

## TANZANIA OVERVIEW

Mainland Tanzania is part of what was then called German East Africa under German rule during the late 19th and early 20th century. After World War I, it became known as Tanganyika and was governed by Britain until the early 1960's when it finally was granted independence. **The United Republic of Tanzania** was formed as a sovereign state in 1964 when the two newly recognized independent states of Tanganyika (99% of modern Tanzania) and Zanzibar united, making Tanzania the largest country in East Africa. Situated just south of the equator in what is known as Sub-Saharan Africa, Tanzania Mainland is bounded in the north by Uganda, Lake Victoria, and Kenya, by the Indian Ocean to the east, by Mozambique, Lake Nyasa, Malawi, and Zambia to the south and southwest, and to the west by Lake Tanganyika, Burundi, and Rwanda along the Western Rift Valley. In total, Tanzania's land mass is about 2X the size of California (365,756 sq miles). Since 1967, Tanzania's population has more than quadrupled. With a population of 55,890,747 (Tanzania National Bureau of Statistics 2019 data), it is the most populous East African country. Almost 2/3rds of the population is under the age of 24 years and 43% of the population is under the age of 15 years. This sector continues to expand given the high total fertility rate of 4.6 children per woman (CIA government library, est. 2020 data). Even with a sustained 3% annual population growth rate, however, it remains the country in East Africa with the lowest population density.

Tanzania has been spared the internal strife that has blighted many African states, possibly because of its democratic government, but also due to the fact that historically no one tribal group dominated the others. Tanzania's population is 99% African of which 95% are Bantu, consisting of more than 130 different indigenous African peoples (tribes), although some of the smallest ethnic groups gradually are disappearing because of the effects of rural-to-urban migration, modernization, and politicization. The remaining 1% of Tanzania's population is Asian, European and Arab.

Swahili and English are the two official languages, with English being the primary language of the government, commerce, and higher education. Local tribal languages still are spoken in many rural areas and Arabic is widely spoken in Zanzibar, which is almost exclusively Muslim.

Previously, ~1/3<sup>rd</sup> of Tanzania's population was Christian, 1/3<sup>rd</sup> Muslim, and 1/3<sup>rd</sup> followed tribal beliefs. Changes in the religious makeup of the country, however, have occurred over the past 10-15 years with a shift away from tribal beliefs. Most recently, ~61% of the population is Christian (the largest denomination being Roman Catholic Christianity, followed by Protestant Christianity), 35% is Muslim (both Sunni Islam and Shia Islam) and only ~2% remain practitioners of folk (tribal) religion (CIA 2020 report).

Tanzania's legal system is based on English common law with universal suffrage at 18 years of age. Tanzania's form of government is a unitary multiparty republic (presidential republic) with one legislative house, the National Assembly that has 393 seats; 264 directly elected in single-seat constituencies and 113 women indirectly elected by "proportional representation" vote. Zanzibar has a House of Representatives in addition to being under the legislative control of the National Assembly. Democratic elections resumed in 1995 after a hiatus of over 20 years, with the country's president being elected every five years for a maximum of 2 terms.

Tanzania is divided into thirty-one administrative regions, as determined by the current (2012) Constitution of Tanzania. Each region is subdivided into districts. Since 2012, there are ~169 districts that are further subdivided into divisions and then into local wards. Wards are further subdivided for management purposes: for urban wards into streets and for rural wards into villages, and villages may be further subdivided into hamlets. Empower Tanzania, Inc (ETI) works in the Same and Mwanga Districts within the Kilimanjaro region in the NE corner of Tanzania.



Tanzania “continues to face considerable development challenges, not least in essential areas such as economic distribution, population growth, corruption, and a stronger division between party and state” according to the Ministry of Foreign Affairs of Denmark, 2014-2021 policy paper. Tanzania has vast natural resources (tin, phosphates, iron ore, coal, diamonds, gemstones, gold, natural gas and nickel) and tourism largely based around its extensive national parks and wildlife preserves, but until recently has lacked needed infrastructure and access to financing. Decades of massive international aid and economic development have helped, but Tanzania remains one of the least-developed countries in the world, largely because the economic growth has not been sufficiently broad-based. Around 1/3rd of Tanzanians live below the *basic needs*

*poverty line* or less than ~ \$0.96 USD per day, meaning that they lack the minimum resources that people need to be physically healthy. More than 2/3rds of Tanzanians live below the internationally recognized *income poverty line* of \$1.25 USD per day and almost 90% live on < than \$2 USD per day. This economic inequity is reflected in the fact that the richest 20% of Tanzanians account for 42% of total consumption, whereas the poorest 20% consume only 7% (Ministry of Foreign Affairs of Denmark, 2014-2021 paper).

