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Health, Hope and H²O for the Impoverished Nation of Haiti

230,000 killed. One million homeless. Tens of thousands of children orphaned in June 2010s earthquake. 380,000 sickened by cholera, and 5,000 killed. Haiti is a nation plagued by destruction, poverty, and disease. While the barriers preventing agricultural productivity are numerous, they pale in importance because one of the most basic human needs is being neglected. Haitians have limited access to clean water. Although this island in the Caribbean Sea would appear to have ample access to natural resources; political unrest, deforestation, and extreme poverty hinder this country's ability to become self-sufficient. Violence and unrest in the political scene have made this country a challenging location to provide aid.

The average Haitian family contains three to four children. Families usually have around seven members. Often extended family members live in the same yard and home. These families are typically comprised of grandparents, aunts, uncles, cousins, parents, and children. When it comes to childbirth, most women prefer midwives; to have their children in the comfort of their own homes. Hospitals are generally used for emergencies only, but increasingly more women are beginning to use hospitals for their first birth. Health care is much less organized and concrete than that of the United States. When someone is sick, an attempt is first made to cure them at home by natural methods. If the families' attempts at curing this person are in vain, then a local natural medicine practitioner is summoned. Voodoo is often the method used by these "medicine men." Other options for taking care of the sick include clinics or public and private hospitals. Many times, foreign organizations run these hospitals and clinics. Sometimes it is difficult to administer antibiotics and immunizations because vaccination records are not always kept or are hard to obtain. Haitians usually have diets of starch, rice, corn, yams, and beans. All of these foods are locally grown. Main meals also include salad, meat, and a vegetable. Cuisine is strongly influenced by France, Spain, Africa, and the United States.(2011. www.foodbycountry.com) Major food imports include large amounts of rice from the United States. This rice is becoming increasingly more expensive.

Education is not paramount in Haiti. A child's education begins at home, with his or her parents as their teacher. Most schools in Haiti are private which means tuition must be paid. If it can be managed, a family will send their children to school. In some cases, families can afford to send one but not all of their children to school. The family would choose their most intellectually promising child to send to pursue further education. Unfortunately not very many people living in Haiti make it past the second grade. Especially in rural areas, many children stay home and work on family farms. Two-thirds of Haitians work on farms. Corruption, violence, and Haiti's geography have caused dilemmas for farmers trying to make a successful living. Mountains provide Haiti with little soil suitable for farming. These same mountains also make it difficult for Haiti's government to set up systems for travel and communication. As of 1971, the average Haitian farmer held about 3.4 acres of land. Usually richer land owners have the land with the best soil. Smaller plots usually do not have the best soil: therefore, these poor farmers have trouble earning a profit and making a living. Disputes over land have also caused violence in the few fertile valleys in existence. Crops grown are corn, beans, rice, and sweet potatoes. Banana and plantain trees are also popular along with spices. Most agricultural practices are primitive in rural areas. Most farms do not own many farming tools beyond a machete and a hoe. Most farming equipment, tools, fertilizer, pesticides, and irrigation systems are in short supply. Machinery, simple and otherwise, is also not abundant. If there was the availability of tractors and the like, farmers would also lack the knowledge of how to operate said equipment. They are also without silos, seeds and seed storage.

As is obviously visible, Haiti has many dilemmas facing them. Lack of fresh, clean water is yet another issue facing this country. Part of this issue is that Haiti has no sewage system. The waste management

system is nonexistent. People generally eliminate waste in or near creeks, rivers, or streams. This waste drains into larger bodies of water. These same creeks, rivers, and streams are where Haitians go to get drinking water. Nearly every water source in Haiti is contaminated by human waste because of the lack of sanitation. Consumption of water contaminated with waste is the principal cause of water borne diseases such as Cholera, Typhoid fever, Hepatitis E, and Hepatitis A. One symptom of these diseases is fever. Hepatitis A and E are characterized by jaundice, diarrhea, dark colored urine, and abdominal pain. They are viral diseases that can be treated by vaccination; however, vaccines are in short supply. Diarrhea is a symptom of Cholera. One in five children dies due to diarrhea which amounts to 1.5 million per year. It kills more children than malaria, measles, and AIDS combined.

Water borne diseases and lack of water greatly affect productivity, income, and availability of food. When diseases like cholera are contracted, it prevents those stricken from working and maintaining a steady income. The quality and availability of food is obviously affected when they are contaminated with one of these diseases. Therefore, an unknowing person would eat this food and become infected. It is a vicious circle. Water is not clean, nor safe to drink. The recent Cholera outbreak sickened 380,000, and killed more than 5,000 during its peak in the June rainy season. The United Nations Children's Fund is currently operating in Haiti to spread the word and spread information about Cholera and methods to prevent the spread of this disease. Sanitation kits and soap have been widely distributed. Haitian music groups have also lent their time by singing songs and educating others about proper hygiene and the disease. Currently, 4,000 members of religious groups have been trained by UNICEF in Cholera prevention techniques. They are expected to reach more than two million people with these ideas. (2011, www.unicefusa.org) Trends are slowly and steadily improving. They will improve greatly if consumption of contaminated water decreases and vaccinations are distributed. If this factor were to improve greatly, the population of Haiti, suburban and rural, would thrive. Although Cholera is not the only major disease that has greatly impacted health, wellness, and life in Haiti, its effects have been catastrophic to the country. If conditions improve, Haiti as whole could very well become more stable.

Many issues affect water cleanliness and sanitation. The first is urbanization. Urbanization is a trend of many countries since the Industrial Revolution in the eighteenth and nineteenth centuries such as the United States, Great Britain, and Western Europe. Urbanization would make water much cleaner in Haiti. Urbanization would decrease the amounts of standing water. Stagnant water is a breeding ground for diseases. They also breed mosquitoes. Mosquitoes can carry many lethal diseases.

