

Water and Sanitation in Ethiopia

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Introduction

While things are getting better for Ethiopia, there are some things that need to happen. The capital, Addis Ababa, is doing pretty well in the urban areas, however, the rural areas are struggling. The land is dry and access to clean water is scarce. Not only are there landscape issues but there are many other issues regarding health. Families that live in rural Addis Ababa struggle financially and mothers and children are forced to stay home. When mothers and children work outside, they are constantly dirty and thirsty. However, there is very little access to clean water which causes more and more sickness. Furthermore, there are no formal bathrooms which creates more bacteria in these people's lives. Bathrooms in rural Addis Ababa are usually in a shack with a hole in the ground. Many illnesses arise from these dirty conditions. Fortunately, there is a solution to this problem. At the center of urban Addis Ababa, there is a sewerage system that can be expanded into the rural areas. This expansion would allow for proper facilities to be installed and better sanitation. Many organizations would help to make this transformation possible.

Background

Ethiopia is located on the eastern side of Africa, which is also near the equator. Because Ethiopia is located near the equator, the north-eastern and south-eastern regions experience tropical climates and even desert climates. However, in the highland regions, the climate is much cooler. Additionally, there are 3 seasons in Ethiopia. These seasons include Kiremt, Belg, and Bega. Kiremt is like summer, Belg is like autumn, and Bega is like winter. Annual precipitation can range from 20-40 inches but in the driest part, precipitation ranges from 0-20 inches. Ethiopia is landlocked with the Great Rift Valley splitting the country. The land is rugged with an increased amount of ancient culture. 3 major drainage systems in Ethiopia include the White Nile, the Rift Valley, and the Shebele and Genale Rivers. The population of Ethiopia is around 120.3 million people. Furthermore, Ethiopia is the most populated country in the Horn of Africa. About $\frac{1}{3}$ of the country lives in urban areas, with the remaining living in rural areas. The majority of Ethiopia speak Semitic, Cushitic, or Otomic. The largest ethnic group in Ethiopia is Oromo. $\frac{2}{3}$ of the population is Christian, as Christianity was introduced in the 4th Century. The remaining population is mainly Muslim. Ethiopia's government is a Federal Democratic (parliamentary) Republic led by a prime minister. The capital of Ethiopia is Addis Ababa, which is also called "New Flower." In addition, the population of Addis Ababa is a little more than 5.4 million. Addis Ababa is the 3rd highest capital city in the world. The national language is Amharic but the prominent foreign language is English. In addition to these languages, some people speak French, Italian, and Arabic. Addis Ababa is located in the center of Ethiopia but a little northeastern, as well. Addis Ababa borders the Great Rift Valley and offers many cultural sites for tourists to see. The average income in Addis Ababa is 32,000 Ethiopian birrs, which compares to around \$500 in U.S. money.

Current Situation

Some specific problems relating to water and sanitation in Ethiopia include only 42% of the population having access to clean water. This means that over half of the population goes without clean water, and the water they drink and clean with, is dirty. Not only does only 42% of the population have access to clean water but water scarcity also affects over 61 million people who don't have clean water. That is over half of the population that is affected by water scarcity. Many water-borne illnesses arise because of the shortage of clean water, which pushes many Ethiopians into poverty. In addition, over 40% of households don't have hand washing facilities. So, without access to clean water and households not having hand washing facilities, people don't have the option to stay clean. In addition, so many viruses and bacteria are accumulating due to the lack of sanitation. Unfortunately, Ethiopia is one of the poorest countries in Africa and the world. While Ethiopia is one of the poorest countries, it also has a substantial amount of debt to the United States. It is estimated that Ethiopia has over 60 million dollars worth of debt to the United States alone. In addition, Ethiopia's political index is -2.07. The range for the political index is from -2.5 - 2.5, so Ethiopia is almost at the worst it can be. Due to soil erosion, overgrazing, and deforestation, the country's plateau has become severely damaged. The farm grounds in Ethiopia are drying up and crops aren't able to grow. The majority of families rely on farm grounds and crops for food security but with more erosion and drying up, families don't have the option to grow food. Most energy sources in the rural areas come from firewood and charcoal. There is a plan to hopefully expand hydroelectric power to the rural areas but still hasn't been accomplished. In rural Addis Ababa, children don't usually go to school as the public school system is deteriorating. There is a lack of funds, staff, facilities, and space. Children usually stay home with their mothers. Mothers and children have to walk miles trying to find clean water. An estimated 80% of the Addis Ababa population lives in low-income settlements. The rural side of Addis Ababa shows more insecurity within families. There is food insecurity with more fields drying up and there is water insecurity due to the lack of clean water.

