

Anna Spohler
Global Impact STEM Academy
Springfield, OH
Haiti, Water Quality Issues

Haiti: Water Quality Issues and Sanitation

There are so many things that in today's modern world we, as humans, take for granted. While people in developed countries worry about the WiFi not working or the microwave not working as well as it should, people in third world countries, like Haiti, worry about getting clean water to drink and use in their day to day life. Here in the United States clean drinking water is a given, almost expected for us. Sometimes it is easily forgotten how crucial water is to survival, and how much we need clean and safe water. Water is necessary for survival, and unclean water can lead to major issues, health and otherwise. People in Haiti are forced to deal with these issues and consequences everyday, something no human being should have to do. Clean drinking water needs to become more of a priority for everyone, but especially the people of Haiti. We need to do our best to help them in all the ways we can.

1. What is it like living in Haiti

Haiti is a semi big country. There is a population of 11.4 million people. The country is made up of a large population living in rural conditions, almost 75% live there. The other 25% live in more urban areas, although what we in the United States call rural and urban is not the same definition the people of Haiti use. In Haiti the average family size is four to five people, mom and dad and then two to three kids, depending on the income of the household. Houses can look different depending on where it is located. It is said that the “majority of all rural housing consists of two-room dwellings that have mud walls and floors and roofs that are thatched with local grasses or palm leaves; they may also be constructed with plastic and other materials and roofed with corrugated metal. The windows are paneless and covered with wooden shutters” (Ferguson 4). There is not much furniture in the house, it is not needed. The kitchen is often located outside of the house, and there is no piped water or electricity, another issue that arises for these people.

A family in Haiti has a pretty normal routine. Breakfast consists of a cup of coffee and peanut butter bread. Lunch is always the country's national dish, beans and rice. Dinner is either a bowl of soup or porridge, sometimes with meat on top. Meat and seafood are commonly eaten as well, but usually only affordable by people who are wealthier and make more money. Their diets are largely based on the things they produce and grow, things such as rice, corn, millet, yams and beans (“Together Women Rise” 2). All of these things are considered staples in Haitians diets. Most of the food people receive is either from trading or they grow it themselves. Since Haitians often grow their own food, it is found that “only one-fifth of the land is considered suitable for agriculture, more than two-fifths is under cultivation” (MacLeod 4). Most of the kitchens are located outside, and any food that absolutely has to be cooked is made on a charcoal stove. There are a lot of curbside restaurants in the local markets in Haiti, and food is often fried and sold there.

Haiti can often be a good place to visit, so a lot of people there have jobs in tourism. Along with working in tourism, there are jobs in the local and national government, trade, farming and finance (“Together

Women Rise” 2). The type of currency in Haiti is Haitian gourde (HTG). The average wage is 68,400 HTG per month, which in American money is equivalent to about \$2. Work can be hard to find, therefore hard to get food that is nutritious for some families. More than anything else, finding clean water is an issue that almost all Haitian people face. Families don't usually have access to clean water, toilets, electricity, telephones, roads and local markets.

Between the ages of six and twelve children will attend school. After that time, they will either go to work with their parents, or find another profession that will help to support the family. There are, of course, those few who decide to go to university in either Europe or North America (Ferguson 4). The people of Haiti do have access to healthcare, but very few can afford it. There are not a lot of people who are financially stable enough to get the healthcare that is offered, even though the healthcare is considered very affordable in other parts of the world. Having healthcare in Haiti is an extreme privilege, and anyone who has it is considered to be higher up on the social ladder than those who are not.

2. The misfortunes of Haiti

Haiti is considered the poorest country in the LAC, Latin America and Caribbean. While being the poorest country in the LAC, it is among the poorest countries in the entire world. It was once one of the wealthiest colonies in America, but that ranking has since falling. Over half of the population is currently living under the World Bank's poverty line (Labrador and Roy 1). Getting access to clean water is one of the biggest challenges in Haiti. According to research, in 2021, up to 42.3 percent of Haiti's population struggles with getting access to clean drinking water. Things like pollution from human waste and other waste is often in the rivers where the Haitians get the water they use for drinking, cooking and cleaning. In 2010 Haiti experienced an earthquake that put the water quality at an extremely dangerous level for people to be drinking (Bliss 2). While it was dangerous, the people had no other choice than to drink the water.

