | No = 2 | Don't Know = 9 ► IF CODE 2 OR/AND 9 FOR ALL, SKIP TO QN. I01				In which of the following activities did [YOU/NAME] you use the equipments? Yes = 1 | No = 2 | Don't Know = 9 READ ALL CATEGORIES					
	Alone	Jointly	Both alone and jointly	Does not own	Don't Know	Alone	Jointly	Both alone and jointly	No title deed	Don't Know	Smart phone/Tablet	Mobile phone	Desktop	Laptop	Smart phone/Tablet	Mobile phone	Desktop	Laptop	Communication	Search/receive information	Online buisness	Learning	Playing games/Entertainment	Sending and receiving money
	1	2	3	4	9	1	2	3	4	9	A	B	C	D	A	B	C	D	A	B	C	D	E	F
01																								
02																								
03																								
04																								
05																								
06																								
07																								
08																								

SECTION A: IDENTIFICATION

Region	District	Council	Constituency	Division/Wadi	Ward/Shehia	Village/Mtaa	Hamlet/Enumeration Area (EA)	Household Number	CONFIDENTIAL

SECTION I:INFORMATION ON FERTILITY - FEMALES AGED 10 YEARS OR ABOVE

B01		CHILDREN EVER BORN - CHILDREN SURVIVING			FERTILITY IN LAST 12 MONTHS FOR WOMEN AGED 10 TO 49 YEARS
No.	I01 BIRTH	I02 BORN ALIVE IN HOUSEHOLD	I03 BORN ALIVE LIVING ELSEWHERE	I04 CHILDREN DIED	I05 CHILDREN BORN ALIVE
	Have you ever given live birth? Yes = 1 | No = 2 ► IF CODE "2" SKIP TO I04	How many male/female children were born alive to [NAME] and are now living with you/her in this household? IF SHE IS NOT LIVING WITH ANY OF HER CHILDREN WRITE "00"	How many male/female children were born alive to [NAME] and are now living elsewhere? IF SHE HAS NO CHILDREN LIVING ELSEWHERE WRITE "00"	How many male/female children were born alive to [NAME] and are now unfortunately dead? IF NONE OF HER CHILDREN HAS DIED WRITE "00" ► IF QN 101 = 2 AND I04 = 0 SKIP TO J01	How many of the male/female children who were born alive to [NAME] in the last 12 months? (22 AGOST, 2022 BACK TO 23 AGOST, 2021) IF THERE IS NO CHILD SURVIVING WRITE "0" ► IF THERE IS NO CHILD BORN ALIVE IN THE LAST 12 MONTHS WRITE "0" THEN GO SECTION J. DON'T ASK FEMALES AGED 50 YEARS OR ABOVE
		MALE FEMALE	MALE FEMALE	MALE FEMALE	MALE FEMALE
01					
02					
03					
04					
05					
06					
07					
08					

SECTION A: IDENTIFICATION

Region	District	Council	Constituency	Division/Wadi	Ward/Shehia	Hamlet/Enumeration Area (EA)	Kitongoji/Eneo la Kuhesabia Watu (EA)	Household Number	CONFIDENTIAL

SECTION J: INFORMATION ON GENERAL AND MATERNAL DEATHS IN THE HOUSEHOLD

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

J01 Was there any death which occurred in this household during the last 12 months? (i.e. 22 AUGUST 2022 - 23 AUGUST 2021)

Yes = 1 | No= 2 ☐

► IF THE ANSWER IS NO, SKIP TO SECTION K

J02 How many number of death occurred in this household during the last 12 months

RECORD THE NUMBER OF DEATHS ☐☐

J03	SEX AND AGE OF DECEASED; AND CAUSE OF DEATH				IF DEATH IS OF A WOMAN AGED 10 TO 49 YEARS			
Death Serial Number	J04 SEX OF DECEASED	J05 AGE OF DECEASED	J06 CAUSE OF DEATH		J07 DURING PREGNANCY	J08 DURING CHILDBIRTH	J09 DURING SIX WEEKS	J10 PLACE OF DEATH
	Was the deceased a male or a female? Male =1 Female =2	How old was the deceased at the time of death? WRITE AGE IN COMPLETE YEARS. IF UNDER ONE YEAR WRITE "00" IF 97 YEARS OR ABOVE WRITE '97'	What was the main cause of death?		Did the death occur during pregnancy? Yes = 1 No = 2 ► IF CODE 1 SKIP TO QUESTION J10	Did the death occur during childbirth? Yes = 1 No = 2 ► IF CODE 1 SKIP TO QUESTION J10	Did the death occur during the 6 weeks period following the end of pregnancy, irrespective of the way the pregnancy ended? Yes = 1 No = 2	ASK IF QJ07 OR J08 OR J09 = 1 Did this death occurred at home or in health facility? Home = 1 Health facility = 2 On the way = 3
			Road Accident 1	Other Accidents 2	Suicide 3	Domestic Violence/Homicide 4	Sickness/Disease 5	Martenal Death 6	Killed 7	Unspecified reasons 8
01	☐	☐☐	☐	☐	☐	☐	☐	☐	☐	☐
02	☐	☐☐	☐	☐	☐	☐	☐	☐	☐	☐
03	☐	☐☐	☐	☐	☐	☐	☐	☐	☐	☐
04	☐	☐☐	☐	☐	☐	☐	☐	☐	☐	☐
05	☐	☐☐	☐	☐	☐	☐	☐	☐	☐	☐
06	☐	☐☐	☐	☐	☐	☐	☐	☐	☐	☐
07	☐	☐☐	☐	☐	☐	☐	☐	☐	☐	☐
08	☐	☐☐	☐	☐	☐	☐	☐	☐	☐	☐

