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Tanzania, Factor 9: Water Scarcity & Sanitation

Tanzania: A Countrywide Strive For Clean Water

The world we currently live in inhabits 7.530 billion people as of 2017 (“World Population 2020”). Africa is the second-largest continent in the world. It is home to 1.329 billion people as of 2019, while still rising at a steady rate (“Africa Population 2020”). It is home to about one-sixth of the world. Within this continent, in the southeast region is Tanzania. Tanzania is a beautiful and bountiful developing country with the wilderness of the Serengeti National Park and the prestigious honor of having the second largest mountain in the world in their backyard. With over 59 million people living within the country, an abundance of clean water is a necessity in order to thrive. Tanzania is a colorful East-African country filled with tribes such as Sukuma, Masai, Chaga, Swahili, and Gogo along the Indian Ocean coast. With its gain of independence from the British in 1961, Tanzania (as it was earlier known as Tanganyika) bloomed into a self-governing nation under the power of Julius Nyerere. By Julius, the people were led down a path of socialism rather than communism. He was the leader who set out a path that many Tanzanians followed and respected coming out from colonial rule. His leadership and prestige helped nurture Tanzania towards the future. However, though Tanzania is developing, and thriving, clean and abundant water is still an issue. So how is it that a country with almost 60 million people has a scarcity of clean water.

Background On Tanzania

With Africa's location near the Atlantic and the Indian Ocean, Tanzania is right on the east coast. The capital, Dodoma, is six degrees south and thirty-nine degrees east of the equator (Moen). With this location in mind, it explains the tropical to temperate highland weather along the coast. The coast also includes central plateaus and highlands. The country's land is 43.7 percent arable (“The World Factbook 2018”). With this arable land, the average farm size is approximately 107,639 square feet; equivalent to one European football field (Makoi). From this arable land, the main exports include; gold, cotton, cashews, coffee, and manufactures (Chiteji and Ingham). The other land in Tanzania is 37.3 percent forest and 19 percent other (“The World Factbook 2018”). With so little other types of land, agriculture is a big part of Tanzania.

To make money to buy food, the majority of Tanzanians are in the agricultural business. About 70% of the country is in agriculture with the other part of the population as independent producers or salaried farm laborers (Chiteji and Ingham). The issue with agricultural jobs, however, is not what farmers can grow, but the access they need to sell their food (Ragan). Without markets to allow farmers to make a profit, there may not be enough money to feed their own families, let alone consumers. Due to some families' inability to afford food, that leaves about forty-two percent of the children in Tanzania malnourished (Ragan). With the limitation of job diversity, about twenty-five million Tanzanians are unable to access clean water (“Tanzania's Water Crisis in 2019”). On top of that forty million people live without sanitation daily (“Tanzania's Water Crisis in 2019”). This allows only about fifty-seven percent of Tanzania's population to have clean water and thirty percent with sanitation (“Tanzania's Water Crisis in 2019”). Due to the lack of sanitation and water, eighty percent of children and half of all pregnant women are anemic (Ragan). Anemia is a condition in which a person does not have enough red blood cells to

carry enough oxygen to the body's tissues. This results in weariness (Mayo Clinic Staff). The lack of sanitized water can lead to illness and lack of food, therefore hurting farmers and families.

Life and Food In Tanzania

In Tanzania, an average family consists of around five people. In seven percent of urban households, they have approximately nine or more members (“Household Population and Characteristics”). The structure of typical family diets consists of three meals and snack-like foods. For breakfast, there is typically chai (a tea with milk and around three spoons of sugar). This drink is typically paired with pieces of bread such as chapati or mandazi. Chapati was influenced by Indian culture and is similar to flatbread. Mandazi is compared to a sweet dough that is fried (Wiens). A separate option for breakfast also includes Uji. Uji is a millet-like porridge commonly eaten around breakfast as well (Wiens). In the afternoon around one pm is lunchtime. Lunch comes with a variety of options. Many eat ugali or rice with toppings. These toppings can include beans, vegetables, Nyama Choma, fried chicken, fried fish, stew, and mchicha. Ugali is a grain starch that is made from cornmeal or sorghum flour, commonly influenced by Kenyan food (Wiens). Around the coast, there is also pilau. Pilau is a rice that is heavily seasoned with different spices. Nyama Choma is grilled meat. Tanzanian beans are lightly seasoned with salt, pepper, and tomatoes (Wiens). Mchicha is a spinach-like topping commonly associated with ugali. Mchicha is usually found alongside garlic, oil, onions, and tomatoes. Chapati is usually available during lunchtime as well. However, staple foods for lunch are typically rice or ugali, beans, and mchicha (Wiens).