The earthquake was a 7.2 magnitude earthquake, and it ruined an abundance of people's lives, people lost houses and jobs, family members and friends. In the same year as the earthquake, there was a “rapid spread... cholera” (Bliss 1). This epidemic presented a large problem for the people of Haiti, as the sickness was so rapid and widespread. The symptoms of cholera took many people out of work while they were sick. When there were more severe cases of cholera, some of the symptoms are things such as vomiting, leg cramps, nausea, restlessness and extreme thirst. Even when they were extremely thirsty, they were not able to drink water, as it was contaminated and would just make the sickness worse. Some of the other diseases and sicknesses that are often seen in Haiti associated with water quality issues are things such as “acute respiratory infections, diarrhoeal diseases, cholera and malaria” (United Nations 1). All of these diseases can be life threatening, if not treated correctly by a proper professional.

Along with water quality issues, food can also be a challenge that people face. Food is not as much as an issue, when the weather cooperates with the conditions needed to grow crops like corn, rice, beans, yams and even coconuts. All of these crops require different conditions to grow properly, and Haiti's weather is just about in the middle for all of these crops. The weather in Haiti is humid, and usually pretty cloudy. It is most commonly between 73° and 94° year round, and it very rarely goes under 60° there. Haiti receives a decent amount of rain, something that is necessary for the crops they grow. The two main crops grown in Haiti are corn and rice, and is the country's main export as well. Both of these crops require a large

amount of water to grow properly, but the issue comes back to the water. As said before, rice and corn are both staples in the Haitian diet. The crops are watered with the same water that is used for drinking and cooking, the contaminated water. When using this water to grow the crops, the water can also affect the plants. Whether it be by killing the plants or creating plants and crops that are not safe to consume, it is an issue. Also with the issue of using contaminated water, the animals drink the same water. In the same way that people can get sick from the water, so can animals. The animals not only serve as a source of food and protein, but also transportation. This creates an even bigger problem.

3. Current water conditions in Haiti

After that outbreak of cholera the water quality in Haiti severely deteriorated. The outbreak started in early October of 2010, and it continued all the way until 2013, it was reported that the outbreak “resulted in 658,563 reported cases of cholera and 8,111 reported deaths as of June 2, 2013” (Bliss 3). The number of deaths in this outbreak proves how bad the water quality really is. Cholera is usually a sickness that within two weeks, and the right medicine, can be resolved quite easily. While the water sanitation played a huge part in the outbreak, so did the lack of available healthcare. The lack of proper healthcare available to the people of Haiti did not help the outbreak from spreading even quicker. Even though these people were sick and unable to get proper healthcare, they had to continue to drink the water, because it was the only water available to them. Along with using this water to drink, it is also used for cooking, watering crops and livestock, and cleaning. This outbreak was a huge issue, and even after the peak of the infections had ended, there are still other issues that contribute to the poor water quality in Haiti. While there were certain things that were done to help with the outbreak, nothing worked in the way they would have ideally liked. The lack of indoor toilets and plumbing is something that is a large contributor. When these things become backed up or flooded, it floods into the streams and rivers. Haiti experiences a lot of natural disasters, which also are part of that water quality issues. The small percent of people who live in urban areas do have access to cleaner water, but this water is still not safe to be drinking and using on a daily basis. The majority of the population who live in rural areas have it even worse, the water being less sanitary and more contaminated. The water that these kids, adults and elderly are drinking is not safe. The water in Haiti is often high in different metals and bacterias that are not safe for drinking. Clean water is a human necessity, something that every person should be able to get without issue.

4. Possible solutions

The most obvious, and easy, thing to do is water filters. Whether that be personalized ones or one's for the whole community to use. Water filters that can be attached to the community wells, possible for everyone to use, and simple. These filters can have a combination of things in them, depending on what is contaminating the water. Different bacterias will need different things to kill it. These filters often last up to twenty years before showing any signs of lowering the rate at which it filters the water or not working to kill those contaminants as well as they did when first installed. For those few people who do have indoor water supply or indoor plumbing, these filters can be installed in houses as well, and personalized for the things needed. On the other hand, the filters that can be used in the community wells are available to everyone. These wells will be well used by everyone. For cooking, cleaning, drinking, watering crops, and watering animals. Although the more it is used, the faster it will wear out, and based on Haiti's water consumption, the filter would have to be replaced after about ten years. Both of these types of filters can be expensive, but easy to install and useful to everyone.