Over the past two decades, tremendous political and economic developments, as well as, improvements in social welfare have occurred. Life expectancy is up to 61-62 years for men and 64-65 years for women (CIA est. 2020 data; Tanzania NBS 2019 data). Literacy has improved with 83% of males over the age of 15 years and 73% of females being literate (Tanzania NBS 2019 data). And, while there has been domestic stability, “this has not translated into economic prosperity for all Tanzanians with many still living below the *World Bank poverty line*” (World Bank data, Nov 15, 2018). Tanzania’s 2017 GNI (Gross National Income) per capita of \$910 (Ministry of Foreign Affairs of Denmark, 2014-2021 policy paper) makes Tanzania one of the poorest 15 nations in the world. (NOTE: “While gross domestic product (GDP) is among the most popular of economic indicators, gross national income (GNI), is quite possibly a better metric for the overall economic condition of a country whose economy includes substantial foreign investments.” Measuring Economic Conditions: GNI or GDP? Investopedia; Sept 9, 2018). Less than half the population has access to sanitation facilities. Improper management of liquid and solid waste, waterborne bacteria, viruses, and parasites, and lack of wells means safe drinking water remains elusive for many. Only 68% of Tanzanians (primarily those in major urban areas) have “improved drinking water sources” and the people in many rural areas continue to have unsafe or unreliable water sources (CIA 2020 data).

The emphasis of Tanzania’s national health policy has been on preventive medicine, including better nutrition, maternal and child health, environmental sanitation, and prevention and control of communicable diseases. National and local governments support a network of village dispensaries and rural health centers, while hospitals are located in the urban areas. Private doctors and religious organizations also provide some medical facilities (Britannica: Tanzania edit by Kenneth Ingham, Sept 2020). Only 3.6% of Tanzania’s GDP is allocated for health (Tanzania NBS, 2017 data), and as in other areas of social development, “the poor healthcare system in Tanzania is largely the fault of unequal distribution of finances within the system” (Ministry of Foreign Affairs of Denmark, 2014-2021 paper). About 85% of healthcare spending goes to central urban hospitals where only about 10% of the population has access to those hospitals. Meanwhile 90% of the population has to rely on the remaining 15% of the country’s healthcare funding. The rapidly growing population only makes this situation worse. Differences between rich and poor, where one lives in the country, and differences between rural and urban areas result in stark differences in outcomes. For example, the number of nurses in the health services per capita is 30 times greater in the best endowed district in the country than in the worst. Another sign that the quality of healthcare services is inadequate is seen in the fact that less than 50% of Tanzanian women give birth at a public health institution. But, since more than half of all Tanzania’s physicians work in Dar es Salaam, it is not surprising to see that the proportion of women who choose to deliver their babies in health clinics in Dar es Salaam is three times greater than in the rest of the country (Ministry of Foreign Affairs of Denmark, 2014-2021 paper).

In 2011, over 40% of needed health worker positions were unfilled (Ministry of Foreign Affairs of Denmark, 2014-2021 paper). This severe lack of resources, made worse by the poor distribution of health workers, poor access to essential medicines, and a poor

infrastructure, has resulted in many people being inadequately or improperly treated for the diseases common to those in poverty, including tuberculosis, malaria, HIV, poliomyelitis, leprosy, diarrhea, and cholera; leading to high morbidity and mortality rates. Motherhood and infancy presents one of life's greatest health challenges, even in developed countries. Tanzania's current rate of 524 maternal deaths per 100,000 live births (CIA est. 2017 data) places it 19th in the world for maternal mortality—a problem made worse by a high rate of teenage pregnancy, high rural population, and unequally distributed access to social and health services. Although steadily improving, infant mortality remains high at 36.4 deaths/1000 live births and an under-five mortality rate of 67 deaths per 1000 live births (CIA, est. 2020) compared to an under-five mortality rate of 6.9 deaths per 1000 live births in the USA.