For dinner, the options are simplified to rice, beans, vegetables, ugali, and meat. Dinner is more simple, but still nutritious. For snacks, there are very few options. Samosas are usually meat or vegetarian and have a mix of different seasonings and vegetables deep-fried in a dough shell. Samosas are influenced by Indian food (Wiens). Another very common option for snacks is roasted maize. Maize is roasted corn. This is commonly eaten, as one of the main crops grown in Tanzania is corn (Wiens). This makes maize a snack that is easy to access. Food in Tanzania usually consists of being cooked in two ways; boiled or fried.

Access to Education and Electricity

Education for children is limited, with a majority of household populations with those under the age of six having an education. Even with these numbers, twenty-five percent of males have never attended school, as well as thirty-three percent in females (“Household Population and Characteristics”). Accessing the main power grid is challenging for many Tanzanians. This issue leaves many without electricity. The people who can be connected to electricity typically live in urban areas. Even though there is no electricity everywhere yet, there are plans to spread electricity to villages. (Chiteji and Ingham). Although access to electricity is important, clean water and sanitation are key to improving the quality of life.

Water Scarcity Affecting Food Security

Currently, Tanzania is bordered by great lakes such as Lake Victoria, as well as being on the coast of Africa. The issue is that many areas do not have clean water, as well as many development issues. These problems include a lack of sewage systems. The sewage systems excrete directly into the ocean, creating pollution and injuring ocean life (Miniwasa). Another contributor to the lack of clean water is the lack of resources to fix the issue as these objects are in high demand (“Tanzania's Water Crisis in 2019”). The topic of water scarcity and lack of sanitation affects men and women very

differently. Women are expected to walk for miles each day to collect water, most of which is dirty. Twelve percent of the children in Tanzania hold the responsibility of carrying water, mainly girls under the age of 15 (Ki-moon). In the act of gathering water, gender inequality is very common. In Tanzania, women and girls with low-income spend forty million hours in a lifetime collecting water. That is equal to working in the WorkForce in France for a year (Ki-moon).

Resolution to Water Scarcity Affecting Food Security

A solution to avert this issue is hand-dug wells or water wells. The handpumps on the wells will allow water to be safely delivered through an enclosed system. This leaves the water clean and protected as well as aiding water sanitation. Although hand pumps will not entirely avert the issue, it is an effective way to deliver water sanitarly.

On the other hand, sand dams which are another option would only help to soak up the water, keeping it out of the streets. Sand dams are also another alternative choice for a solution. A sand dam is reinforced rubble cement wall built across an occasionally sany river(How Sand Dams Work 2019). Sand dams are a simple and low cost option. The low maintenance technology gathers rain water and replenishes groundwater. This solution is the most cost effective method to conserve water in dylan environments(How Sand Dams Work 2019). Organizations such as The Water Project with support from the ASDF support projects such as sand dams. They are currently focused in Central Kenya as pioneers of sand dam construction. Their project focuses on being universal in the approach of dam construction, hygiene training, farmland terracing, seed distribution, and shallow well development (How Sand Dams Work 2019). Even though sand dams could be viewed as helpful they would actually do more harm than good, by taking water away. In certain instances, with the poor infrastructure in Tanzania streets commonly overflow when it rains. Without proper drainage systems it can be a backup option for Tanzania in only those instances. However, since the issue at hand is water scarcity this would not be a beneficial solution as of right now. In the future after an implementation of the hand-dug wells or water wells in Tanzania, sand dams could be something to be considered heavily. This would be because sand dams would be a low cost solution to the drainage issues present at specified times. As of right now however, with cost and other opportunities available for Tanzanians hand-dug wells or water wells would best avert the crisis at hand.

One way to fund this project could be through Speed The Light. Speed The Light (STL) is a student-initiated, volunteer, and charitable program that works with many companies such as Worldserve International to provide clean water near churches for villages in Tanzania, Ethiopia, and Kenya (“Speed the Light”). Although religion may not be heavily mentioned in Tanzania 61.4 percent are Christians (“The World Factbook 2018”). This is over half of the population under one religion. Through donations to Speed The Light, water wells would be built near churches for people to access clean water. Speed The Light has acquired over \$300 million through donations to build water wells. One of the best parts of the organization is that it is a student initiated volunteer program. This allows other students to get plugged into the program. This could allow women and girls an education due to a closer distance for clean water as they could attend school instead of walking all day for water. Hand dug wells would also give the youth of the generation an opportunity to be plugged into the project. This could also save many lives from sanitation-related deaths. With STL building water wells, deaths related to sanitation concerns could drop. Rates associated with waterborne illnesses can drop. Clean water could improve the quality of life in Tanzania. Literary rates would increase and adding better drainage systems, such as including sand dams could help in the development of Tanzania. Water wells could allow clean water; a necessity, to be accessible.

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