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Haiti, Factor 9

Haiti: Sanitizing drinking water

The world today is like a merry-go-round; spinning until you cannot see what matters most. In the changing ways of technology, the rush to get a name brand pair of jeans, and in the urgency to beat the drive-through rush, people are blindsided by what they want. They want an iPad 3, brand new Miss Me jeans, and a latte with extra cream from Starbucks, but what about others? The less fortunate are hoping their check went through so they can have electricity. Others are hoping that they get a second set of clothes for their birthday. Even still, there are more destitute people searching for clean water that is safe enough to drink. More accomplished people forget about developing countries that need help and want to live a healthy life. The desolate do not worry about the sanity of what they drink and wash their hands in. They simply want to quench their thirst.

1. Haitian living

As a developing country, Haiti is faced with immense poverty. In 2012, the population was slightly less than ten million. Just less than seven million of these citizens are food insecure (Overview. Web). Families live in huts made of sticks and mud. Families of five live in these huts: parents and their average of three children (Central. Web). If there are other family members that need somewhere to stay, these huts sometimes house up to ten people. With this many people in one location, the unemployment rate is sky high, averaging 40 percent. Three fourths of the Haitian population lives on less than two American dollars everyday. Even still, half of the country earns less than one dollar a day. The income is often earned by the youth in the family who do not have to take care of younger siblings (Overview. Web).

In the rural setting of Haiti, the average family lives off of about two acres. They often live off of what they grow; supermarkets are a very long distance away. Some of the crops that they grow include black beans, corn, sugarcane, rice, and yams. They grow their own food but rarely sell it. Without an income from crop sales, Haitians are left with no money for medical expenses. Disease and injuries often occur with nowhere for people to go. There are only about a dozen hospitals, which are staffed by about 300 doctors. A clinic visit is usually priced at \$50 (People. Web). Almost 120,000 Haitians are living with HIV or AIDs. Every year, about 7,100 people die from these diseases (Central. Web). Not many families have the transportation to receive proper medical help (People. Web). Without a way to receive medical help, life expectancy for males is 61.15 years old. Females can be expected to live to be as old as 63.9.

2. Set-backs

As a country, Haiti and its citizens face a number of difficulties. Of all Haitian children, only 50 percent receive an education. Without skill or knowledge, a professional job is quite unreasonable. Deforestation, soil erosion, and the lack of potable, or drinkable, water set Haiti back. The soil used for farming has little nutrients which yields a small harvest. Much of the rich soils are located on the steep hill- and mountain-sides that are a burden to cultivate (People. Web). The soil as well as the water shortage in parts of rural Haiti also affects the amounts of produce grown off the land. Without skilled laborers, irrigation is impossible and running water is intangible.

3. Current water situation

Many of the people have a religious faith. Four-fifths of the population is Catholic, and half of the population is Voodoo. This being said, some people practice both religions. In both of these religions, water is looked at as a sacred sign from the god. Haitians think of water as being pure and clean. The sanitation of the water is anything but this. The water contains invisible, and harmful, pathogens.

Aqueducts coated with alluvium, deposits of sand and dirt, are used in the major cities and leave alluvium remnants in the water making it unclean. When someone drinks this water, they are very susceptible to these parasites having a lasting impact on their health (Wampler. Web). Many young children die from diarrhea and other similar illnesses. This contaminated water is one of the only resources Haitians have to keep them alive. The ocean water is too salty, milk from goats is used to keep its young healthy, and purified water in the cities is too expensive (Shindelar). The purity of the water is not getting any better, and many people are still contracting pathogens.

4. Haitians need for clean water

By giving the Haitians a way to clean drinking water, we would be giving them a new way of life. Increased amounts of clean water would mean healthier living and more jobs. Fewer children would have to live their life with parasites and worms. Parents of these children would not have to worry about taking care of their sick child. Older siblings would be healthy and able to get a job to earn a sustainable paycheck. All people could wash with clean, refreshing water that removes all skin irritants to avoid rashes. In the end, there would be enough money made and saved that families could buy food to keep from starving.