Political unrest is major barrier that affects the wellbeing of Haitian families. Haiti is a poor country. If the government were able to sort out the issues at hand and end corruption, Haiti might be able to achieve economic stability. With stability, sewage and waste removal systems could be implemented. People would not pollute the rivers for drinking water with waste, and the water would be cleaner for drinking.

Pollution is the problem that diseases like Cholera and Hepatitis stem from. Human pollution, or wastes severely taint the water found in Haitian bodies of water. Correct disposal of human and other wastes would keep water safe and clean for humans to drink and use. Elimination of pollution would negate the problem, Cholera, Hepatitis, and other lethal waterborne diseases. Population growth can be associated closely with the pollution dilemma. Unless a sewage and waste removal system is constructed, growth of Haitian population might contribute farther to the problem. The more people using rivers and other waterways as public restrooms and dumpsters, the worse the problem with infected water would become.

Climate change could either help or hurt on the disease front. As is known by many, heat increases the growth rate of bacteria. If temperatures increase, rate of bacterium growth might speed up. If temperatures were to hypothetically decrease, then bacteria production might slow, or kill off some pathogens. This would bode well for those with immune systems not strong enough to cope with the disease.

Water scarcity is an obvious problem barricading families in this country from wellbeing. They have general access to water, that much is true. But is it clean? No. Is it available for consumption? No. So we could state that there is a water scarcity issue. There is a scarcity of suitable water. Even so, there is not an abundance of this contaminated, impure water.

The overall tone of this essay is rather grim. But Helen Keller and many others have said similarly, "Optimism is the faith that leads to achievement. Nothing can be done without hope and confidence." Optimism and determination are paramount in importance to making a change. Seeing the glass as half full in a situation such as this is important. As many of us have been told throughout our lifetimes, children are the future. This is the key to unlocking positive modifications in Haiti. Yes, making alterations to improve water cleanliness in Haiti would most likely cause positive changes. Looking into the future, if we educate children now, how many lives could we improve for incoming generations? How many lives could we save? Effectively addressing access to clean, safe water, sanitation, and food preparation techniques is paramount. Most importantly, educating children on the dangers of waterborne disease would greatly reduce child mortality rates in Haiti.

Students in Haitian schools and villages need to know what the cause of these diseases are. They must understand what the scientific factors are behind Cholera, Hepatitis A, Hepatitis E, and the like. It seems fitting to be aware of the problems that are sickening and killing people of this country. Developing a nationwide lesson plan for use in Haitian schools and villagers could drastically reduce waterborne diseases. Lesson plans would be integrated with the science programs for use in private Haitian schools. Plans would include explanations of cholera and bacteria in a fashion that is age-appropriate and easily understood. The lesson plan and included materials would be distributed in urban and rural Haiti along with information for teachers encouraging them to integrate this into their science lessons. Along with these lessons would come information about proper hand-washing technique and sanitation. Water purification kits also would be included. There are many different types of water purifiers. For example, Vestergaard Frandsen's LifeStraw is a simple and highly effective method to purify water. Supplying and educating Haitian children on how to properly use the water purifiers would be an integral part in reducing life-threatening diseases in Haiti.

Students fortunate to attend school in Haiti could most benefit from education regarding water sanitation and hygiene. These students in turn could become teachers to their extended family and neighbors in their village. Lesson plans should be developed to address disease prevention, water sanitation, and alternative locations for sewage disposal. United States institutions for higher learning could provide the educational content and teaching methods. For example, a University education department could be contacted and a request made for student teachers to develop Cholera prevention lesson plans. This would allow the lesson plans to be created at no cost. A set of guidelines such as the Center for Disease Control's Five Basic Cholera Prevention Messages would be provided to insure all vital information is captured.

The Millennium Development Goals are important markers for progress in improving social and economic development in poor countries. They were developed by the Millennium Summit in 2000. The goals originated from the Millennium Declaration, produced by the United Nations. There are several MDG's that pertain closely to my factor and recommendation. The first main goal that is associated with access to clean water is goal number four, reduce child mortality rates. Drinking unclean water is one of the many reasons that the child mortality rate is so high in Haiti. Raising awareness of waterborne diseases and sanitation would decrease these rates in Haiti. Also MDG goal number five can be related. Prevention against drinking contaminated water would improve maternal health. Keeping pregnant women healthy would keep their unborn children healthy as well. Goal number six is, "Combat HIV/AIDS and other diseases." Cholera can be prevented through education and investment in water purification. With Cholera eliminated, more focus can be spent on combating HIV/AIDS.

Water is one of our basic human needs. For Haitians, the water that they consume should be a source of health, but instead is a cause of disease. Illness decreases the ability to produce, labor, and provide support for families. In a country stricken by such extreme poverty, the ability to work is critical for survival. Haitian families rely on each other to sustain their existence. The adversity that Haitians face in simply attempting to meet their basic needs has made them a resilient people. If adequate educational resources are provided to Haiti's children regarding waterborne disease prevention, the entire Haitian culture would experience a shift. Water purification systems would completely alter this nation's ability to sustain itself. When disease is no longer present, more focused effort can be spent on areas of economic growth and development. Food production for both personal consumption and national trade is limited in Haiti due to polluted water. As Haitians better understand alternative methods for sewage removal, hygiene, and water purification, we can expect an increase in sustainability. Water purification systems would lead to endless positive possibilities for Haiti's people. Decreased disease, decreased childhood mortality rates, increased productivity, leading to greater financial stability are all possible with the proper foundation. Providing educational resources to address the most basic of human needs to children of Haiti offers health and hope.

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