Another possible solution would be Greenhouse Gas-Reducing Water Purification. This filter is a filter installed in homes, and lasts up to ten years. When using these filters, it uses “centuries-old slow sand technology to remove up to 99% of waterborne pathogens” (Native 1). These filters help to reduce deforestation, preserving habitats and helping with biodiversity. The filters are currently installed in Haiti by the Native, a public benefit corporation. They are located in many different places around the world, Haiti’s filters being installed in 2017. Those filters are installed in homes and on a few community wells for everyone to use. A different method could be solar water disinfection combined with filtration. Something that is often seen is people carrying black jugs of water, those black jugs help with UV disinfection. Combine this with normal filters, things that can be made with materials found in homes. All of these things together could create a possible solution to the water quality. This method does not require chemicals, and can be something you do at home. On the other hand this does take a lot of time and also does not guarantee clean water, as different waters require different things to be considered clean. When looking at the possible solutions for the water quality in Haiti, creating filters and putting them in the community wells looks like the best option.

5. Water filter sponsors

Native is a company that is called a public benefit corporation. The company has been around since the early 2000s, and is based in Delaware. The filters installed last over twenty years on average. Since it is a public company, the corporation either sponsors themselves, or gets money from the city. They work with Pure Water for the World to install these filters. The company has installed filters for 2,580 families as of 2019, the data has not been updated since then. While this company is not a non-profit organization, they do not make their beneficiaries pay for the filters, allowing those to be used for the good of the people. In Chad there is a different type of filter being used. PAEPA, also known as The Rural Drinking Water and Sanitation Program, is working with families and people in Chad to provide clean water. Chad is in the top ten poorest countries in the world, which is a large reason that this organization chose Chad as the place to work with. Since they installed the filters, the access rate increased from 32% to 81.5% (PEAPA 2). These filters also create full time employment opportunities for the population. PAEPA is funded by the government, as the water quality is so bad that it reflects poorly on the country of Chad, and also the sicknesses that are passed around.

Water quality in Haiti is something that is continually disregarded. After the outbreak of cholera, the people of Haiti really struggled with coming back from the sickness and death. Even though the outbreak was almost ten years ago, the water quality has yet to improve to the point of safe drinking and using. Installing water filters for the community to use is the simplest solution, and the most effective. Although these filters may take time to install and time to teach the people how to use, the results would be incredibly beneficial for the population. The contaminated water poses issues for everyone and everything. The children drinking the water are being exposed to bad bacteria at such a young age, which could affect their growth and development. The adults and elderly drinking the water are continually exposed to the water, affecting their health as well, setting them on a decline for life. The water being used for the animals and plants hinder the quality of food and uses of those things. Installing water filters will create exponential increases in health for these people. Clean water is a basic human right, and something that everyone should be able to get without fear of getting sick or even dying. Haiti needs help, and there are things that can be done to help them, we just have to use the resources we are blessed with.

Resources

- Carmody, J. (April 17, 2020). *Water Treatment in Developing Countries*. Retrieved January 4 2022.
- Ferguson, J. (n.d.). *Haiti* Retrieved January 5, 2022.
- Gelting, R., Bliss, K., Patrick, M., Lockhart, G., and Handzel, T. (October 9, 2013) *Water, Sanitation and Hygiene in Haiti: Past, Present, and Future* Retrieved January 8, 2022.
- Girault, C. (n.d). *Haiti* Retrieved January 4 2022.
- Labrador, R. and Roy, D. (September 17, 2021). *Haiti's Troubled Path to Development* Retrieved January 8, 2022.
- Dune University. (n.d). *The Food and Culture of Haiti* Retrieved January 8, 2022.
- Native. (n.d). *Missions and Values*. Retrieved January 4 2022.
- Project PAEPA. (n.d.). *Drinking water supply and sanitation project for eight secondary centers and surrounding rural areas – Chad*. Retrieved January 4 2022.
- Relief Web. (January 28, 2020). *In Chad, the African Development Bank quenches the thirst of residents with clean drinking water*. Retrieved January 4 2022.
- The Borgen Project. (January 9, 2020). *ACCESS TO CLEAN WATER IN HAITI*. Retrieved January 4 2022.
- Together Women Rise. (n.d). *Customs and Cuisine of Haiti* Retrieved January 8, 2022.
- United Nations. (September 3,2021). *Haiti earthquake: Waterborne disease poses new threat to children* Retrieved January 7 2022.