SECTION A: IDENTIFICATION

Region	District	Council	Constituency	Division/Wadi	Ward/Shehia	Village/Mtaa	Hamlet/Enumeration Area (EA)	Household Number	CONFIDENTIAL

SECTION K: HOUSING OWNERSHIP, CONDITIONS, CHARACTERISTICS AND ASSETS

K01 OWNERSHIP OF THE HOUSE/BUILDING

What is the ownership status of the main dwelling used by this household?

► IF CODE 2 or ABOVE SKIP TO K03

Owned by household	Lived in without paying any rent	Rented privately	Rented by employer	Rented by Government at susdize rent	Owned by employefr - free of charge	Owned by employer - with rent
1	2	3	4	5	6	7

K02 LEGAL RIGHT OVER THE OWNERSHIP

What legal right do you have over the ownership of this land where your house is built?

Title deed	Residential licence	Letter of offer/Acknoledgement of payments	Customary ownership	Contract	Land Registration Card (Zanzibar)	Official document from Mtaa/Kijiji/Shehia	No legal right
1	2	3	4	5	6	7	8

K03 ROOFING MATERIALS

What is the main roofing material used for the main building of this household?

Iron sheets	Tiles	Concrete	Asbestos	Grass/Leaves	Mud and Leaves	Plastics/Box	Tent
1	2	3	4	5	6	7	8

K04 FLOORING MATERIALS

What is the main flooring material used for the main building of this household?

Cement	Ceramic tiles	Parquet or Polished wood	Terazzo	Vinyl or Asphalt strips	Wood Planks	Palm/Bamboo	Earth/Sand	Dung	Tent/Containers
1	2	3	4	5	6	7	8	9	10

K05 WALL MATERIALS

What is the main wall material used for the main building of this household?

Stones	Cement bricks/rock bricks	Sundried bricks	Burnt bricks	Timber	Timber and Sheets	Poles and mud	Grass	Glass/Aluminium	Tent/Containers
1	2	3	4	5	6	7	8	9	10

K06 ROOMS FOR SLEEPING

How many rooms are available for sleeping in this household?

RECORD NUMBER OF ROOMS FOR SLEEPING

K07 MAIN SOURCE OF DRINKING WATER

What is the main source of drinking water for this household?

Piped water into dwelling	Piped water in the yard/plot	Public tap/standpipe	Neighbours tap/standpipe	Tubewell/borehole	Protected dug well	Unprotected dug well	Protected spring	Unprotected spring	Rain water	Bottled water	Bicycle/Motorcycle/Cart with small tank/drum	Tanker truck	Surface water (river, dam, lake, pond, stream,charco, canal, irrigation channels)
01	02	03	04	05	06	07	08	09	10	11	12	13	14

K08 MAIN SOURCE OF ENERGY FOR COOKING

What is the main source of energy used by this household for cooking?

Electricity (TANESCO/ZECO)	Solar	Generator/private sources	Gas	Biogas	Wind generated Electricity	Paraffin	Coal	Charcoal	Firewood	Wood/ residuals	Animal residuals	Charcoal briquette	Not Applicable
01	02	03	04	05	06	07	08	09	10	11	12	13	99

SECTION A: IDENTIFICATION

Region	District	Council	Constituency	Division/Wadi	Ward/Shehia	Village/Mtaa	Hamlet/Enumeration Area (EA)	Household Number	
									CONFIDENTIAL

SECTION K: HOUSING OWNERSHIP, CONDITIONS, CHARACTERISTICS AND ASSETS

K09 What is the main source of energy used by this household for lighting?