Over the past two decades, the WHO has achieved major progress worldwide in reducing under-5 mortality as part of their Millennium Development Goals (MDGs), largely due to gains in vaccination coverage. Under this program, under-five mortality rates have decreased everywhere in the world, but remain highest in Africa where it is 8x higher than in Europe (2018 WHO data). Tanzania's National Immunization Schedule (modified from WHO 2018 schedule) includes the following recommended routine vaccines: BCG (TB protection) given at birth, followed by 4 oral polio, 2 rotavirus (commonest cause of viral diarrhea), 3 pneumococcal conjugate, and 3 DTwP/Haemophilus influenza/Hepatitis B (Penta 3) vaccinations by 14 weeks of age for all children. Measles and rubella are supposed to be given at 9 and 18 months of age and 2 doses of HPV (human papillomavirus) vaccine are to be given starting at age 9 years of age. All women of childbearing age and pregnant women are supposed to get tetanus vaccination as well.

Despite the large rural population with a high proportion of home births, long distances to reach a government clinic, difficult terrain, flooding, lack of public transportation, unreliable storage facilities, lack of health workers, and limited supplies, including vaccines, Tanzania's immunization program is touted by the international community as one of the best performing in Africa with >90% of children completing three doses of DTP-HepB-Hib vaccine during 2010-2014. The Tanzanian government says that it continues to strive to improve the program, especially to reach high coverage in *all* districts (12% of districts had <80% coverage with three doses of DTP-HepB-Hib vaccine in 2014) and to increase measles 2nd dose coverage (only 29% of the children received the 2<sup>nd</sup> dose in 2014). Government sources claim that immunization rates have continued to increase since the mid-2010's and, in many cases, have reached a level of >100%, calling the validity of the data into question. For example, according to administrative and government officials, BCG vaccination (given to babies shortly after birth) reached 100% of the population in 2010 and has continued to climb to >120% over the last 18 years. And while diphtheria-tetanus-pertussis-Hep B Hib coverage was reported as 97-99% in 2017, international monitoring agencies believe that it is more likely 89-90%. (United Republic of Tanzania: WHO and UNICEF estimates of national immunization coverage: 2019 revision derived from data received as of June 29, 2020). Clearly, major barriers to universal childhood vaccination for preventable diseases remain.

According to the USA CIA 2020 report, the risk of major infectious disease remains very high in Tanzania, especially for environmental diseases that are waterborne or caused by food, vector-borne (mosquito, tick, and fly primarily), due to water contact, and due to animal contact, including hepatitis A, typhoid fever, bacterial and viral diarrhea, malaria, dengue fever, Rift Valley fever, onchocerciasis (river blindness), schistosomiasis and

rabies. Malaria, TB and HIV, however, remain the biggest threat in Africa, with attempts at reducing infection lagging far behind global efforts in all three. The WHO African Region is the most affected HIV region in the world, with 25.7 million people living with HIV in 2018 and ~1.1 million people newly infected in one year alone (WHO data). The African Region accounts for almost 2/3rds of the global total of new HIV infections. HIV/AIDS was first reported in Tanzania in 1983, before becoming a serious problem in the 1990s. Although HIV/AIDS initially was more prevalent in major cities and towns, it has spread to villages and rural areas as paved roads have been built over the past decade, leading to increasing HIV in those villages close to cities or on connecting roads and in border towns. In response, the Tanzanian government has instituted aggressive health campaigns to educate the public, distribute or encourage the use of condoms, encourage male circumcision, safeguard blood supplies, and discourage risky sexual activity. While it is likely that these factors have contributed to the decline of the HIV prevalence rate in the 2000s, Tanzania still is 6th in the world for people living with HIV and 7th in the world for deaths due to AIDS (Tanzania NBS 2016-2017 data).