With a tropical climate, the need to drink water is prominent. During the hottest months of the year, Haitians look for water of any kind to stay hydrated. The sanitation of the water is not thought about when they are thirsty (The FilterPure. Web). "He knew it might be tainted," said a young man who brought in an elderly villager to a clinic, "but it was the only water they had to drink." Haitians know the risks of unclean water, but clean water is very hard to find (Wheeler. Web). The country is growing at a .888 percent rate. At this rate, the need for water is increasing, and the need for clean water is even greater (Central. Web). Urban dwellers have an easier access to clean water. Bottles and bags of clean water are sold on the streets by vendors. Although this is one way to get clean water, it cost Haitian families an excessive amount of money if they were going to live off of this water (Shindelar). All families are exposed to water that may contain pathogens. Action must be taken to prevent the spread and growth of pathogens in dirty drinking water.

As generations pass, less pathogen related illnesses would appear if action is taken. Mothers could have the reassurance that they are not passing on any bacterium to their children. Currently, there are 53 deaths for every 1000 babies born (Central. Web). These deaths have different causes, but one cause is because of contagious diseases. The pathogens inside of a mother can be passed to a child. Pathogens can be passed down for several generations until the host cell inside of a persons body can no longer reproduce. To stop this cycle before it begins, germ infested water must be prevented (Vertical. Web).

5. Aftermath of unclean water

There are many diseases that are the result of unclean water. One of these diseases that is seen time after time is cholera; an infection of the small intestine caused by infectious gastronomy. Being exposed to contaminated water or being in an area with the disease increases risk of contracting cholera. Several side effects and symptoms include stomach aches, sleepiness, severe diarrhea, and thirst. Blood and stool culture tests can be taken, but treatments are often very expensive. Intravenous fluids and other electrolyte infused fluids help restore vitamins and nutrients. Although these are the most effective remedies, one of the simplest ways to treat and prevent cholera is by drinking lots of uncontaminated water to stay hydrated. Given these remedies, if dehydration is too severe, death is a likely possibility (Cholera. Web).

An ongoing outbreak of cholera in Haiti has claimed the life of many Haitians. The outbreak started in October of 2010 and nearly six percent of all Haitians have had cholera. After the 2010 earthquake, cholera began to appear more and more. At this moment, over 7,900 Haitians have died from the cholera outbreak and hundreds of thousands of people have been infected (2010-2013. Web).

6. Solutions

There are many solutions to giving Haiti ways to sanitize water, but many involve items Haiti can not afford. Some of these tools include access to electricity, skilled laborers, and the land to do so. One simple, yet effective, way to obtain clean water is through clay filters. In clay filtering, a clay pot is placed inside of a five gallon bucket. Water is then poured into the filter and a lid is placed over top to prevent further contamination. On average, two and a half liters can be sanitized every hour. Around twenty to thirty liters can be cleaned everyday as long as there is always water in the filter. Then water is 99.9% cleaned from pathogens and other germs. One of these filters only costs fifteen dollars to make. If the filter is ever to become dirty, it can be scrubbed out when the water pressure in the filter is low. Every three months, it is encouraged that the clay filter be placed in boiling water to eliminate any bacteria that has grow in the filter. In typical conditions, a filter is used for five years until it needs to be replaced (Filterpure. Web).

7. Clay filters

Clay filters have a ratio of 1:1 of clay and sawdust. In between these two materials is a colloidal silver layering. As the water passes through the tiny cracks and crevices of the clay, the particles of silver kill viruses and bacteria. Also, the filter is made of half an inch of charcoal to enhance the color and taste of the water. The water runs out the bottom of this bowl shaped filter into a bucket. This bucket then has a spigot near the bottom. Water can be poured directly out of this bucket and used for washing, cooking, and drinking (The FilterPure. Web).

This form of water sanitation requires very little knowledge and can be explained very easily. No electricity is needed when sanitizing the water. The bucket can be set inside the house, and it only takes up two square feet of floor or table space. A typical family could easily adapt to filtering their water. The filter and a five gallon bucket is all a household needs to start this trend. Water is still brought from a well or other water sources. The only factor that differs is the water is poured into the filter before being drank (The FilterPure. Web).