Electricity (TANESCO/ZECO)	Solar	Generator (private source)	Gas (Industrial)	Gas (Biogas)	Wind generated Electricity	Acetylene lamp	Kerosene (lantern/chimney)	Kerosene (Wick lamps)	Candles	Firewood	Torch/Chines lamp	Electricity (Generated from plant residues)
01	02	03	04	05	06	07	08	09	10	11	12	13

K10 What is the main type of toilet facility used by this household?

Flush/pour flush to piped sewer system	Flush/pour flush to septic tank	Flush/pour flush to covered pit	Flush/pour flush to somewhere else	Ventilated improved pit (VIP) latrine	Pit latrine with washable slab and with lid	Pit latrine with washable slab without lid	Pit latrine with not-washable/ soil slab	Pit latrine without slab/ open pit	Bucket	No facility/bush/field/ beach
01	02	03	04	05	06	07	08	09	10	11

K11 How does the household dispose solid waste?

► IF RESPONSE IS CODE 3-9 SKIP TO K13

Regularly collected	Irregularly collected	Burnt	Roadside dumping	Burying/pit	Open space	Ocean/Lake/River/Shores	In the farm/manure	Bush/ravine
01	02	03	04	05	06	07	08	09

K12 Which authorities usually collect waste from your household?

Contractor	Waste collecting groups	Council	Private Individual(s)
1	2	3	4

K13 Does your household usually sort kitchen waste, plastic waste, glass waste, metal waste and electronic waste?

YES = 1 | NO = 2

K14 What is the main method that is used by your household to dispose E-Waste?

Mixed with other Refused	Collected by Government	Collected by Private Company	Dumped in the compound/street	Dumped in the Latrine	Burnt in open/pit	Buried	Sold/given as gift	Collected by individual (s)
1	2	3	4	5	6	7	8	9

K15 OWNERSHIP OF EQUIPMENTS/ASSETS

Does your household have/own the following assets?

Yes = 1 | No = 2

FOR CODE 1, ASSETS SHOULD BE IN WORKING CONDITION. SELECT THE APPROPRIATE ANSWER FOR EACH ITEM

Radio	Telephone (Land Line)	Mobile Phone	Bicycle	Motor vehicle	Motorcycle/Vespa	Tricycle (Guta)	Tri motorcycle (Bajaj)	Television	Electric Iron	Charcoal Iron	Cooker (Electric or Gas)	Refrigerator/Freezer	Computer /Laptop	Internet Facility	Plough	Power tiller	Hand hoe	Wheelbarrow	Oxen	Draft animals (Donkey/Camel)	House	Land/Farm	Tractor	Don't have/own
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y

SECTION A: IDENTIFICATION

Region	District	Council	Constituency	Division/Wadi	Ward/Shehia	Village/Mtaa	Hamlet/Enumeration Area (EA)	Household Number	CONFIDENTIAL

SECTION L: INFORMATION ON AGRICULTURE, LIVESTOCK, FISHERIES AND FORESTRY

L01 AGRICULTURE

Did this household use the land for crop production in the agricultural year 2021/22?

Yes = 1 | No = 2 ☐

► IF CODE 2 SKIP TO L03

IF CODE 1, how many acres is the land used for agriculture?

☐

LAND FOR CROP PRODUCTION SHOULD BE AT LEAST 25 SQUARE METERS

L02 CROPS

Which of the following crops did the household grow during 2021/22 agricultural year?

MULTIPLE RESPONSE IS ALLOWED

Yes = 1 | No = 2

Maize	Paddy	Cassava	Banana	Sunflower	Other food crops	Cash crops
A	B	C	D	E	F	G

L03 LIVESTOCK

Did this household raise or care cattle, goats, sheep or poultry for the agricultural year 2021/22?

Yes = 1 | No = 2 ☐

► IF CODE 2 SKIP TO L06

L04 NUMBER OF LIVESTOCK

How many cattle, goats, sheep, pig, donkey or poultry were available during the Census night

IF NO LIVESTOCK , WRITE CODE "00000"

Cattle					
Goat					
Sheep					
Pig					
Donkey					
Poultry					

L05 TYPE OF GRAZING

What type of grazing is practiced in this household?

Free range = 1
Zero grazing = 2
Ranch = 3
Pastoralism = 4

THIS QUESTION SHOULD BE ASKED FOR EACH TYPE OF LIVESTOCK MENTIONED IN QUESTION L04

Cattle	
Goat	
Sheep	
Pig	
Donkey	
Poultry	

L06 FISHING/SEAWEED FARMING

Did this household engaged in fishing/fish farming/Sericulture/crabs/seaweed farming activities for the agricultural year of 2021/22?