The Tanzania HIV Impact Survey (THIS) 2016 -2017 was the fourth in a series of household-based human immunodeficiency virus (HIV) surveys and the first national HIV survey that covered populations of all ages in the country and used indicators, such as HIV incidence and viral load suppression (VLS). A nationally representative survey of 36,087 adults aged 15 years and older and 10,452 children aged 0 -14 years (including 7,477 children aged 0 -9 years and 2,975 early adolescents aged 10 -14 years) were eligible to participate in the survey. Based on this survey, annual incidence of new HIV infection among adults aged 15 years and older is 0.24% (0.16% among males and 0.32% among females). This corresponds to approximately 72,000 new infections per year (~24,000 males and ~48,000 females). Overall, the prevalence of HIV infection among adults aged 15 years and older in Tanzania was 4.9% (6.3% among females, and 3.4% among males); corresponding to ~1.4 million people living with HIV aged 15 years and older in the country. The highest HIV prevalence remains in the southern part of the country with 9.3-11.4% of the population living with HIV in the 3 worst affected regions. Viral load (VL) suppression (VLS) is a key indicator of treatment success in HIV-positive individuals. For the purposes of the THIS study, VLS was defined as VL less than 1,000 HIV RNA copies/mL of plasma among the population of HIV-positive persons ages 15 years and above. Overall in Tanzania, 51.9% of HIV- positive adults aged 15 years and older had VLS (41.5% of males and 57.2% of females). Dar es Salaam, where major health centers exist and a majority of national health dollars is spent, has a VLS of 44.7% (Tanzania NBS, 2019).

The education system in Tanzania is outlined in this chart (Tanzania Education System; 2020 Scholaro (<https://www.scholaro.com/pro/Countries/Tanzania/Education-System>)). Education system is a 2-7-4-2-3+, meaning 2 years pre-primary, 7 years primary (Standard 1-7), 4 years lower (junior) secondary (Form 1-4 or I-IV), 2 years upper secondary (Form 5-6 or V-VI), and 3+ for tertiary education

Education	School/Level	Grades	Age	Years	Years
	Primary	Pre-Primary		2	2 years of pre-primary followed by 7 years of primary.
	Primary	Primary Education	1-7	7-13	7 All children must pass a standardized exam for primary school certificate.
	Secondary	Lower Secondary	8-12	15-17	4 Junior Secondary school is 4 years with exams at the end of Forms 2 and 4. Classes are primarily taught in English. Tuition and other fees (e.g. watchman fees, furniture levy)

Education	School/Level	Grades	Age	Years	
					are levied. Certificate/diploma awarded: Certificate of Secondary Education (CSE)
	Secondary	Upper Secondary	18–20	2	Follows the Cambridge Model. Secondary education is split into ordinary and advanced level secondary education; both require a minimum of 2 years study followed by an exam. Advanced level is only available at certain boarding schools. Certificate/diploma awarded: Advanced Certificate of Secondary Education (ACSE)
	Vocational	Certificate		2	Requires Certificate of Secondary Education (CSE)
	Vocational	Full Technician Certificate		1–3	Requires Certificate of Secondary Education (CSE) or 2-year post-secondary vocational Certificate for admission
	Tertiary	Bachelor's		3–5	Under control of Ministry of Higher Education. The oldest institution in the country is University of Dar es Salaam, established in 1970 after the dissolution of the Univ of East Africa.
	Tertiary	Master's		1–3	
	Tertiary	Doctorate		3	PhD

Education remains at the heart of Tanzania’s aspiration to become a middle-income country by 2025. “The country’s economic and social progress and human development depends, in part, on empowering and educating this unique resource (children) with the skills needed to take forward this nationwide goal. Quality education can lift families and communities out of poverty and increase a country’s economic growth” (Ministry of Foreign Affairs of Denmark, 2014-2021 paper).

In 1974, the Government of Tanzania embarked on a Universal Primary Education scheme making primary education compulsory and then setting out to make it available to every child. To achieve this goal, communities “have been mobilized to provide practical and relevant education to their students in partnership with central and local governments” (Same District Council annual report). In 2007, Tanzania reportedly achieved nearly universal access to primary education. Yet according to a US sponsored study (CoreUSAid), only 81% of children aged 7-13 years actually attended primary school in 2004 in Tanzania, a percentage that remained unchanged in 2010. And since 2010, enrolment of primary school-aged children has actually been dropping, leaving an estimated 2 million children between the ages of 7 and 13 years out-of-school (UNICEF DATA; Primary Education report, Oct 2019). Furthermore, in rural areas in 2010, the percentage of enrolled children was less (79%) compared to urban areas (88%). The probability of completing primary school is higher in urban areas than in rural areas, and increases with the relative wealth of the student’s household –this in a country that remains largely rural and impoverished.