To keep up with the growing demand of clay pots, it would be helpful to establish a factory to make these pots. The factory would have to be based in a major city such as Port-au-Prince or Cap-Haïtien. It would need the electrical output of such a city, but it would also need space. An ideal location for such a factory would be just outside of city limits. With this location, there would be accessibility to electricity and main roads. It would also be easy for workers to get to because they would not have to go through the busy city (Filterpure. Web).

8. Other possibilities

Another idea is to dig more wells where possible. Although this would not increase water sanitation, it would increase the availability of water. With an increased number of wells, access to water would be greater. With more access comes a greater supply and less demand. People would not have to wait for water. They would have more time to let the water be filtered before needing the water to drink. Prime Minister Laurent Lamothe, who was tasked by President Martelly to lead reconstructing projects, agrees that, "The time for action is now!"(Government. Web).

Wells are not free to dig, and skilled laborers cannot be found everywhere. For example, the average well costs \$5,500; two test holes are dug to find water, one hole is enlarged, the water pipes need casing, installing of the pump, and maintenance of equipment (Water Well. Web). This money could be funded by donations from citizens of developed countries, but help from the government would be ideal. If a well drilling company was to start operation in Haiti, registering as a formal business would increase business incentives. A local operation that operates in the formal sector has an avenue to bank financing and government services. Haitian operations working in the formal sector can also increase their chances of being a sub-grantee for USAID (United States Agency for International Development) projects and other

government funding. By registering as a formal business in Haiti, business opportunities and incentives increase (FAQ. Web).

To conquer the problem of unsanitary water, Haiti will need some help. It might be starting a factory near a large city to produce these clay filters, or importing the filters to Haiti. Either option would supply Haitians with the materials that they need to clean their own water. Haitians also need to know how to use these filters, so people with the knowledge would have to go demonstrate how the filters work (Filterpure. Web). These companies and organizations would also benefit from registering in the formal sector (FAQ. Web).

Public services try to help all people who are in need, but materials are inadequate. Regardless of foreign aid, Haitians living a distance from water systems receive very little water service. Only the very few closest to the source receive water that supply the family's need. There are several organizations and companies who want to help Haitian living and have offered help in a variety of ways (Haiti's. Web).

9. Sponsors

Haitians may not have the money to buy a clay filter, but every family deserves one. Several organizations have donated filters to rural families. Other organizations are encouraged to donate and help Haiti become a healthier country. An example of a company empowering Haitians with clean water is Filterpure. Filterpure is making an effort to help Haiti become more stable by installing a factory in the developing country. In addition, Filterpure is demonstrating and teaching Haitians how to maintain safe water. While organizations and other corporations are playing a key role, Haitians have to be willing to make this change. In the long run, the use of clay filters will help prevent waterborne diseases. Some people may find the filters a waste of time and money. These people would then have to go the hospital and pay for a visit, or they could suffer from disease for the rest of their lives. They and their families could also suffer and live a shortened life without the health benefits of clean water (Filterpure. Web).

Clay filters have a definite benefit to Haitians' lives. One filter is all a family needs to live a healthy life. As water is purified, more and more families are starting to turn their lives around. Clean water ensures families that they are not ingesting any more diseases or contracting as many viruses. Fewer doctor visits would be needed, and the money saved could be used to purchase other items, such as clothing and nutritious food. Clean water means healthier lives, healthier lives mean greater chances of education, education means employment, employment means money, money means more food security.

Although these small filters look ineffective, the use of these filters means clean water for families. Cleaner water would bring healthy living to Haitians who would then be able to go receive a higher education. An education leads to a sustaining job with a paycheck. With that paycheck, families can buy clothing and food to help them survive. The increased work force and less poverty would lead to a thriving country. To start the chain of reactions, the more fortunate need to be able to set aside a couple dollars to help Haitians fund for clay filters. Maybe Americans should forget about buying the name-brand jeans, or skip the drive-through once in a while. The money saved can help Haiti become a healthy, thriving country.

Resources

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