MULTIPLE RESPONSE ALLOWED

Yes = 1 | No = 2

A	Fishing	
B	Fish farming/Sericulture/Crabs	
C	Seaweed farming	

L07 OWNERSHIP OF PLANTATION

Did this household operate any land for woodlot(s) during 2021/22 agricultural year?

Yes = 1 | No = 2 ☐

LAND FOR WOODLOTS SHOULD BE AT LEAST 0.5 ACRES

L08 BEEKEEPING

Is there any person in this household involved in beekeeping business/activity?

Yes, individually = 1 | Yes, in groups = 2 I No= 3 ☐

SECTION A: IDENTIFICATION

Region	District	Council	Constituency	Division/Wadi	Ward/Shehia	Vilage/Mtaa	Hamlet/Enumeration Area (EA)	Household Number	CONFIDENTIAL

INFORMATION ON PHYSICAL ADDRESS

A01A	Does this household have a physical address?	Yes = 1 | No = 2	► IF CODE 2 SKIP TO SECTION Z
A01B	Please, state the Physical Address Number		
A01C	Name of the Road/Hamlet		

SECTION Z: TOTAL NUMBER OF HOUSEHOLD MEMBERS

Male	
Female	
Total	

Date of Interview D D M M Y Y Y Y

Appendix 3: Target from Various Global, Regional and National Plans for Health and Education

Indicator	Sustainable Development Goal (SDG) 2030	Africa Development Agenda (Agenda 2063)	East Africa Vision		TFYDP 2025/26	ZADEP 2025/26	Sector Strategic Plans
Education							
			2030	**2050**			
Pre-primary - Net Enrolment Rate	100	100 for boys and girls by 2035	60	85	80	-	
Pupil/Teacher Ratio (PTR)	-	-	-	-	50:1	-	
Primary - Net Enrolment Rate	100	100 for boys and girls by 2030	98	100	100	90	
Pupil/Teacher Ratio (PTR)	-	-	-	-	50:1	-	
Lower secondary - Net Enrolment Rate	100	100 for boys and girls by 2030	65	95	42	-	
GER	-	-	-	-	48	-	
Vocational education	-	All secondary school graduates without access to tertiary education to have access to TVET education by 2030	-	-	-	Increase by 70 percent in lower secondary school graduates enrolled in VET centres by 2025/26	
Higher secondary - Net Enrolment Rate	-	-	-	-	8	-	
GER	-	-	-	-	10	-	
Literacy rate	-	100 by 2025	-	-	-	93	
Health							
TFR							
Life Expectancy	NIL	To be 75 years	To be 76.4 years		To be 68 years	To be 68 years	NIL

Indicator	Sustainable Development Goal (SDG) 2030	Africa Development Agenda (Agenda 2063)	East Africa Vision	TFYDP 2025/26	ZADEP 2025/26	Sector Strategic Plans
Population per doctor	NIL	**Aspiration 1:** A prosper and Africa based on inclusive growth and sustainable development	Pillar 2: Human Capital Development	Objective No. 2: Human Capital Development; Improving Education and Health services, enhancing skills training, and promoting technological advancement to meet the demands of an industrialized economy.	Strategic Area 4: Human Capital and Social Development; Priority Area No. 3; Health	Elements No 3: Maternal, newborn and child health
		Aspiration 3: An Africa of good governance, democracy, respect for human rights, justice and the rule of law	Aspiration 2: Health and wellbeing, the vision also promotes strengthening healthcare system to ensure accessible, affordable, and high-quality health services across the region.			
Population per nurse	NIL	**Aspiration 6:** An Africa where development is people driven				
Population per health center	NIL					
Population per hospital	NIL					
Population per hospital bed	NIL					

Indicator	Sustainable Development Goal (SDG) 2030	Africa Development Agenda (Agenda 2063)	East Africa Vision	TFYDP 2025/26	ZADEP 2025/26	Sector Strategic Plans
Annual health expenditure per person (TZS)	Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States.			Health expenditure, public 12.2 % 0f govt. expenditure		
Maternal Mortality Ratio	By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births	Ensure universal access to sexual and reproductive health rights, including to reduce maternal mortality rates and end preventable maternal	To be reduced up to 69 per 100,000 live birth	to reduce Maternal Mortality ratio to 180 per 100,000 live birth	To be reduced up to 99 per 100,000 live birth	**NIL**

Indicator	Sustainable Development Goal (SDG) 2030	Africa Development Agenda (Agenda 2063)	East Africa Vision	TFYDP 2025/26	ZADEP 2025/26	Sector Strategic Plans
End preventable deaths of newborns and children under 5 years of age	reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births.			to reduce infant Mortality to 30 per 1,000 birth and under 5 mortality to 40 per 1,000 birth	to reduce infant Mortality to 15 per 1,000 birth and under 5 mortality to 19 per 1,000 birth