Pre-primary schools are recognized as playing an increasingly important role in education of children 5-6 years of age, although access remains low and schools generally are of poor quality (Education/UNICEF United Republic of Tanzania 2018 report). Most children, especially those in rural areas enter primary school poorly prepared due to lack of early infancy/childhood stimulation, poor nutrition with serious nutritional deficiencies that affect mental functioning, and low-quality pre-primary education. The pupil-to-qualified teacher ratio at pre-primary level in Tanzania is 131:1 and even worse (169:1)

in public pre-primary schools compared to 24:1 in private schools (Education/UNICEF United Republic of Tanzania 2018 report).

Tanzania has one of the world's largest young populations, yet spends only 3.4% of its GDP on education (Tanzania NBS, 2019). Ever since obtaining its independence, Tanzania has prioritized education, but the right to education is recognized as a "fundamental objective and directive principle of State policy" rather than as a human right –which means that it is not enforceable by any court (Right to Education Project 2015). According to Tanzania's most recent Education Act, all children above the age of seven must attend and complete free compulsory primary education, but huge barriers to universal education exist. Even though school fees were abolished in 2011, costs of textbooks, uniforms and school lunch remain prohibitive for many families, especially given the large number of children in each family and the subsistence income of most families. Since most of the population remains in rural areas, the lack of private, public, or school-based transportation means children must walk great distances, often without food or water and are often punished if late. They face exhaustion; often arriving home after dark where they are still expected to participate in the work of the household. Due to a complete lack of or unreliable electricity, they are unable to study at home. Girls face even more barriers due to a high rate of sexual abuse, lack of necessary supplies for personal hygiene, and the continued practice of excluding them from education while menstruating ("Barriers to Secondary Education in Tanzania", 2017 Human Rights Watch report).

Sadly, only 22% of primary school students in Tanzania in 2010 were in the appropriate grade for their age with most being over-age for their grade. Seventy-one percent of males and 61% of females were over-age on average with males ranging 50-86% and females ranging 40-74% (CoreUSAid). More students were over-age for their grade as the grade level increased. The implications of over-age students for the school system are enormous. In the classroom, large numbers of over-age students present a challenge for teachers who must teach a more diverse group with differing levels of maturity and school preparedness. Both late-entry into primary school and grade repetition can cause children to be over-age for their grade. High repetition rates indicate inefficiency in the education system. These over-age children are the ones who are more likely to "drop out" before completing their education.

"Completing secondary education has been shown to strongly benefit individuals' health, employment, and earnings throughout their lives. Secondary education, including technical and vocational training, can empower young people with *soft* skills needed for sustainable development, including citizenship and human rights, and ensure access to essential information to protect their health and wellbeing. For girls, safe and equal enrollment in secondary education can act as a powerful equalizer, ensuring all girls and boys access to the same subjects, activities, and career choices" (Ministry of Foreign Affairs of Denmark, 2014-2021 paper). For many children, however, further education is not an option. It is estimated that a total of 5.1 million children aged 7 to 17 are out of school, including nearly 1.5 million of lower secondary school age children. Education ends for many children after primary school: only three out of five Tanzanian adolescents, or <52% of the eligible school population are enrolled in lower-secondary education and fewer complete secondary education (Barriers to Secondary Education in Tanzania |Human Rights Watch 2017 report). Many families do not enroll their children in secondary school because they cannot afford school fees and related expenses that can cost more than \$50 USD per year per child. Families often need the children to contribute to the family's welfare by helping in the home or fields, or working for wages. Many children resort to child

labor, often in exploitative, abusive, or hazardous conditions, in violation of Tanzanian law, to supplement their family's income.

The prevalence of child marriage and teen pregnancy prevents many girls from attending school. Until recently, the minimum age for marriage was 15 for girls and 18 for boys. Of note is that in 2011, during its Universal Periodic Review, Tanzania refused to equalize the minimum age for both sexes at 18. As a consequence, almost two out of five girls marry before 18 years of age and leading to a high teen pregnancy rate. The average age for a Tanzanian woman to have her first child remains below 20 years of age (CIA 2020) compared to 29.9 years for an American woman (US government data, Nov 2019). Thousands of adolescent girls are expelled from school annually because of pregnancy. Many schools have instituted a practice of mandatory pregnancy testing and expelling girls who test positive. Although a new law enacted in 2016 under the Education Act prohibits impregnating any primary or secondary school girl and prohibits marriage of children while in primary or secondary school or face 30 years in prison, it does not address children not attending school and it is not clear how well enforced this law is, especially in the more rural regions.

