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Kenya, Water Shortage

The Water Crisis in Kenya and its Costs

Just think: you wake up in the middle of the night and your throat is dry. What do you do? The simple solution for a majority of Americans is to grab a cup and turn on the faucet. This, however, is not the case for many people in water-scarce countries. Kenya is considered one country that lacks proper water resources and there is no simple solution for them. For a majority of Kenyans, the nearest water source is a two hour walk just to soothe the dry tickle in their throats. Many negative consequences occur with the lack of water, such as inhibited development of agriculture, industry, and of the Kenyan people themselves. Water is considered a basic human need and many Kenyans face the fear of not being able to obtain it every single day.

The principle problem that Kenyans face every day is the lack of a safe and accessible water source. Kenya has been classified as a water scarce nation due to the fearsome fact that it has less than a thousand cubic meters of water per person per year. In a study done by the United Nations Development Program, more people die of water scarcity or water related diseases than in military conflicts around the world. A lack of water inhibits growth in the agricultural and industrial sector of many underdeveloped countries. It is also a major source of conflict between the rural and urban areas as competition for water increases (MWANGI).

Kenya is a majorly rural country, with seventy-one percent of the fifty-three million residents living in a rural setting. This reflects majorly on how people live and struggle (“Kenya.”). Only sixty-eight percent of people in urban areas are able to access safe water. In rural areas, this number is much lower. Only forty-nine percent of Kenyans have access to safe water, making development in rural areas difficult to achieve. Many rural areas, as well as urban slums, are not able to be connected to piped water infrastructure, making it extremely difficult to obtain water. Kenyans not connected to pipelines widely rely on rainfall, which is scarce. With low rainfall and high evaporation rates, this is not a dependent source. Additionally, The Ministry of Water and Irrigations has 200 rural water supplies that sell and deliver water. On average, only about 19% of rural households have water delivered, due to the high cost. 40.5% of Kenyans go with the cheaper option and carry their own water home on their backs (MWANGI). If you are not connected to a water pipe, the coping costs are approximately \$38 per month. In

comparison to urban Nairobi, having a reliable water supply costs only \$4.46 per month (“Kenya's Water Crisis - Kenya's Water in 2022.”). Having a reliable water source saves a family up to \$34.54 a month (“Kenya's Water Crisis - Kenya's Water in 2022.”). An extra \$34 for a family makes a big difference, especially when the average income is \$1,979 a month. For comparison, the average American makes more than 3 times as much of that per month (Mwaniki, Charles).

In order to live and make a profit, many rural Kenyans have a farm or garden. Agriculture is a very important part of Kenyan life, as people are heavily reliant on domestic products to survive. Livestock, primarily goats and cattle, is produced for meat and dairy for inner country use. Excess products are exported to other countries for profit. Corn and maize are the major crops for domestic consumption but sisal, cotton, fruits, tea, fresh flowers, and vegetables are major cash crops to export. There are many large-scale farms, but the average family farm is less than two acres (“Kenya.”). That is about two football fields for comparison. An average Kenyan farmer fully depends on only two football fields to survive. Access to water for human consumption, agricultural, and livestock use is a significant problem in rural areas (MWANGI).

The rainy season in Kenya begins in late March and lasts until May. The dry season is considered to be the rest of the year, from June to the beginning of March (“Kenya.”). The high variation of water availability has been a major issue to Kenya. The instability of the rain becomes a larger issue than the blessing of the rain itself. Kenya’s average annual rainfall is 500mm per year. During the rainy season, many floods become damaging to the climate and infrastructure. During the dry season, droughts are harsh and dangerous to humans and crops. (MWANGI).

On top of lack of water resources, Kenya faces another problem with water scarcity. The only water that is available is often polluted and contaminated. This contamination degrades the quality of water that leads to no available water sources. In addition, the degradation of land negatively affects water quality and availability for both humans and other sources. Human factors, such as population growth and poor water management, increase the problems involving water. Water is already scarce in Kenya, but human effects on water decrease the availability (MWANGI).