Barriers

The people of rural Addis Ababa face many barriers that take a toll on their health. Water samples were taken and it was found that an estimated 87% of the samples contained bacterial indicators. Additionally, there were fecal contaminants found in drinking water. These people already don't have much access to water but the water they drink is filled with bacteria that causes sickness. Furthermore, half of the water lines were infected with *Escherichia coli*. An illness like *Escherichia coli* can be more dangerous than someone would think. When a person has *Escherichia coli*, there is a substantial amount of fluids coming out of the body, and dehydration is very common. Because rural Addis Ababa is already struggling financially and there aren't designated hospitals, people aren't able to receive the care they need when sick. Since there is no care given, it was found that over 8,000 children die from diarrhea each year. These families are not getting a healthy intake of the vitamins and things they need which leads to more deficiencies. The cause for all of the bacteria in drinking water is the fact that less than 3% of the population has access to a sewerage system. In addition, public bathrooms aren't common. When a person needs to use the bathroom, they have to go to a shack and use a hole in the ground to relieve themselves. All of the bacteria then soaks into the soil and travels and ends up in the water. Moreover, money is a big issue. The families in rural Addis Ababa are poor.

Families rely on the father/husband to work and earn money but the income is not enough to have a comfortable life. And with little money, these families can't do anything about the hardships that they are going through.

Solution

As previously mentioned, less than 3% of the population has access to a sewage system. However, there is a sewerage system in the center of Addis Ababa. If this system could be expanded, the people who live in the rural regions would have access to a better bathroom situation. Expanding the system means that the actual system would become larger but there would have to be an installation of toilets. Unfortunately, these people are not used to using a toilet so there would need to be an educating lesson on how to use one. The first organization that would help with this transformation would be Plumbers Without Borders. Plumbers Without Borders is a nonprofit organization that receives many donations from companies that recognize their help for people in need. This organization began around a decade ago when a natural disaster went through Haiti. Plumbers Without Borders has a mission to implement sustainable plumbing and sanitary systems, which rural Addis Ababa desperately needs. Plumbers Without Borders also has educators who could help the people of rural Addis Ababa learn how to use the new systems. These educators could also educate plumbers within Addis Ababa so if any issues arise, there are people prepared in Addis Ababa. Another organization that would be necessary for this solution would be Linguists. The majority of people in Addis Ababa speak the Amharic language. However, the organization of Plumbers Without Borders doesn't have people who can speak Amharic. This is where the Linguists would come in. There are interpreters and translators who speak the Amharic language so there isn't a language barrier between anyone. After the installation of the expanded system and toilets are being used, there will be a significant lifestyle change for these people.

Conclusion

While Addis Ababa is the capital of Ethiopia and is known for its cultural attractions, there are issues. The rural communities seem forgotten and are struggling to live a healthy life. The public school sector is struggling with a lack of money and space which forces children to stay home. These children are not only missing out on an education but also working from a young age. With the lack of resources, families use holes in the ground to relieve themselves and the bacteria levels rise. So many families and children get sick and some even die from the harsh conditions. Fortunately, there can be a solution. With some help from Plumbers Without Borders and Linguists, a proper sewerage system can be installed along with real toilets. This transformation would reduce the amount of bacteria in the water and improve the living situation for many people. Basic sanitation is something no one should be without.

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