Many schools are unsafe, not child-centered, lack basic materials, modern textbooks and computers, and have inadequate infrastructure. Corporal punishment remains lawful in mainland Tanzania; the National Corporal Punishment Regulations allow head teachers to cane students. Access to education is nearly non-existent for physically or mentally disabled students. Marginalized groups suffer discrimination, particularly children with disabilities, children with albinism, and indigenous children (Right to Education Project 2015). Even if a student is able to go to school, the quality of the education is subpar. Of note is that there is no reference to quality education in Tanzania's Education Law (Human Rights Watch). Recognizing a lack of properly educated teachers, Tanzania has adopted policies to reinforce teacher training and address teacher motivation, but education of teachers continues to need improvement along with tighter oversight and certification of teachers.

"Limited access to and knowledge about healthcare, insufficient nutrition due to high food insecurity, and a lack of education all play a role in Tanzania's poverty. However, other factors cause poverty in Tanzania as well, including problems with agriculture and a high rural population" (Borden Magazine, Jul 19, 2017). Some of the problems with agriculture are a function of the land itself and how Tanzania's warm equatorial climate is modified by variations in elevation and rainfall. Except for the narrow coastal belt of the mainland and the offshore islands, most of mainland Tanzania lies above 600 feet (200 meters) in elevation above sea level. Based upon elevation and rainfall, mainland Tanzania can be divided into **four principal climatic and topographic areas**: the hot and humid *coastal lowlands* along the Indian Ocean, the hot and arid zone of the broad *central plateau*, the *high inland mountain and lake region* of the northern border where Mount Kilimanjaro is situated, and the *highlands* of the northeast and southwest (Britannica: Tanzania article by Kenneth Ingham, Sept 2020).

The variety of soils in mainland Tanzania surpasses that of any other country in Africa (Britannica: Tanzania article, Sept 2020). The reddish brown soils of volcanic origin in the highland areas are the most fertile. Many river basins also have fertile soils, but are subject to flooding and require drainage control. The red and yellow tropical loams of the interior plateaus, on the other hand, are of moderate-to-poor fertility. In these regions, high temperatures and low rainfall encourage rapid rates of oxidation, which result in a



low humus content in the soil with high clay content and poor soil texture. Also, tropical downpours, often short in duration but very intense, compact the soil, causing drainage problems and leaching the soil of nutrients.

The two most important factors historically influencing the regional pattern of human settlement within Tanzania have been precipitation and the incidence of the tsetse fly. Rainfall is highly seasonal and largely dependent upon elevation. Precipitation is heavier on the coast, where there are two peaks of precipitation. Roughly half of mainland Tanzania, however, receives less than 30 inches (750 mm) of precipitation annually, an amount considered to be the minimum required for most forms of crop cultivation in the tropics. The central plateau is the driest area and experiences a single rainy season, receiving less than 20 inches (510 mm) per year on average. The tsetse fly, which thrives on wild game, is the carrier of *Trypanosoma*, a blood parasite that causes sleeping sickness in cattle and people. The insect does not pose a threat to high precipitation areas (such as the coastal lowlands), but tsetse fly infestation makes human settlement hazardous in areas of moderate precipitation (like the highlands) where soil is more fertile (Britannica.com, Frank Matthew Chiteji, Sept 2020). This means that the highest population density in mainland Tanzania is in the driest areas with the least fertile soil and most unreliable water sources, forcing people to deal with food and water insecurity.

Three-quarters of Tanzania's population is still living in rural areas. Agricultural jobs employ ~80% of the country's workforce despite only 14% of the land being arable. Tanzania's economy relies on agriculture for more than 40% of its GDP and 85% of its exports. This dependence on agriculture with high populations in rural areas is a major cause of poverty in Tanzania. Many in these areas rely on subsistence farming or livestock as their only means of survival. Drought has been pervasive over the past several decades in many areas. When rains do come, flooding has often resulted. Historic locust invasions occurred this year, wiping out crops (National Geographic 2020 Gigantic New Locust Swarms Hit East Africa; NPR, Locusts Are A Plague Of Biblical Scope In 2020. Why? And ... What Are They Exactly? June 2020, Pranav Baskar). Tanzania lacks necessary agricultural policies to meet the country's needs, and the lack of assistance provided to farmers often results in food insecurity and very low incomes. The bottom-line is that "inadequate technology, as well as desertification, deforestation, and pests combine with a poor budget and failing infrastructure in rural areas to create a negative situation for those nearing or already affected by poverty" (Ministry of Foreign Affairs of Denmark, 2014-2021 paper).

