

Brogan Avery
Clarion-Goldfield High school
Clarion, Iowa
Rwanda, Factor 10.

“1.1 billion people lack access to safe water. 2.6 billion People lack adequate sanitation. 1.8 million people die every year from diarrheal diseases, including 90% of children under 5. This situation is no longer bearable.” (World Water Council). For the people of Rwanda and other severely undeveloped countries, these are not just statistics. This is what they see and have to try to live with every moment, of every day of their entire lives. An incredibly surprising statistic from the National Academy of Engineering is “lack of clean water is responsible for more deaths in the world than war.” But what can be done about it? There are a lot of problems in finding safe and accessible food and water such as what the current farmer can produce, their income, their own and their children’s education, the spread of zoonotic pathogens, and many other things. However, there are things that can be done like focusing on the MDG to help educate the population of Rwanda and their government on how to solve these problems.

For the average Rwandan they may only be able to carry out their lives till the mere age of 45(Geneva Global). People in rural Rwanda typically live in house with their family of 3-7 children (Uzoigue). Families will group together and live on one hill. There will normally be a designated chief of each hill. The huts are usually surrounded by banana fields. Due to urbanization people have resulted in eating at restaurants more and caving in to other newly cultural trends, however the hill dwelling groups will still typically refrain from eating the animal of which their clan is named after. Substance farming of beans, bananas, sweet potatoes, and sorghum, is very popular. There are a few farmers however that takes a small part in producing cash crops of coffee (Advameg, Inc.). If people can afford it they will also a few cattle, goats or chicken (Geneva Global).

One of the most frustrating facts is that there is an antiquate water supplied in the world, even though only 3% is fresh water on Earth. The problem is however, that the water is not in the right place. This is difficult to deal with since not only do the people need drinking water, 80- 95 % of the water used is for agricultural related uses(National Academy of Engineering). Another complicating issue is that places are continuing to be over populated and the water supply becomes less accessible(Uzoige). Out of the 8.9 million people of Rwanda, 1/3 of them do not have access to safe water(Geneva Global). In the long run, water sanitation would be best economically for all since for every on dollar spent toward potable water, the farmer will get 3-34 dollars in profit when their health is accounted for (World Water Council).

Diseases that can be easily preventable, but easily deadly, are killing wildly enormous amounts of people (Geneva Global). A major barrier is antimicrobial resistance because it is hard enough to get the proper pharmaceuticals to the people in need the first time when taking money, transpiration of the drug and other things into play. In 2000, 40 % of new

strains of salmonella were found to be resistant to the available drug. Since there is little communication, new drugs could not be brought to the hospitals soon enough for many people. One of the harder things to deal with in disease transition is not only the fact that people spread the diseases, but their animals can too. Although there are organizations that check for spreading of diseases during postmortem step in disease transmission, there is little to be done during pre-harvest stages (IFPRI).

Although it may be controversial, caged chickens are shown to lay 3 times more eggs than free ranged ones. With selective breeding this number could be high, imagine being able to pick out the strongest chickens in order to insure that they produce the best quantity and quality. If hens were able to produce more eggs, the family could afford to look after less of them and put their time and money towards more important things. If selective breeding could result in a hen tripling its production, think of what it could do for cattle. Not that we would want a single cow giving birth to six calves, but they could be bred so they have double or triple the muscle mass. This however could cause ill effects to the animal. Taking proper precautions in animal safety is very important because 75 % of new diseases can be traced back to animals. One other thing that can arguably be said that is holding back new advancements, are activist groups such as PETA who do not always understand the dire need of people in poverty.

In order for a farmer to produce the maximum of their crop, they need to pick a crop that will be best for the climate of, on average 21 degrees Celsius and a rain fall of 117 cm per year. In parts of Africa, farmers have reported that by just changing the type of sorghum planted, the yield tripled. Plants however, are harder to make hybrids of since it involves actually manipulating genes. Another thing that insures the largest yield is alternating crops so to not over use the soil and take out necessary nutrition from it. One more thing that is being focused on is the development and distribution of pesticides (The Economist).

There could be a lot of time and money saved if the water sources were closer to people (World Water Council). People often cannot work due to the fact that they are always sick (Geneva Global). One of the bigger hardships is that there is very little being exported in Rwanda and there is almost no industrialization taking part to better farms (Advameg, Inc.). Surprisingly most children between the ages of 7-15 are provided with a free education, however many choose not to go since they need to stay home and gather water (Uzoigwe).

Women and children tend to be most affected by these issues. There are large amounts of women left widowed and children left orphaned after the genocide in 1994 (Advameg, Inc.). Every day, women and children spend hours alone collecting water where they can easily be the victim of molestation. Women tend to spread lots of diseases to their babies during pregnancy. The infant mortality rate is incredibly high. When girls reach puberty they often quit school due to their lack of education on female hygiene and the absence of public sanitation facilities. (Geneva Global)

Very simple things like using wooden pallets instead of laying the crops down on the ground can help to stop the spread of diseases (IFPRI). Another thing that could help the people is just educating them on sanitation and other things so they can begin more industrialization in their country. Also the government needs to be educated on how to help their people and who needs help the most. Almost 80 % of eastern and northern Rwanda lacks clean water.

Rwanda's government is trying to take part in insuring there will be a clean water source every 1/3 of a mile by 2020, but still, this goal needs to be accomplished sooner if possible (Geneva Global). Things are being done to recycle sewage and other water to be used for agricultural purposes and even to be used in some aquifers (National Academy of Engineering). Thanks to foreign aid, my roads and water systems are being built (Advameg, Inc.). Groups such as the Rwanda Clean Water and Sanitation Fund help bring clean water, sanitation, hygiene, and education to areas of poverty (Geneva Global). Other people that play a key role in helping are religious groups, women's groups, youth groups, and farmers cooperative (Advameg, Inc.).

“Diarrhea and dysentery used to disturb us a lot and we would wonder why. People in my (are) never have pit latrines. Children and adults alike used to defecate in the open. My eyes only opened when (an organization funded by a Geneva Global client) started showing films and drama on good public health practices. I decided to build my own pit latrine, bath shelter, and construct a rubbish pit. Our health since then has dramatically changed. Flies have been reduced... diarrhea and dysentery are now history. I have even bought mosquito net for all my family members and we rarely fall sick of malaria.”(Geneva Global). This quote from a Rwandans named Agnes proves that the simplest things such as giving these people a little knowledge on how to better themselves can go a long way. If these people are not educated and aided on water sanitation and dieses transition, their future will be a dull one.

Bibliography

Advameg, Inc. *Rwanda*. 2011. Web. 12 Sept. 2011.

Geneva Global Inc. *Rwanda Clean Water and Sanitation Fund*. 2009. Web. 14 Sept. 2011.

International Food Policy Research Institute. *Understanding the Links Between Agriculture and Health*. IFPRI. 2006. Web. 14 Sept. 2011.

National Academy of Engineering. *Provide Access to Clean Water*. 2011. Web. 14 Sept. 2011.

World Water Council. *Water Supply and Sanitation*. 2010. Web. 14 Sept. 2011.

Uzoigue, G.N. “Rwanda.” *Academic American Encyclopedia: Deluxe Library Edition*. 16th ed. 1992. Print.

N.a. “Doing More With Less.” *The Economist*. N.p. 2011. Web. 14 Sept. 2011.