As a result of the climate’s harsh transition from the rainy to dry season and water degradation due to human activities, catchment degradation, rivers drying up, lakes receding, and dams silting have all occurred (MWANGI). A majority of water sources that farmers heavily depend on have been drying up, especially in northern Kenya. Eighty to ninety percent of reservoirs and dams have dried up due to droughts and harmful water irrigation systems. The drying up of water sources has made many herdsmen and pastoralists have not been able to keep their livestock alive and hydrated. Fishing has not been able to be a reliable source of food, resulting in malnutrition of many lakeside communities. Water and food

prices have also skyrocketed because of the rising demand for resources (“Kenya's Water Crisis - Kenya's Water in 2022.”).

Over half of the water sources Kenya has, both groundwater and surface water, have to be distributed to many different parts of the country, making water a territorial issue as well as a humanitarian issue. Sources estimate that more than 50 percent of water abstractions are illegal and often fought over (MWANGI). Violence over clean water, like in Mai Mahiu, Kenya, has become a common experience. Maasai herdsman are pitted against Kikuyu farmers in the fight for clean water. They both need it, the Maasai to keep their animals alive and the Kikuyu to keep their crops alive. Each group of people think their reason is more valuable than the other group’s reason for water so they blame each other for taking too much water and fighting over the rights to it. Back in 2009, fifteen people were killed due to feuding over water accessibility. Not only is the lack of water already deadly, it bans humanity against each other so they do the killing instead (Voa News).

Water scarcity in Kenya affects every person in the population, but some more than others. Women are part of the group that has to suffer more in means to survive. Many women in rural communities are forced to walk for at least two hours per day carrying a heavy container just to obtain enough water for her family and small crops to survive (The Star). Women in Kenya are expected to ensure their families water every day. Women have had a huge responsibility placed upon their shoulders to be the water providers, caregivers, and managers of their family all at once while also trying to better their lives. Younger girls have had to exchange time for their education and childhood for the time it takes to secure water for their family. Kenyan women have to risk so much to be able to collect a basic human need for their families (The Star).

Many solutions exist to make a difference in this country-wide issue. There are both local and national solutions that are currently being developed to address this issue. On a local level in towns like Mai Mahiu, grassroots NGOs are setting up drip irrigation systems. In 2008, faculty from K-State, led by Herschel George traveled to Mai Mahiu to work with one of my past teachers, Alison Kubish, to set up model irrigation systems across Kenya. Mrs. Kubish spent 3 years working with the community in Mai Mahiu and hosted the K-State team for a summer. The K-State team invited twenty Mai Mahiuian grandmothers to partner with them to set up a demonstration garden on a piece of land in the center of the town. This garden exhibited the use of drip irrigation and other, more effective ways of farming to the town. The drip lines were old lines donated by a local flower producer in Naivasha, Kenya. The garden obtained its water by donkey daily. The K-State team also held workshops for the locals and did many home and farm visits to provide hands-on recommendations. In addition, they worked with local women in setting up their own vegetable gardens in empty oil barrels, educating them on the effective use of water to grow nutritious food (Alison Kubish, personal communication, January 20, 2022 and September 8, 2023). It is these small projects that make a huge difference in the lives of people in small communities. This process being repeated in other communities is one way to enact change.

However, there also need to be larger national projects that are done at a governmental level. One such initiative was Kenya's poverty reduction strategy program. It was created in 2000. The goal of this was to provide water and sanitation to poor rural areas. The goal it was created for was to have these water and sanitation stations less than two kilometers, or one and a quarter miles away, so less time is wasted on obtaining water for families. In order for this strategy to work, the poverty reduction strategy program planned that the communities and local governments are more hands-on and actively managing the systems, rather than big donors, charities, or government agencies that do not know the location as well (MWANGI).

There have also been different types of solutions that involve partnerships with other countries. The Kenyan government has partnered with the China Road and Bridge Corporation. This corporation drilled into Kenya's earth while drilling the Ngong tunnel and discovered an underground aquifer. The China Road and Bridge Corporation built two underground reservoirs that can contain up to 800 cubic meters of water. This holds water until the community is ready for it at no cost for the Kenyan consumers (The Star). As with any partnership with foreign entities caution is urged as oftentimes there is more benefit to the country that is helping than the country that receives the help. This can be seen in China's unethical water practices in Ethiopia.

Political will is the main factor in solving the water crisis on a large and lasting scale. In the past years, Kenya's presidents have promised but not delivered. They have become mired in political scandal and conflict. William Ruto, elected in 2021, has promised change that can be a beacon of hope to the Kenyan people in need, but only if action is decided to be taken. Africa as a continent is at a tipping point where change could actually happen and lives could be saved.

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