Malnutrition includes both undernutrition and overnutrition. According to 2016 data, 8.4-10% of all Tanzanian adults are obese, but this is highly variable depending upon where someone lives --37% of urban women 15-49 years are overweight and up to 45% in Dar es Salaam (CIA data; TDHS 2015-2016 data; and 2012 STEPS Survey of Chronic Disease Risk Factors in Tanzania). Overnutrition is caused by eating more food than the body needs, resulting in overweight and obesity. These conditions increase the risk of high blood pressure, diabetes, heart disease, stroke and some cancers; adding to the health burden on the country, as well as reducing productivity and lifespan. Reportedly, 9% of all Tanzanian adults already have type II diabetes (2012 STEPS Survey of Chronic Disease Risk Factors in Tanzania). Meanwhile, 14% of Tanzanian children under five years of age are underweight. Undernutrition from food scarcity, especially if longstanding, results in underweight, wasting, stunting and/or micronutrient deficiencies. This is caused by a diet lacking in enough of the nutrients (energy, protein, vitamins and minerals) that the body

needs for good health, growth and development. Chronic disease, intestinal parasites, superimposed acute illnesses, poor sanitation and lack of safe water, high fecundity rates, lack of maternal milk supply for sustained breastfeeding, lack of education about proper infant feeding and about nutrition in general, and inadequate access to health services further contribute to the problem of undernutrition. In addition to impairing physical and mental growth, it adversely affects the immune system leading to reduced resistance to disease and is thought to contribute to ~130 child deaths per day in Tanzania (FANTA and the Office of Prime Minister of Tanzania 2014 summary). Undernutrition leads to reduced life expectancy, poor school performance, low productivity, and contributes to worsening poverty.

Though undernutrition rates in Tanzania have decreased for children under five years of age since 1999, it is still highly prevalent with huge variations in the nutritional status of children under 5 years of age in different regions of the country (United Republic of Tanzania Nutrition Profile, Global Nutrition Report, 2016). Ten regions in Tanzania account for 58% of all stunted children and five regions account for half of the children suffering from severe acute malnutrition --many of the worst regions are in the areas most affected by low soil fertility and continued drought. Not surprisingly, all three forms of undernutrition are higher among children from the poorest quintile than children in the richest quintile (Tanzania Malnutrition Fact Sheet 2016 --FANTA Project). In 1991, Tanzania implemented the Food Security Act that was designed to deal with local food shortages and enforce food security on a national level, but it did not alleviate the problem. Malnutrition remains a major health issue. In 2015, it was estimated that more than 2.7 million Tanzanian children under 5 years of age were stunted and more than 600,000 were suffering from acute malnutrition, of which 100,000 were severe cases (UNICEF: Nutrition report on Tanzania, "Tanzanian Progress in Improving Nutrition Among Children Under Five Years of Age", 2015). According to the FANTA Project Tanzania Malnutrition Fact Sheet 2016, this translates to 34% of all Tanzanian children being stunted in their growth and 5% under-five who are wasted. Continued problems of food distribution, the inability to buy food due to lack of money coupled with food shortages and crop failures made worse by drought and pests, such as the historic locust invasions this past year, have had dangerous and deadly consequences for many, worsening an already serious situation.

Malnutrition carries over from one generation to the next. Overweight and obese pregnant women have a higher incidence of pregnancy and delivery-related complications and their fetuses have a higher rate of adverse health effects that an increasing number of studies show are lifelong. High rates of anemia and low body mass index among adolescent girls and pregnant women also are causes of great concern. Underweight or stunted pregnant adolescents have a higher rate of complications during delivery, including a high incidence of developing bowel and urinary tract fistulas that leads to a lifetime of incontinence of urine and stool. Forty-five percent of women of reproductive age (15-49 years) are anemic with low iron stores and 36% are iodine deficient (affecting thyroid function) --both of which have serious repercussions for their own health, but also on the growth and wellbeing of their fetuses and infants. Seven percent of children (likely an underestimate) are born with low birth weight which, in addition to being associated with a higher infant mortality and morbidity, has numerous severe negative lifelong mental and physical effects, including permanent stunting, cognitive and developmental problems, poor school performance, and risk for early-onset metabolic syndrome (obesity, high blood pressure, heart disease, and type 2 diabetes). Fifty-seven percent of all Tanzanian children under the age of five are anemic which can have devastating effects on growth and brain development. 2014 PROFILES

data for Tanzania estimated that by 2025, reducing the prevalence of iodine deficiency would increase economic productivity by TZS 750 billion. Reaching other specified nutrition targets would save: >120,000 children under 5 years from death if stunting is reduced, >800,000 children from irreversible brain damage if maternal iodine deficiency is reduced, >15,000 women and 72,000 babies from death if maternal anemia is reduced, >20,000 infants from death if birth weight increases, >85,000 infants from death if optimal breastfeeding increases, and 101,000 children under 5 years if vitamin A status improves (FANTA and the Office of the Prime Minister of Tanzania. 2014. Reducing Malnutrition in Tanzania: Summary of Tanzania PROFILES 2014 Estimates. Dar es Salaam: FHI 360/Food and Nutrition Technical Assistance III Project (FANTA) and the Office of the Prime Minister).

According to a 2017 report, “the primary drivers of undernutrition in Tanzania are: climate change, political continuity, demographic change, poverty, urbanization and gender inequality” (France Inter-Agency Regional Analysts Network, 2017 IRIS report “Overcoming the Challenges of Undernutrition in Tanzania”). As part of renewed commitment in addressing child undernutrition, the Tanzanian government recently launched a comprehensive five-year National Multi-Sectoral Nutrition Action Plan (NMNAP 2016–2021). Investing in nutrition is essential for Tanzania to progress. It is estimated that the country will lose \$20 billion USD by 2025 if the nutrition situation does not improve. In contrast, by investing in nutrition and improving the population's nutritional status, the country could gain up to \$4.7 billion USD by 2025 (UNICEF 2015 Tanzania Nutrition Report). The causes of poverty in Tanzania are more complicated and interwoven than poor education, healthcare and agriculture, but they account for a great deal of persisting destitution in Tanzania. Instead of only giving food to those already starving (something that is still crucial to do in the short term), it is necessary to address these causes in order to get to the root of the issues and try to stop poverty in Tanzania at its source.

**References:**

- WHO Africa: Tanzania (2020)
- Tanzania, National Bureau of Statistics, 2019
- CIA government library publication, 2020
- Britannica: Tanzania article by Kenneth Ingham, Professor Emeritus of History, University of Bristol, Sept 2020
- Ministry of Foreign Affairs of Denmark, 2014-2021 Tanzania Country policy paper, “Current and Future Challenges and Opportunities in Tanzania:
- “The Causes of Poverty in Tanzania”, Rachel Lind, Borgen Magazine, July 19, 2017
- National Geographic 2020 Gigantic New Locust Swarms Hit East Africa
- NPR, Locusts Are A Plague Of Biblical Scope In 2020. Why? And ... What Are They Exactly? June 2020, Pranav Baskar
- Right to Education Project –January 2015
- “I Had a Dream to Finish School: barriers to Secondary Education in Tanzania”, Human Rights Watch report, Feb 2017
- UNICEF Tanzania, “Immunization for all: No child too far from a vaccine clinic”, June 2019
- United Republic of Tanzania: WHO and UNICEF estimates of national immunization coverage: 2019 revision (next revision available July 15, 2021) derived from data received as of June 29, 2020
- “Improving the efficiency and standards of a National Immunization Program Review: lessons learnt from United Republic of Tanzania”, Pan Afr Med J, 2017; 28: 209.
- GAVI: The Vaccine Alliance; Tanzania, UR Fact Sheet 2019
- France Inter-Agency Regional Analysts Network, 2017 IRIS report, “Overcoming the Challenges of Undernutrition in Tanzania”
- UNICEF: Nutrition report on Tanzania, “Tanzanian Progress in Improving Nutrition Among Children Under Five Years of Age”, 2015
- Tanzania Malnutrition Fact Sheet 2016 (FANTA Project)
- United Republic of Tanzania Nutrition Profile, Global Nutrition Report, 2016

Compiled and written by Dr. Holley Bzdega; December 19, 2020; revised Dec 30, 2020.